

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 Sarasota 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 Sarasota 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 Preliminary Recommendations

Sarasota 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 Sarasota 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 flood, tropical cyclone generated storm surge, and wildfire. 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, 9,962 acres are susceptible to Category 1 storm surge (CHZ), 37,803 acres are susceptible to Category 1 – 3 storm surge (HVZ), 11,169 are susceptible to 100-year flood, 17,846 acres are susceptible to wildfire, and 696 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

Nearly 95% of the 9,962 vacant acres in the Coastal Hazard Zone and 98% of the 37,803 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 CHHA; prohibit new mobile home developments on barrier islands or the CHHA; discourage expansion of existing transportation facilities on or onto barrier islands; use Special High Hazard Area taxing zones to reconstruct/protect public infrastructure, facilities, and shelters; and other existing measures to minimize risk.
- The County should consider transfer of development rights (TDR)s to from areas within the CHHA to outside the CHHA, as another measure to reduce density in the CHHA. Currently TDRs can be used for properties that have been damaged by natural forces and are unable to be built back
- The County should consider prohibiting septic tanks in the CHHA except in cases of excessive hardship where (1) no reasonable alternative exists, (2) a discharge from a septic tank will not adversely affect public health and will not degrade surface or ground water and (3) where the Health Department determines that soil conditions, water table elevation and setback provisions are adequate to meet state requirements.
- The County should consider only allowing new on-site shelters outside of the HVZ.
- The County should consider prohibiting new schools in the CHHA and retrofitting new schools as shelters outside the HVZ, where possible.
- The Comprehensive Plan should consider prohibiting the development of nursing homes, adult congregate living facilities, and hospitals inside the Coastal High Hazard Area and other high-risk developments, similar to how mobile homes and most county funded facilities have been regulated. Building these facilities out of harm's way reduces 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.

Flood

About %92 of the 11,169 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 the implementation of policies for stormwater management, repetitive loss repair and modification requirements, transfer of development rights in wetlands and 100-year floodplains, and other measures to reduce the risk from flood.
- The County should consider requiring the installation back-flow preventers on new septic tanks that exist in the 100-year floodplain to mitigate impacts from flood, and create incentives and disincentives to reduce the desirability of septic installation within the 100-year floodplain.
- The County should consider building shelters and essential public facilities outside of 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 developing a policy to mitigate repetitive loss structures.
- 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 99% of the 17,846 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. Consideration should be made to incorporate risk reduction measures to unincorporated areas throughout the county, and specifically in areas surrounding the City of Northport as most of the wildfire susceptible acres are vacant (i.e., 13,268 acres) in this municipality

- 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

Sinkhole hazard was not discussed in the hazards analysis in the latest version of the Sarasota County LMS. The LMS did mention subsidence and expansive soils, though the risk of those hazards was considered to be very low for the entire county.

- 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.
- Continue educating the public, especially those at high risk from hurricanes, floods, and wildfires, and inform them 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.

- Provide information about demographic, income, and special needs population.
- 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.
- Provide hazard maps that include data layers to illustrate population (i.e., density) and/or property (i.e., value) exposure.
- Provide future land use maps that include hazard data layers to illustrate which future land use categories are susceptible to each hazard.
- Provide loss estimates by land use in relation to the hazard.
- Provide a quantitative risk assessment for future development (i.e., loss estimates) or specific critical facilities.
- Use consistent data in plans such as the LMS, CEMP, and Comprehensive Plan.

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1. County Overview

Geography and Jurisdictions

Sarasota County is located along the Gulf of Mexico in Southwest Florida. It covers a total of 725.2 square miles, of which 571.6 square miles are land and 153.6 square miles are water. There are four incorporated municipalities within Sarasota County, as shown in **Table 1.1**. The City of Sarasota 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 Sarasota 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 68% live in unincorporated areas. Sarasota County has experienced significant population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, Sarasota County had a growth rate of 17.3%, which was nearly one third less than the statewide average of 23.5% for the same time period.

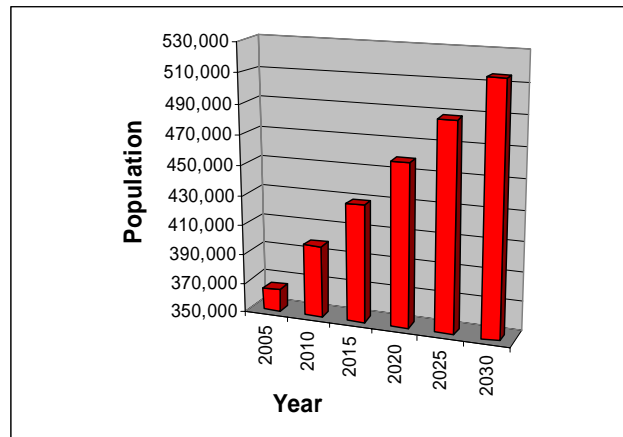
Table 1.1 Population Estimates by Jurisdiction

Jurisdiction	Population (Census 2000)	Population (Estimate 2004)	Percent Change 2000-2004	Percent of Total Population (2004)
Unincorporated	227,573	242,852	6.71%	67.78%
Longboat Key (part)	5,012	5,060	0.96%	1.41%
North Port	22,797	35,721	56.69%	9.97%
Sarasota	52,715	54,639	3.65%	15.25%
Venice	17,864	20,035	12.15%	5.59%
Total	325,961	358,307	9.92%	100.00%

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

According to BEBR (2004), Sarasota County's population is projected to grow steadily and reach an estimated 515,100 by the year 2030, increasing the average population density of 627 to 901 persons per square mile. **Figure 1.1** illustrates medium growth population projections for Sarasota County based on 2004 calculations.

Figure 1.1 Population Projections for Sarasota County, 2005–2030



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

Of particular concern within Sarasota 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 325,961 persons residing in Sarasota County 31.5% are listed as 65 years old or over, 22.2% are listed as having a disability, 7.8% are listed as below poverty, and 10.5% live in a home where the primary language is other than English.

2. Hazard Vulnerability

Hazards Identification

The highest risk hazards for Sarasota County as identified in the County’s Local Mitigation Strategy (LMS) high winds, storm surge, flooding, severe winter storms, and wildland fire. Sinkholes were not discussed in the LMS, but the LMS did discuss subsidence and expansive soils and the risk of those hazards 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 (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 throughout Sarasota County. Of the 325,961 (U.S. Census 2000) people that reside in Sarasota County, 23.3% are exposed to storm surge, 29.7% are exposed to 100-year flooding, 53.5% are exposed to wildfire, and 36.7% is exposed to sinkholes. Of the 96,820 people exposed to flood, 39.7% are over age 65 and 34.5% are disabled.

Table 2.1 Estimated Number of Persons Exposed to Selected Hazards

Segment of Population	Storm Surge	Flood	Wildfire	Sinkhole
Total (all persons)*	75,793	96,820	174,497	119,509
Minority	4,176	3,940	12,641	3,408
Over 65	29,340	38,418	50,896	45,602
Disabled	25,938	33,417	62,553	46,552
Poverty	5,430	6,487	12,682	7,049
Language-Isolated	0	0	0	0
Single Parent	2,647	3,490	8,440	4,794

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 Sarasota 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 Sarasota 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
Charlotte	11	14	17	22	22
Collier	6.6	16.4	27.1	40.2	50.9
Lee	9.5	16.5	24.5	27	27
Sarasota	10.5	10.5	11.5	15	15

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 10.5 and 15 hours to safely evacuate Sarasota 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, Sarasota County currently has a significant shelter deficit. According to Florida's Statewide Emergency Shelter Plan, Sarasota County has an existing shelter capacity of 30,286 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 49,040 people, leaving an existing shelter deficit of 18,754. In 2009, the projected shelter demand is 53,017, leaving an anticipated shelter deficit of 22,731. 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 areas. Per the 2004 Sarasota County LMS, there are 38,596 risk shelter spaces available. This reduces the 2004 shelter deficit to 10,444 and the 2009 shelter deficit to 14,421.

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. Sarasota 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 Sarasota County by occupancy type that are exposed to each of the four hazards being analyzed. Exposure refers to the number of people or structures that are susceptible to loss of life, property damage and economic impact due to a particular hazard. The estimated exposure of Sarasota 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	28,111	53,188	52,887	3,555
Mobile Home	3,455	47,821	7,824	256
Multi-Family	25,039	29,172	19,700	2,242
Commercial	2,849	8,074	3,379	99
Agriculture	126	2,220	2,057	56
Gov. / Institutional	1,099	312	520	10
Total	60,679	140,787	86,367	6,218

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 233,372 structures exposed to at least one of the four hazards, of which most are single-family homes in subdivisions. Of these structures, 60.3% are exposed to flood. Over 140,000 structures are located within the 100-year floodplain, of which 43% are exposed to storm surge induced flooding. Slightly more than 46% of the structures exposed to surge are single-family homes, and 41% 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 Gulf of Mexico, Sarasota Bay, and Little Sarasota Bay. According to the latest National Flood Insurance Program Repetitive Loss Properties list, as of March 2005, there are 254 repetitive loss properties in Sarasota County (unincorporated areas). 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.”

Approximately 37% or 86,367 structures exposed to wildfire, of which 61.2% are single-family homes. “Because of the botanical composition of the County, approximately 81% is vulnerable to wild fires. An increasing number of homes are at risk to forest fires because of the desire to interface with the native vegetation” (Sarasota County LMS, 2004). Only 2.7% or 6,218 structures are located within sinkholes susceptible areas, of which 57.2% 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. Existing land use data was acquired from County Property Appraisers and the Florida Department of Revenue in 2004 for tabulation of the total amount of acres and percentage of land in identified hazard areas, sorted by existing land use category for the unincorporated areas. The total amount of acres and percentage of land in the identified hazards areas was tabulated and sorted by 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. Sarasota County future land use data was acquired in February 2005 from Sarasota County and might not reflect changes per recent future land use amendments. Maps of existing land use within hazard areas are based on the 2004 County Property Appraiser geographic information system (GIS) shapefiles. Maps of future land uses in hazard areas were developed using the Sarasota County future land use map dated February 2005. 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. The areas that are most susceptible to storm surge are located in the coastal communities of Venice, Sarasota, and Longboat Key. The total amount of land in the CHZ is 43,768.4 acres. As shown in **Table 2.4**, 30.2% are parks, conservation areas and golf courses; 25.2% are residential single-family homes; 22.8% are currently undeveloped; and 10.7% are used for agriculture. **Table 2.5** shows that of the 9,962.3 undeveloped acres, 35.6% are designated for modern density residential use with more than two and less than five dwelling units per acre.

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 communities of Sarasota, Venice, and Long Boat Key as well as some inland areas including North Port. The total amount of land in the HVZ is 138,660.6 acres. As shown in **Table 2.4**, 27.3% are currently undeveloped; 26.4% are parks, conservation areas and golf courses; 20.1% are in agricultural use; and 16.8% are used for residential single-family homes. **Table 2.5** shows that of the 37,802.9 undeveloped acres, 54.8% are designated for incorporated area.

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 and sloughs, Intracoastal Waterway, and the Myakka River. The total amount of land in the special flood hazard area is 68,103.7 acres. As shown in **Table 2.4**, 40.9% are parks, conservation areas and golf courses; 17.7% are residential single-family homes; 16.4% are currently undeveloped; and 16.3% are used for agriculture. **Table 2.5** shows that of the 11,169 undeveloped acres, 27.1% are designated for modern density residential use with more than two and less than five dwelling units per acre.

In **Attachment D**, two maps present the existing and future land uses within wildfire susceptible areas. These areas are scattered across the County, with the largest geographic area in the City of North Port. The total amount of land in the wildfire susceptible areas is 40,132.9 acres. As shown in **Table 2.4**, 44.5% are currently undeveloped; 22.7% are residential single-family homes; 19.1% are parks, conservation areas and golf courses; and 6.9% are in agricultural use. **Table 2.5** shows that of the 17,846.4 undeveloped acres, 77% are designated for incorporated area.

In **Attachment E**, two maps present the existing and future land uses within sinkhole susceptible areas. These areas are located in a few isolated areas in Venice, Englewood, and Warm Mineral Springs (north of North Port). The total amount of land in the sinkhole susceptible areas is 3,376.8 acres. As shown in **Table 2.4**, 36.5% are used for residential single-family homes; 20.6% are currently undeveloped; 18.6% are used for agriculture; and 12.1% are parks, conservation areas and golf courses. **Table 2.5** shows that of the 695.8 undeveloped acres, 31.3% are designated for modern density residential use with more than two and less than five dwelling units per acre.

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	4,695.6	27,891.9	11,111.1	2,772.1	628.2
	%	10.7	20.1	16.3	6.9	18.6
Attractions, Stadiums, Lodging	Acres	113.9	203.1	125.5	34.1	0.0
	%	0.3	0.1	0.2	0.1	0.0
Places of Worship	Acres	313.4	605.7	207.5	276.2	36.3
	%	0.7	0.4	0.3	0.7	1.1
Commercial	Acres	801.2	1,886.2	411.3	76.2	79.6
	%	1.8	1.4	0.6	0.2	2.4
Government, Institutional, Hospitals, Education	Acres	619.5	1,868.2	737.5	476.6	21.8
	%	1.4	1.3	1.1	1.2	0.6
Industrial	Acres	93.6	1,446.8	214.9	104.6	2.0
	%	0.2	1.0	0.3	0.3	0.1
Parks, Conservation Areas, Golf Courses	Acres	13,221.5	36,549.2	27,879.8	7,663.9	407.5
	%	30.2	26.4	40.9	19.1	12.1
Residential Group Quarters, Nursing Homes	Acres	92.7	322.8	58.0	52.4	4.0
	%	0.2	0.2	0.1	0.1	0.1
Residential Multi-Family	Acres	460.8	1,104.6	378.8	139.6	22.1
	%	1.1	0.8	0.6	0.3	0.7
Residential Mobile Home, or Commercial Parking Lot	Acres	965.3	2,652.0	1,395.8	159.8	135.3
	%	2.2	1.9	2.0	0.4	4.0
Residential Single-Family	Acres	11,031.7	23,237.1	12,036.0	9,113.4	1,231.9
	%	25.2	16.8	17.7	22.7	36.5
Submerged Land (Water Bodies)	Acres	126.2	173.2	303.0	19.6	8.2
	%	0.3	0.1	0.4	0.0	0.2
Transportation, Communication, Rights-Of-Way	Acres	659.0	977.6	160.1	360.5	1.6
	%	1.5	0.7	0.2	0.9	0.0
Utility Plants and Lines, Solid Waste Disposal	Acres	611.7	1,939.3	1,915.4	1,037.5	102.5
	%	1.4	1.4	2.8	2.6	3.0
Vacant	Acres	9,962.3	37,802.9	11,169.0	17,846.4	695.8
	%	22.8	27.3	16.4	44.5	20.6
Total Acres	Acres	43,768.4	138,660.6	68,103.7	40,132.9	3,376.8
	%	100.0	100.0	100.0	100.0	100.0

Source: Department of Community Affairs

INTEGRATION OF THE LOCAL MITIGATION STRATEGY INTO THE LOCAL COMPREHENSIVE PLAN
SARASOTA COUNTY PROFILE

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
Barrier Island	Acres	2,318.7	645.2	2,318.7	645.2	2,725.5	731.4	64.2	18.9	278.2	197.3
	%	5.3	6.5	1.7	1.7	4.0	6.5	0.2	0.1	8.2	28.4
Commercial Center	Acres	389.2	128.4	960.4	342.6	176.8	72.0	78.5	56.8	69.8	24.1
	%	0.9	1.3	0.7	0.9	0.3	0.6	0.2	0.3	2.1	3.5
Commercial Corridor	Acres	192.8	44.6	474.4	87.4	64.7	14.0	16.9	4.5	38.1	6.5
	%	0.4	0.4	0.3	0.2	0.1	0.1	0.0	0.0	1.1	0.9
Commercial Highway Interchange	Acres	23.9	6.9	103.2	43.9	43.2	14.0	29.9	23.2	0.0	0.0
	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
High Density Residential (>9 and <13 DU/Acre)	Acres	187.7	81.6	277.5	126.8	124.6	60.9	72.2	32.3	0.0	0.0
	%	0.4	0.8	0.2	0.3	0.2	0.5	0.2	0.2	0.0	0.0
Incorporated Area	Acres	9,433.1	1,904.7	48,711.8	20,732.5	9,662.5	2,817.6	19,023.1	13,741.6	183.9	70.0
	%	21.6	19.1	35.1	54.8	14.2	25.2	47.4	77.0	5.4	10.1
Light Office	Acres	8.7	8.7	8.7	8.7	3.6	0.0	14.3	7.4	0.0	0.0
	%	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Low Density Residential (<2 DU/Acre)	Acres	3,146.4	952.4	5,770.1	1,579.5	2,813.4	811.9	3,747.0	724.7	228.9	88.7
	%	7.2	9.6	4.2	4.2	4.1	7.3	9.3	4.1	6.8	12.7
Major Employment Center - MEC	Acres	402.4	222.5	1,191.8	416.4	456.6	76.2	336.2	179.2	0.0	0.0
	%	0.9	2.2	0.9	1.1	0.7	0.7	0.8	1.0	0.0	0.0
Major Employment Center - MEC/ Interstate Regional	Acres	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Major Government Uses	Acres	634.7	44.6	2,593.6	44.6	2,003.0	53.9	653.2	30.3	73.6	0.0
	%	1.5	0.4	1.9	0.1	2.9	0.5	1.6	0.2	2.2	0.0
Medium Density Residential (>5 and <9 DU/Acre)	Acres	1,718.8	643.2	4,070.3	1,414.5	2,007.7	742.4	736.8	357.6	115.0	58.2
	%	3.9	6.5	2.9	3.7	2.9	6.6	1.8	2.0	3.4	8.4
Mixed Use	Acres	0.0	0.0	58.6	58.6	0.0	0.0	13.8	13.8	0.0	0.0
	%	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Moderate Density Residential (>2 and <5 DU/Acre)	Acres	10,162.7	3,547.3	25,401.8	8,004.1	9,304.2	3,022.0	6,699.3	1,695.2	1,453.5	217.8
	%	23.2	35.6	18.3	21.2	13.7	27.1	16.7	9.5	43.0	31.3
Office/Multi-Family Residential Area and Corridor	Acres	294.5	179.7	466.4	225.2	196.8	93.4	203.8	59.1	67.3	27.9
	%	0.7	1.8	0.3	0.6	0.3	0.8	0.5	0.3	2.0	4.0
Public Conservation/Preservation	Acres	9,563.9	410.0	20,743.4	549.5	18,241.0	517.9	2,666.9	84.5	64.9	0.0
	%	21.9	4.1	15.0	1.5	26.8	4.6	6.6	0.5	1.9	0.0
Rural	Acres	2,459.8	426.7	17,667.4	2,363.5	15,328.0	1,348.9	4,110.8	499.6	776.5	0.0
	%	5.6	4.3	12.7	6.3	22.5	12.1	10.2	2.8	23.0	0.0
Semi-Rural	Acres	2,313.1	563.1	7,272.9	992.0	2,001.9	453.9	1,618.2	311.7	0.0	0.0
	%	5.3	5.7	5.2	2.6	2.9	4.1	4.0	1.7	0.0	0.0
Water	Acres	452.8	116.1	503.4	130.2	2,950.0	338.4	11.6	1.1	27.2	5.3
	%	1.0	1.2	0.4	0.3	4.3	3.0	0.0	0.0	0.8	0.8
Total Acres	Acres	43,768.5	9,962.3	138,660.5	37,802.9	68,103.6	11,169.0	40,133.0	17,846.4	3,376.9	695.8
	%	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 Sarasota County’s four 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 North Port has the most vacant acres in the Coastal Hazards Zone, HVZ, flood zones, wildfire susceptible areas and sinkhole susceptible areas, as well as the largest proportion of hazard prone acres out of its vacant land area. However, all municipalities include areas at risk to each hazard.

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 Sarasota 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
Longboat Key	Acres	1,318.6	552.0	1,333.6	554.2	1,234.6	536.6	0.2	0.0	0.0	0.0
	%	100.0	41.9	100.0	41.6	100.0	43.5	100.0	0.0	0.0	0.0
North Port	Acres	10,005.5	1,185.8	10,014.2	1,186.2	4,240.6	962.2	18,231.7	13,265.5	19,407.8	9,432.6
	%	100.0	11.9	100.0	11.8	100.0	22.7	100.0	72.8	100.0	48.6
Sarasota	Acres	1,620.0	142.0	2,026.2	204.4	1,354.3	144.7	204.2	43.2	183.7	6.9
	%	100.0	8.8	100.0	10.1	100.0	10.7	100.0	21.2	100.0	3.8
Venice	Acres	2,009.0	259.5	2,018.6	260.2	442.5	166.3	861.2	132.4	2,987.7	927.8
	%	100.0	12.9	100.0	12.9	100.0	37.6	100.0	15.4	100.0	31.1
Total Municipal Acres	Acres	14,953.3	2,139.2	15,392.6	2,205.0	7,272.0	1,809.7	19,297.3	13,441.1	22,579.2	10,367.4
	%	100.0	14.3	100.0	14.3	100.0	24.9	100.0	69.7	100.0	45.9

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 Sarasota County LMS (adopted in 2004) 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 (LMS, Attachments A - D).

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

Strengths:

- Provides property exposure and potential losses for each of the hazards.
- Provides a hazards analysis and a quantitative vulnerability assessment.
- Vulnerability and risk is presented for the county and each municipality.
- Includes maps for each of the hazards.

- Includes a qualitative risk assessment for each hazard.
- Includes a qualitative risk assessment for critical facilities.
- Includes a list of repetitive loss properties.

Weaknesses:

- Does not provide information about demographic, income, and special needs population.
- 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 loss estimates by land use in relation to the hazard.
- Does not include a quantitative risk assessment for future development (i.e., loss estimates) or specific critical facilities.

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

Guiding Principles

The Sarasota County LMS Guiding Principles section contains a list of policies for the county and each municipality. **Table 1.1** in the Sarasota County LMS includes each County and municipal policy, regulation and program; jurisdiction and source; mitigation function/goal; and policies and objectives, 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 Sarasota County LMS has goals and objectives 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 and objectives that support comprehensive plan GOPs.

Goal 1 supports mitigation public awareness activities through awareness and application of hazard mitigation policies and identification, prioritization and achievement of cost effective mitigation projects.

Goal 2 aims to maintain the community wide Local Mitigation Strategy, and is encouraged by an objective to formally commit to participation by adopting a formal resolution to that affect. Objectives support participation in the NFIP and CRS programs, to annually update the prioritized project list, and strive to complete a risk assessment of natural hazards. Objectives aim to offer mitigation training to building design and construction professionals, and support the development of programs to increase the public's awareness of natural hazards and ways to reduce or prevent damage. Objectives seek to complete a land use plan that delineates the relevant hazards and incorporates them as factors in all land use decisions, maintain the repetitive loss listing, continue to identify Capital Improvement Projects that are mitigation in nature during the annual budgeting process, and to harden public owned buildings. Objectives seek to continue to fund or seek funding to implement prioritized projects and to continue to track and document mitigation successes.

Goal 3 supports prevention activities and projects that reduce the risk of life and damage to property. Objectives state that preventive activities that are addressed in various comprehensive planning and land development regulations shall be governed by the appropriate goals, objectives and policies contained in the appropriate documents. Objectives continue to support efforts to purchase environmentally sensitive areas and special flood hazard areas; and to leverage other funding sources by working with state land acquisition and land management agencies. Objectives aim to continue to enforce floodplain regulations that provide greater flood protection than that required under current NFIP standards as outlined in the Sarasota County Floodplain Management Plan.

Goal 4 supports activities and projects that reduce or avert property damage on properties that have suffered repeated damage from identified hazards. Objectives seek to obtain funding for projects that acquire, relocate, elevate or otherwise retrofit repetitive loss properties, as defined by the Federal Emergency Management Agency, that have a benefit to cost ratio of 1.0 or better. Objectives aim to examine the feasibility of enacting development standards in urban/wildland interface areas to mitigate future fire losses.

Goal 5 supports natural resource protection activities that preserve or maintain natural areas. Objectives continue current wetland coordinating/evaluation programs with state and water management agencies, and enforce erosion sedimentation and control regulations that reduce how much sediment enters natural areas when development takes place. Objectives support the continued purchase of lands through several local, state and federal programs that promote the preservation of natural areas, and continued efforts to preserve, restore and renourish the beach front and other natural resource areas.

Goal 6 supports the achievement of emergency services activities taken during a disaster incident to reduce the hazards impact. Objectives aim to continue efforts to gain a better understanding of the community's vulnerability to flood, wind and wildfire impacts through hazard identification and vulnerability assessment studies; enhance and increase the number of tide monitor data collection sites; and support projects that fund building or retrofit projects that reduce the community's hurricane shelter space deficit. Objectives support efforts to fund improvements to critical roadway links causing congestion on evacuation routes for Category 1 through 3 hurricanes, and continue efforts to identify critical facilities that need mitigation protection due to their importance in helping the community respond to and recover from identified hazards. Objectives support flood proofing of critical facilities of which those within the defined Coastal High Hazard Area shall receive priority for grant funding requests. Objectives seek to examine the feasibility of designing water, sewer, power infrastructure facilities so that they can function during a 100 year flood event; and identify and encourage incorporation of emergency power supplies to critical facilities and other public and private facilities integral to the operation, particularly with respect to health and safety support functions. Objectives aim to evaluate the effectiveness of existing emergency power supplies to critical facilities and implement enhancements as needed to provide three to five days of functional operation, and encourage partnerships with private and civic groups and supports retrofits and the building of new structures in compliance with ARC 4496 for public use facilities in exchange for emergency shelter designation and use.

Goal 7 supports efforts to obtain funding for engineered projects that help keep the hazard's impact away from identified vulnerable areas. Objectives seek federal and state funding to complete capital improvements to improve stormwater flow and support the Stormwater Strategic Plan adopted by the Board of County Commissioners on December 8, 1998.

Goal 8 encourages public support and commitment to local hazard mitigation efforts by showing its benefits through public information activities that advise property owners, potential property owners, and visitors about hazards, and ways to protect people and property from these hazards and the benefits of protecting our natural resources. An objective aims to continue efforts to

support funding programs that provide assistance to property owners on ways to mitigate property from identified hazards.

Goal 9 strives to initiate and enhance pre and post disaster redevelopment and mitigation policies and procedures designed to reduce or avert the community's future disaster potential. An objective states that post disaster redevelopment and hazard mitigation policies and procedures shall be governed by goals, objectives and policies contained in all existing and developing Post Disaster Redevelopment Plans. Objectives seek to ensure that objectives and policies contained in all existing and future developing Post Disaster Redevelopment Plans shall be carried out through the appropriately adopted Post Disaster Ordinances following a major or catastrophic disaster. Objectives aim to identify, evaluate and assess all critical facilities within each jurisdiction and strive to continue to coordinate and enhance mitigation roles and responsibilities with the various local agencies.

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

Comprehensive Emergency Operations Plan (CEMP)

The Sarasota County CEMP references the LMS in Section VIII of the Basic Plan, as well as incorporates the Unified LMS Strategy into the CEMP as Annex C. The CEMP notes that the LMS serves as a formal guide for all hazard mitigation activities. The CEMP does not include assignments and responsibilities for agencies, departments, and organizations. The LMS establishes the process for defining mitigation goals, as well as establishing a process for identification, evaluation and prioritization of all mitigation activities, initiatives, programs and projects within Sarasota County.

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

National Flood Insurance Program/Community Rating System

Sarasota County (unincorporated areas) and all of its municipalities participate in the National Flood Insurance Program (NFIP) as well as the NFIP Community Rating System (CRS). In the CRS program, Sarasota County (unincorporated areas) currently has a rating of six; the municipalities of Longboat Key, Sarasota and Venice have ratings of seven; and the municipality of North Port has a rating of eight.

4. Comprehensive Plan Review

Purpose and Intent

Apoxsee, The Sarasota County Comprehensive Plan (Adopted: 1997, no amendment date was available) was reviewed for the purpose of developing this profile. This review was undertaken in order to assess what steps Sarasota 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, and wildfire 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 Sarasota County as identified in the County's Local Mitigation Strategy (LMS) are high winds, storm surge, flooding, severe winter storms, and wildland fire. Sinkholes were not discussed in the LMS, but the LMS did discuss subsidence and expansive soils and the risk of those hazards was considered to be very low for the entire county. Therefore, the sinkhole hazard is not addressed in this summary.

A substantial portion of the Sarasota County Comprehensive Plan consists of policies geared both toward emergency management and environmental protection. Many adopted policies provide direction for specific policy implementation through the Land Development Code. Policies discuss hazard mitigation to protect vulnerable properties and populations through development regulation and environmental management. These policies are aimed at protecting identified environmentally sensitive areas including but not limited to: barrier islands, natural drainage features, wetlands, floodplains and aquifer recharge zones.

Sarasota County is a coastal county with barrier islands, so many policies are geared toward coastal zone management and coastal resource protection. A significant portion of the Environment Element consists of hurricane evacuation policies addressing evacuation times, sheltering and development controls in Coastal High Hazard areas.

Flooding

Flooding is addressed from two vantage points, the protection and restoration of natural resources, and protection of vulnerable populations and properties. There are several policies directed at minimizing flooding and stormwater runoff. The Future Land Use Element states that development will not be permitted in 100-year floodplains, as designated on Federal Emergency Management Agency Flood Insurance Rate Maps or adopted County flood studies, if it would cause adverse impacts to floodplain functionality.

Stormwater concurrency requirements are discussed in the Public Facilities Element. There are detailed policies to prevent the exacerbation of stormwater issues brought on by new development. Intergovernmental coordination is also addressed in the policies, which provide for the County to continue to fund detailed master plans for each drainage basin in the County through the Basin Master Planning Program.

Storm Surge

The Comprehensive Plan has several policies related to consistently improving and updating evacuation plans and programs. Policy 4.1.2 of the Environment Element directs the County to implement a post-disaster plan. Other policies focus on controlling development densities and intensities within the Coastal High Hazard Area (CHHA). Policies require that residential development within the adopted CHHA conform to the following: In the event that a residential

structure located within the adopted CHHA is voluntarily destroyed, or destroyed by natural forces, the redevelopment of said property must conform to the underlying zoning. Policies also prohibit new mobile home development within the CHHA and on the barrier islands.

Transportation related policies have a direct correlation to evacuation needs. To further this goal, transportation related policies require that construction and maintenance of the thoroughfare system be consistent with the Environment Element. The intent of these policies is to reduce repeated storm damage related to transportation facilities in Coastal High Hazard Areas. Additionally, the intent of the policies is to discourage the expansion of existing transportation facilities on or onto the urbanized Barrier Islands. The Plan also addresses special needs facilities by requiring that all new and existing group home facilities and hospitals in Category 1-3 zones be reviewed for vulnerability to storm surge.

Sheltering

Similar to most of Florida's coastal counties, Sarasota County currently has a significant shelter deficit. According to Florida's Statewide Emergency Shelter Plan, Sarasota County has an existing shelter capacity of 30,286 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 49,040 people, leaving an existing shelter deficit of 18,754. In 2009, the projected shelter demand is 53,017, leaving an anticipated shelter deficit of 22,731. 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 areas.

The Environment Element contains a policy to identify and coordinate transportation for special needs individuals, consistent with the Sarasota County Peacetime Emergency Hurricane Plan.

Wildfire

Prescribed burning policies were included in the Plan, such as the following: Maintain and promote rural and natural resource land management practices such as prescribed burning through the requirement that all new development in the Rural area or adjacent to Public Conservation/Preservation Lands shall, as part of the development review process, recognize and accept existing rural and natural resource land management practices.

6. Municipal Case Study – City of North Port

As part of this study, a similar analysis was completed for a statewide sample of 14 Florida municipalities, including North Port in Sarasota County. The results of this analysis are provided within this section.

Hazards Analysis

The following analysis examines three hazard types: surge from tropical cyclones, flood, and wildfire. No population or structures were determined to be exposed to sinkholes. All of the information in this section was obtained through the online Mapping for Emergency Management, Parallel Hazard Information System (MEMPHIS).

Existing Population Exposure

Table 6.1 presents the population of North Port that is exposed to each hazard, as well as a breakdown of the sensitive needs population exposure.

Of the 22,797 (U.S. Census 2000) people that reside in the City of North Port, 17.9% are exposed to 100-year flooding and 86.1% are exposed to wildfire. No persons are exposed to storm surge.

Of the 4,073 people exposed to flood, 51.8% are disabled and 23.3% are over age 65. Of the 19,636 people exposed to wildfire, 41% are disabled and 20.6% are over age 65.

Table 6.1 Estimated Number of Persons Exposed to Hazards in North Port

Segment of Population	Flood	Wildfire
Total (all persons)*	4,073	19,636
Minority	274	1,461
Over 65	948	4,037
Disabled	2,108	8,054
Poverty	416	1,456
Language-Isolated	0	0
Single Parent	221	1,001

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.

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 6.2** presents estimates of the number of structures in North Port by occupancy type that are exposed to each of the four hazards being analyzed. The estimated exposure of North Port existing structures to the storm surge, flood, wildfire, and sinkhole hazards was determined through MEMPHIS.

There are 9,491 structures exposed to at least one of the three hazards, of which most are single-family homes in subdivisions. Of these structures, 14.3% are exposed to flood. Over 1,350 structures are located within the 100-year floodplain, of which 19.5% are exposed to storm surge induced flooding. As of March 2005, there are no repetitive loss properties in North Port.

Table 6.2 also indicates that there are 8,133 structures exposed to wildfire, of which 87.8% are single-family homes and 7.4% are mobile homes.

Table 6.2 Estimated Number of Structures Exposed to Hazards in North Port

Occupancy Type	Storm Surge	Flood	Wildfire
Single Family	145	1,095	7,139
Mobile Home	100	155	598
Multi-Family	15	53	207
Commercial	5	34	77
Agriculture	0	18	101
Gov. / Institutional	0	3	11
Total	265	1,358	8,133

Source: Mapping for Emergency Management, Parallel Hazard Information System

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

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 City's vulnerabilities to these hazards in both tabular format and spatially, in relation to existing and future land uses. Existing land use data was acquired from County Property Appraisers and the Florida Department of Revenue in 2004 for tabulation of the total amount of acres and percentage of land in identified hazard areas, sorted by existing land use category for the unincorporated areas. The total amount of acres and percentage of land in the identified hazards areas was tabulated and sorted by 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. North Port future land use data was acquired in September 2005 from the City of North Port and might not reflect changes per recent future land use amendments. Maps of existing land use within hazard areas are based on the 2004 County Property Appraiser geographic information system (GIS) shapefiles. Maps of future land uses in hazard areas were developed using the City of North Port future land use map dated September 2005. 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 western portion of the city. The total amount of land in the CHZ is 9,825.3 acres. As shown in **Table 6.2**, 81.9% are parks, conservation areas and golf courses; 11.3% are currently undeveloped; 3.7% are used for residential single-family homes; and 1.1% are used for residential mobile homes or commercial parking lots. **Table 6.3** shows that of the 1,107.7 undeveloped acres, 45.4% are designated for conservation. The City has taken favorable action in designating 45.4% of vacant acreage in the CHZ for conservation.

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. Nearly the entire northern and western portions of the city are located within the HVZ. The total amount of land in the HVZ is 34,469.7 acres. As shown in **Table 6.2**, 50.9% are currently undeveloped; 28.9% are parks, conservation areas and golf courses; 9.5% are used for residential single-family homes; and 4.8% are used for agriculture. **Table 6.3** shows that of the 17,541.5 undeveloped acres, 79.3% are designated for low density residential use. The City has taken favorable action in designating 79.3% of vacant acreage in the HVZ for low density residential use.

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 northern and western parts of the city. The total amount of land in the special flood hazard area is 5,273.7 acres. As shown in **Table 6.2**, 56.4% are parks, conservation areas and golf courses; 31.2% are currently undeveloped; 5.5% are used for residential single-family homes; and 5.3% are used for utility plants and lines and solid waste disposal. **Table 6.3** shows that of the 1,647.5 undeveloped acres, 79.3% are

designated for low density residential use. The City has taken favorable action in designating 79.3% of vacant acreage in the HVZ for low density residential use.

In **Attachment D**, two maps present the existing and future land uses within wildfire susceptible areas. These areas are scattered across the city, with the largest geographic area in the northern part of the city. The total amount of land in the wildfire susceptible areas is 18,230.5 acres. As shown in **Table 6.2**, 72.8% are currently undeveloped; 11.9% are used for residential single-family homes; 11.5% are parks, conservation areas and golf courses; and 2% are used for utility plants and lines and solid waste disposal. **Table 6.3** shows that of the 13,267.7 undeveloped acres, 82.2% are designated for low density residential use. The City has taken favorable action in designating 82.2% of vacant acreage in the wildfire susceptible areas for low density residential use.

According to the land use analysis, no acreage was identified as being within a sinkhole susceptible area.

**Table 6.2 Total Incorporated North Port 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	4.0	1,638.5	4.5	66.0
	%	0.0	4.8	0.1	0.4
Attractions, Stadiums, Lodging	Acres	1.3	1.6	1.1	0.0
	%	0.0	0.0	0.0	0.0
Places of Worship	Acres	20.5	115.7	0.0	50.6
	%	0.2	0.3	0.0	0.3
Commercial	Acres	63.3	84.0	0.0	0.2
	%	0.6	0.2	0.0	0.0
Government, Institutional, Hospitals, Education	Acres	4.9	473.1	0.2	132.4
	%	0.0	1.4	0.0	0.7
Industrial	Acres	0.7	138.9	0.0	39.0
	%	0.0	0.4	0.0	0.2
Parks, Conservation Areas, Golf Courses	Acres	8,046.7	9,978.8	2,975.0	2,089.7
	%	81.9	28.9	56.4	11.5
Residential Group Quarters, Nursing Homes	Acres	6.0	20.5	0.0	1.3
	%	0.1	0.1	0.0	0.0
Residential Multi-Family	Acres	10.7	108.8	3.1	28.1
	%	0.1	0.3	0.1	0.2
Residential Mobile Home, or Commercial Parking Lot	Acres	106.1	105.4	0.0	0.0
	%	1.1	0.3	0.0	0.0
Residential Single-Family	Acres	360.7	3,274.0	290.3	2,172.0
	%	3.7	9.5	5.5	11.9
Submerged Land (Water Bodies)	Acres	73.3	95.4	74.7	6.5
	%	0.7	0.3	1.4	0.0
Transportation, Communication, Rights-Of-Way	Acres	10.7	191.3	0.0	12.5
	%	0.1	0.6	0.0	0.1
Utility Plants and Lines, Solid Waste Disposal	Acres	8.7	702.2	277.3	364.5
	%	0.1	2.0	5.3	2.0
Vacant	Acres	1,107.7	17,541.5	1,647.5	13,267.7
	%	11.3	50.9	31.2	72.8
Total Acres	Acres	9,825.3	34,469.7	5,273.7	18,230.5
	%	100.0	100.0	100.0	100.0

Source: Department of Community Affairs

**Table 6.3 Total Incorporated North Port 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
Activity Center	Acres	466.6	346.7	2,714.2	1,440.6	192.6	174.1	817.5	665.0
	%	4.7	31.3	7.9	8.2	3.7	10.6	4.5	5.0
Agricultural, Estates	Acres	0.0	0.0	88.9	88.9	206.7	97.6	1,388.4	595.7
	%	0.0	0.0	0.3	0.5	3.9	5.9	7.6	4.5
Commercial	Acres	0.0	0.0	435.8	391.5	0.0	0.0	316.1	294.9
	%	0.0	0.0	1.3	2.2	0.0	0.0	1.7	2.2
Conservation	Acres	8,470.7	502.5	9,678.7	512.1	3,331.0	553.8	1,534.9	81.8
	%	86.2	45.4	28.1	2.9	63.2	33.6	8.4	0.6
High Density Residential	Acres	160.5	0.9	494.2	305.0	0.0	0.0	254.1	236.5
	%	1.6	0.1	1.4	1.7	0.0	0.0	1.4	1.8
Industrial	Acres	0.0	0.0	32.5	9.1	0.0	0.0	4.2	3.3
	%	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Low Density Residential	Acres	592.5	166.8	18,269.3	13,913.3	962.8	688.2	12,720.8	10,905.3
	%	6.0	15.1	53.0	79.3	18.3	41.8	69.8	82.2
Medium Density Residential	Acres	112.1	91.0	889.7	433.4	92.7	92.7	294.3	258.2
	%	1.1	8.2	2.6	2.5	1.8	5.6	1.6	1.9
Professional Office	Acres	0.0	0.0	36.8	21.0	0.0	0.0	11.4	10.5
	%	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
Public	Acres	0.7	0.0	523.4	164.3	4.9	0.0	139.8	72.5
	%	0.0	0.0	1.5	0.9	0.1	0.0	0.8	0.5
Recreation/ Open Space	Acres	18.3	0.0	1,192.2	152.9	478.4	41.0	681.3	76.5
	%	0.2	0.0	3.5	0.9	9.1	2.5	3.7	0.6
Utility Industrial Corridor	Acres	0.0	0.0	98.5	98.5	0.0	0.0	67.8	67.5
	%	0.0	0.0	0.3	0.6	0.0	0.0	0.4	0.5
Village	Acres	4.0	0.0	15.2	10.9	4.5	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Acres	Acres	9,825.4	1,107.7	34,469.7	17,541.5	5,273.6	1,647.5	18,230.5	13,267.7
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Department of Community Affairs

Municipal Hazard Mitigation Goals and Objectives Related to Comprehensive Planning

The Sarasota County LMS was developed by the County and all of its incorporated municipalities. All entities collaborated to develop unified community-wide goals and objectives, many of which pertain to comprehensive planning. The list of County LMS goals and objectives are listed in Section 3 Existing Mitigation Measures in the Local Mitigation Strategy Assessment in the Countywide Hazards Profile that precedes the North Port Municipal Case Study. A few of the highlights include incorporating the delineation of hazard zones to use for land use decisions; supporting participation in the NFIP and CRS programs; offering mitigation training to building design and construction professionals, and support the development of programs to increase the public's awareness of natural hazards and ways to reduce or prevent damage; identifying Capital

Improvement Projects that are mitigation in nature during the annual budgeting process, and to harden public owned buildings; supporting preventive activities that are addressed in various comprehensive planning and land development regulations; acquiring, relocating, elevating or retrofitting repetitive loss properties; supporting natural resource protection activities that preserve or maintain natural areas; improving shelter and evacuation capacities and functionalities; and enhancing pre and post disaster redevelopment and mitigation policies and procedures designed to reduce or avert the community's future disaster potential. The LMS contains a list of Local Mitigation Initiative roles and responsibilities, for which the City of North Port's Building Department is responsible for implementing the NFIP CRS program.

Comprehensive Plan Review

Purpose and Intent

The North Port Comprehensive Plan (Adopted November 10, 1997; Amended July, 1999; December 11, 2001; May 28, 2002; and March 22, 2004) was reviewed for the purpose of developing this profile. This review was undertaken in order to assess what steps North Port has taken to integrate hazard mitigation initiatives from the Sarasota County 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 County LMS were incorporated into the objectives and policies of the existing North Port Comprehensive Plan.

Approach

This review includes an assessment of tropical cyclone generated storm surge, flooding, and wildfire 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 H**. 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 the City of North Port as identified in the County's Local Mitigation Strategy (LMS) are wildland and urban fire, high winds, lightening, hail, flooding, drought, and storm surge. Sinkholes were not discussed in the LMS, but the LMS did discuss subsidence and expansive soils and the risk of those hazards was considered to be very low for the entire county. Therefore, the sinkhole hazard is not addressed in this summary.

The North Port Comprehensive Plan contains numerous goals, objectives and policies geared both toward environmental protection of sensitive natural areas, as well as emergency management. Policies include hazard mitigation provisions to protect vulnerable properties and populations through development controls and environmental management. North Port is not a coastal municipality, but is located in coastal Sarasota County, therefore special emphasis is placed on hurricane evacuation and sheltering issues.

Flooding

Flooding is addressed from two vantage points, the protection and restoration of natural resources, and protection of vulnerable populations and properties. There are several policies directed at minimizing flooding and stormwater runoff. Flood prevention policies are also incorporated with evacuation policies in the Comprehensive Plan.

The Plan states that the City will continue to participate in erosion-prevention and flood-prevention programs for those areas along the City's evacuation routes where erosion and

flooding are potential problems. The City will also explore retrofitting methods to alleviate street flooding in order to maintain evacuation routes. Flood hazard policies include offering the Transfer of Development Rights (TDRs) option to protect the 100-year floodplain from development, or to ensure that significant alteration of the functions of the 100-year floodplain will not occur. TDRs will be used as an incentive to encourage the relocation of repeatedly flood damaged houses within FEMA "A" Zones.

Flood mitigation policies deal extensively with utility improvements and upgrades. These policies require that the City draft a Potable Water and Sanitary Sewer Master Plan to guide the funding, improvements, and extensions of the City's potable water and sanitary sewer systems.

Storm Surge and Evacuation

The Comprehensive Plan focuses on issues related to hurricane evacuation, potential storm surge flooding, and shelter identification and protection. Regarding evacuation times, policies state that the City will participate in all transportation planning efforts to ensure that minimum evacuation times can be maintained during an evacuation on the City's evacuation routes, consistent with the Southwest Florida Regional Strategic Plan.

Intergovernmental coordination is stressed throughout the Plan. One policy states that the City will continue to coordinate emergency management planning with the Sarasota County Disaster Preparedness Department. The City will also provide assistance to aid the Southwest Florida Regional Planning Council and Sarasota and Charlotte Counties in the identification of public and private shelter space for all city residents, consistent with the Southwest Florida Regional Planning Council's Hurricane Evacuation Plan. This high level of coordination extends to the coordination of improvements for transportation facilities with surrounding Counties and Metropolitan Planning Organizations.

Policies state that the City will continue to cooperate with local, state and regional agencies to ensure that safe shelter space is available for the City's at risk populace. Additionally, the City will continue to promote the relocation of repeatedly damaged structures in FEMA "A" zones, or Category 1 SLOSH zones, to safe locations.

Wildfire

Wildfire mitigation is addressed in the Comprehensive Plan. The hazard is addressed as it relates to maintenance of fire trails in conservation areas. There is also an Intergovernmental Coordination policy which states the following: "Recognizing the important environmental and safety functions of prescribed burning, the City will continue to cooperate with the State Division of Forestry in assessing and implementing controlled burn programs."

Summary of Preliminary Recommendations

The City of North Port'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, and some that address wildfire in the LMS and Comprehensive Plan. However, there are always ways to strengthen such plans, and the following is a summary of options for the County to do so.

Comprehensive Plan Preliminary Recommendations

The following recommendations include hazard mitigation measures in which the City of North Port 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 flood, tropical cyclone

generated storm surge, and wildfire. No acres were determined to be in sinkhole susceptible areas. For more information about the methodology and data used for the land use tabulations, please refer to the “Analysis of Current and Future Vulnerability Based on Land Use” section of the Municipal Case Study in this hazards profile.

Of the vacant lands, 1,108 acres are susceptible to Category 1 storm surge (CHZ), 17,542 acres are susceptible to Category 1 – 3 storm surge (HVZ), 1,648 are susceptible to 100-year flood, and 13,268 acres are susceptible to wildfire.

Storm Surge

Nearly 55% of the 1,108 vacant acres in the Coastal Hazard Zone and 96% of the 17,542 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 locate and develop infrastructure at elevations to minimize risk from surge damage; limit building road, water, sewer, drainage infrastructure; promote relocation of repetitive loss structures in FEMA A-Zones and Category 1 SLOSH zones to safe locations; participate in intergovernmental coordination to facilitate safe evacuation and shelter planning; and other existing measures to minimize risk.
- The Comprehensive Plan should consider transfer of development rights to from areas within the CHHA to outside the CHHA, as another measure to reduce density in the CHHA.
- The City should consider retrofitting essential public facilities that exist in the CHHA to mitigate impacts from surge.
- The City should coordinate with Sarasota County to consider only allowing new on-site shelters outside of the HVZ.
- The City should coordinate with Sarasota County to consider prohibiting new schools in the CHHA and retrofitting new schools as shelters outside the HVZ, where possible.
- The City should consider prohibiting septic tanks in the CHHA except in cases of excessive hardship where (1) no reasonable alternative exists, (2) a discharge from a septic tank will not adversely affect public health and will not degrade surface or ground water and (3) where the Health Department determines that soil conditions, water table elevation and setback provisions are adequate to meet state requirements.
- The Comprehensive Plan should consider prohibiting the development of nursing homes, adult congregate living facilities, hospitals, mobile homes, and public facilities inside the Coastal High Hazard Area and other high-risk developments, similar to how most city funded infrastructure have been regulated. Building these facilities out of harm’s way reduces 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.

Flood

About 64% of the 1,648 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 community should continue the implementation of policies for stormwater management, continue to develop incentives and disincentives to reduce the

desirability of septic tank installation within the 100-year floodplain, use transfer of development rights to reduce density in the 100-year floodplain, relocate repetitive loss structures, and other measures to reduce the risk from flood.

- The City should coordinate with Sarasota County to consider building shelters and essential public facilities outside of the 100-year floodplain.
- The City should consider requiring the installation back-flow preventers on new septic tanks that exist in the 100-year floodplain to mitigate impacts from flood, while continuing to create incentives and disincentives to reduce the desirability of septic installation within the 100-year floodplain.
- The City 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 City should consider requiring areas that have not established flood elevations to be studied prior to development.
- The City should consider calling for compensating storage calculations in all non coastal flood hazard areas.

Wildfire

About 99% of the 13,268 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. Most of the vacant acres are slated for low density residential development.

- The City should continue to maintain fire trails in conservation areas and cooperate with the State Division of Forestry in assessing and implementing controlled burn programs.
- The City 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 City 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 City should consider requirement for all new development to include & implement a wildfire mitigation plan specific to that development, subject to review & approval by the Local Fire Rescue Department.
- The City should consider increasing public awareness of prescribed burning and require management plans for conservation easements that address reduction in wildfire fuels.

Sinkhole

No areas were determined to be susceptible to sinkholes according to the data used for the hazards analysis in this profile. Sinkhole hazard was not discussed in the hazards analysis in the latest version of the Sarasota County LMS. The LMS did mention subsidence and expansive soils, though the risk of those hazards was considered to be very low for the entire county.

General

- Include each hazard layer on the existing and future land use maps to determine where risks are possible to target hazard mitigation strategies.
- Continue educating the public, especially those at high risk from hurricanes, floods, and wildfires, and inform them of proactive steps they can take to mitigate damage.

7. 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 GIS Data

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) GIS Data

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 "Evacuation Category" 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 "Evacuation Category" is equal to "Zone TS", "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 found on 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.

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

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

Goal 1: Support mitigation public awareness activities through awareness and application of hazard mitigation policies and identification, prioritization and achievement of cost effective mitigation projects.

Goal 2: Maintain the community wide Local Mitigation Strategy.

Objective 2.1: Formally commit to participation by adopting a formal resolution to that affect.

Objective 2.2: Participate in the National Flood Insurance Program (NFIP) and continue participation in the Community Rating System.

Objective 2.3: Annually update the prioritized project list.

Objective 2.4: Complete a risk assessment of natural hazards.

Objective 2.5: Offer mitigation training to building design and construction professionals.

Objective 2.6: Develop programs to increase the public's awareness of natural hazards and ways to reduce or prevent damage.

Objective 2.7: Complete a land use plan that delineates the relevant hazards and incorporates them as factors in all land use decisions.

Objective 2.8: Maintain the repetitive loss listing.

Objective 2.9: Continue to identify Capital Improvement Projects that are mitigation in nature during the annual budgeting process.

Objective 2.10: Continue to harden public owned buildings.

Objective 2.11: Continue to fund or seek funding to implement prioritized projects.

Objective 2.12: Continue to track and document mitigation successes.

Goal 3: Support prevention activities and projects that reduce the risk of life and damage to property from all identified hazards:

Objective 3.1: Preventive activities that are addressed in various comprehensive planning and land development regulations shall be governed by the appropriate goals, objectives and policies contained in the appropriate documents:

Objective 3.2: Continue to support the efforts to purchase environmentally sensitive areas and special flood hazard areas; and to leverage other funding sources by working with state land acquisition and land management agencies.

Objective 3.3: Continue to enforce floodplain regulations that provide greater flood protection than that required under current National Flood Insurance Program standards as outlined in the Sarasota County Floodplain Management Plan.

Goal 4: Support activities and projects that reduce or avert property damage on properties that have suffered repeated damage from identified hazards.

Objective 4.1: Obtain funding for projects that acquire and/or relocate repetitive loss properties, as defined by the Federal Emergency Management Agency, that have a benefit to cost ratio of 1.0 or better.

Objective 4.2: Obtain funding to elevate, or otherwise retrofit, repetitive loss properties, as defined by the Federal Emergency Management Agency, that have a benefit to cost ratio of 1.0 or better.

Objective 4.3: Examine the feasibility of enacting development standards in urban/wildland interface areas to mitigate future fire losses, to include vegetative buffers, fire resistant roofing materials, screened gable and roof openings, and minimum driveway width requirements for fire response vehicles.

Goal 5: Support natural resource protection activities that preserve or maintain natural areas.

Objective 5.1: Continue current wetland coordinating/evaluation programs with state and water management agencies.

Objective 5.2: Continue enforcing erosion sedimentation and control regulations that reduce how much sediment enters natural areas when development takes place.

Objective 5.3: Support the continued purchase of lands through several local, state and federal programs that promote the preservation of natural areas.

Objective 5.4: Support the continued efforts to preserve, restore and renourish the beach front and other natural resource areas.

Goal 6: Support the achievement of emergency services activities taken during a disaster incident to reduce the hazards impact.

Objective 6.1: Continue efforts to gain a better understanding of the community's vulnerability to flood, wind and wildfire impacts through hazard identification and vulnerability assessment studies.

Objective 6.2: Continue to enhance and increase the number of tide monitor data collection sites.

Objective 6.3: Continue to support projects that fund building or retrofit projects that reduce the community's hurricane shelter space deficit.

Objective 6.4: Support efforts to fund improvements to critical roadway links causing congestion on evacuation routes for Category 1 through 3 hurricanes.

Objective 6.5: Continue efforts to identify critical facilities that need mitigation protection due to their importance in helping the community respond to and recover from identified hazards.

Objective 6.6: Flood proofing of critical facilities within the defined Coastal High Hazard Area shall receive priority for grant funding requests.

Objective 6.7: Examine the feasibility of designing water, sewer, power infrastructure facilities so that they can function during a 100 year flood event.

Objective 6.9: Identify and encourage incorporation of emergency power supplies to critical facilities and other public and private facilities integral to the operation, particularly with respect to health and safety support functions.

Objective 6.10: Evaluate the effectiveness of existing emergency power supplies to critical facilities and implement enhancements as needed to provide three to five days of functional operation.

Objective 6.12: Support and encourage partnerships with private and civic groups; support retrofits and the building of new structures in compliance with ARC 4496 for public use facilities in exchange for emergency shelter designation and use.

Goal 7: Support efforts to obtain funding for engineered projects that help keep the hazard's impact away from identified vulnerable areas.

Objective 7.1: Seek federal and state funding to complete capital improvements to improve stormwater flow.

Objective 7.2: Support the Stormwater Strategic Plan adopted by the Board of County Commissioners on December 8, 1998.

Goal 8: Encourage public support and commitment to local hazard mitigation efforts by showing its benefits through public information activities that advise property owners, potential property owners, and visitors about hazards, and ways to protect people and property from these hazards and the benefits of protecting our natural resources.

Objective 8.3: Continue efforts to support funding programs that provide assistance to property owners on ways to mitigate property from identified hazards.

Goal 9: Initiate and enhance pre and post disaster redevelopment and mitigation policies and procedures designed to reduce or avert the community's future disaster potential.

Objective 9.1: Post disaster redevelopment and hazard mitigation policies and procedures shall be governed by goals, objectives and policies contained in all existing and developing Post Disaster Redevelopment Plans.

Objective 9.2: Objectives and policies contained in all existing and future developing Post Disaster Redevelopment Plans shall be carried out through the appropriately adopted Post Disaster Ordinances following a major or catastrophic disaster.

Objective 9.3: Identify, evaluate and assess all critical facilities within each jurisdiction.

Objective 9.4: Continue to coordinate and enhance mitigation roles and responsibilities with the various local agencies.

ATTACHMENT G
Sarasota County Comprehensive Plan Excerpts Pertaining to Hazard Mitigation

ENVIRONMENT ELEMENT

OBJECTIVE 1.1: Construction activities on or off the shore of the Barrier Islands shall not detrimentally impact the barrier island system.

Policy 1.1.1: Continue to enforce Sarasota County Ordinances pertaining to construction seaward of the County's Gulf Beach Setback Line and Barrier Island Pass Hazard Line. (RU-30, Ord. 97-061, July 8, 1997)

Policy 1.1.2: No hardening of Gulf beaches or passes shall be allowed unless such hardening has been found to be in the public interest.

OBJECTIVE 1.2: To exceed the current acreage of public beaches and dunes through the year 2010 in accordance with Policies established in the Recreation and Open Space Plan.

Policy 1.2.1: Continue to fund the County's beach/dune protection and restoration program applicable to all County-owned Gulf shoreline properties.

Policy 1.2.2: Continue to protect beaches, dunes, and coastal vegetation from vehicular traffic and pedestrian traffic by providing vehicular parking, dune walkovers and by encouraging bicycle use through the provision of bicycle paths and storage racks.

Policy 1.2.3: Work with the State Department of Environmental Protection in developing and adopting a Beach and Inlet Management Plan with a monitoring program to:

- assess the nature and extent of coastal erosion;
- monitor the effectiveness of beach restoration programs;
- determine the effect of storm events on sand movement;
- identify dominant coastal processes which would aid in evaluating permit applications and coastal decision making;
- monitor sea level rise;
- identify the impacts of modified inlets on historic erosion rates;
- identify beach segments with common erosion/accretion histories;
- recommend beach management strategies for each segment; and
- develop a long term strategy for areas of chronic erosion. (RU-30, Ord. 97-061, July 8, 1997)

OBJECTIVE 4.1: To reduce hurricane evacuation times for each storm category so that total evacuation times do not exceed 14 hours by the year 2010, and assist the general public in meeting their responsibility to evacuate in the event of a hurricane.

Policy 4.1.1: Development orders shall be evaluated for their impacts on traffic circulation, evacuation routes, critical locations, on-site hurricane shelter provisions, and proximity to off-site shelter facilities within the storm category 1, 2, and 3 flood zones in the County. (RU-30, Ord. 97-061, July 8, 1997)

Policy 4.1.2: The County shall develop and implement a post-hurricane disaster plan that considers the following:

- land uses and public facilities in the coastal zone area;
- areas of known high-hazard;
- the effects of hurricanes on the dynamics of coastal areas;
- the direct and indirect costs of a major storm disaster, and;

- prior arrangements with owners in the Coastal High Hazard Area to facilitate acquisition. (RU-30, Ord. 97-061, July 8, 1997)

Policy 4.1.3: New mobile home development shall be prohibited on the Barrier Islands or within the Coastal High Hazard Area. (Renumbered by RU-30, Ord. 97-061, July 8, 1997)

Policy 4.1.4: All new and existing group home facilities and hospitals within storm categories 1, 2, and 3 shall be reviewed for vulnerability to storm inundation by hurricane surge. Each facility shall establish a Mutual Aid Contract with a facility located in a non-evacuation zone. (Renumbered by RU-30, Ord. 97-061, July 8, 1997)

Policy 4.1.5: Hurricane evacuation and immediate post-hurricane repair and cleanup actions shall be applied in a manner consistent with the Sarasota County Peacetime Emergency (Hurricane) Plan. (Renumbered by RU-30, Ord. 97-061, July 8, 1997)

Policy 4.1.6: The identification of individuals with special medical needs shall be consistent with the Sarasota County Peacetime Emergency (Hurricane) Plan. Shelter and transportation to shelter shall be provided for these individuals. (RU-30, Ord. 97-061, July 8, 1997)

Policy 4.1.7: The Department of Emergency Management shall continue its public awareness campaign relating to hurricane evacuation, hazardous materials, and the 9-1-1 Program throughout Sarasota County. (Renumbered by RU-30, Ord. 97-061, July 8, 1997)

OBJECTIVE 4.2: To provide new hurricane shelter facilities and the expansion of existing facilities.

Policy 4.2.1: New mobile home developments will establish on-site sheltering for 100 percent of the development's residents. The County Department of Emergency Management shall review and approve the development plans for shelter facility design.

Policy 4.2.2: All new developments with community facilities in the storm category 1, 2, and 3 zones shall be required to meet hurricane shelter design standards. Developments with community facilities in the storm category 4 and 5 zones shall be encouraged to meet these standards.

Policy 4.2.3: Encourage hotel/motel development in the storm category 3, 4, and 5 zones rather than in storm category 1 and 2 zones.

Policy 4.2.4: Coordinate research and planning efforts between the County Departments of Planning and Emergency Management, the Southwest Florida Regional Planning Council, and other appropriate agencies in order to continue to update the pertinent sections of the Sarasota County Peacetime Emergency and Comprehensive Plans and to develop a post-hurricane disaster plan that addresses long-term repair and redevelopment activities.

Policy 4.2.5: Continue to coordinate efforts within the limits provided by legislative authority to coordinate development review with the Sarasota County School Board to provide that new school facilities and facility expansions will be designed to provide hurricane shelter. (RU-30, Ord. 97-061, July 8, 1997)

Policy 4.2.6: New County buildings, so designated by the Board of County Commissioners, shall be designed and constructed in such a way that enables them to be utilized for hurricane shelter.

OBJECTIVE 4.3: To limit additional public investment in order to restrict further concentrations of population in the Coastal High Hazard Area.

Policy 4.3.1: The construction or reconstruction of County funded facilities or infrastructure in the Coastal High Hazard Areas shall be prohibited except for passive recreation facilities and those necessary to ensure public health and safety. (RU-30, Ord. 97-061, July 8, 1997)

Policy 4.3.2: Utilize the County's power of eminent domain and regulatory authority to relocate threatened and/or damaged structures and infrastructure landward of the Coastal High Hazard Area. Consistent with the availability of budgeted funds, purchase property for relocation.

Policy 4.3.3.: Special High Hazard Area taxing zones, as necessary, will be created to help pay for the relocation landward of the Coastal High Hazard Area, the reconstruction, and/or protection of storm damaged public infrastructure and facilities, and shelters, to ensure public health and safety.

OBJECTIVE 5.5: To preserve significant areas and representative samples adequate to maintain the functions and values of native habitat.

Policy 5.5.7: In accordance with the requirements of Chapter 163, Part II, Florida Statutes, as the same may be amended, the County shall develop guidelines in the Land Development Regulations (LDR), Zoning Ordinance, and/or other existing regulations which regulate development and specify the necessary design standards in environmentally significant/sensitive areas (for example, Barrier Islands, floodplains, watersheds, and water recharge areas) and on properties adjacent to Public Conservation/Preservation Lands. (RU-30, Ord. 97-061, July 8, 1997)

Policy 5.5.9: Maintain and promote rural and natural resource land management practices such as prescribed burning through the requirement that all new development in the Rural area or adjacent to Public Conservation/Preservation Lands shall, as part of the development review process, recognize and accept existing rural and natural resource land management practices. (RU-30, Ord. 97-061, July 8, 1997)

RECREATION AND OPEN SPACE ELEMENT

OBJECTIVE 1.2: To ensure that recreational lands and facilities are compatible with surrounding land uses and the natural environment in accordance with the Environment Chapter, through the year 2010.

Policy 1.2.2: Protect beaches, dunes, and coastal vegetation from vehicular traffic and from excessive pedestrian traffic.

- Install effective barriers to prevent motor vehicle traffic except on designated beach accesses and parking areas.
- Prevent beach pedestrian traffic from destroying native vegetation by providing boardwalks.
- Improve parking at high-use beach sites while protecting beach resources.
- Provide secure bicycle racks at beach sites to encourage bicycle transportation.
- Encourage efforts to redesign existing beach parking areas so that eventually all parking areas will be located landward of coastal construction control lines.
- Prepare and implement techniques to protect nesting bird colonies on the beaches.

PUBLIC FACILITIES ELEMENT

Objective 3.1: Address the maintenance of existing facility capacity, and ensure the adequacy of facilities to meet future needs. (RU-32, Ord. 97-063, July 8, 1997)

Policy 3.1.3: The County shall continue to fund detailed master plans for each drainage basin in the County through the Basin Master Planning Program to assure that stormwater management facilities are developed to attain the adopted level of service. Implementation of all detailed

master plans shall be completed by 2001. Each detailed master plan shall be developed, in accordance with the Basin Master Plan Schedule, as a Sarasota County inter-department effort to ensure consideration of natural drainage functions. Basin master plans shall be developed in cooperation with the municipalities and adjacent Counties to address stormwater quality and quantity problems in basins crossing more than one political boundary. Each plan shall be designed to protect downstream and estuarine water from degradation by stormwater runoff. Each basin plan shall define the level of service and a capital improvements program shall be developed. As each basin plan is completed, the comprehensive plan, including the Capital Improvements Plan, shall be amended to incorporate and reflect the stormwater management facility improvements identified in the basin plan. (RU-32, Ord. 97-063, July 8, 1997)

Policy 3.1.5: The County shall pursue providing regional stormwater management facilities, including those that could take the place of site specific attenuation facilities. These regional facilities should be developed by the County and, when appropriate, funded by development in lieu of construction of onsite, private attenuation facilities. Water quality treatment facilities should be located onsite to promote source control of pollutants before they enter the County stormwater system. (Renumbered by RU-32, Ord. 97-063, July 8, 1997)

OBJECTIVE 3.2: Address protecting the functions of natural groundwater recharge areas and natural drainage features. (RU-32, Ord. 97-063, July 8, 1997)

Policy 3.2.1: The County shall implement its Comprehensive Stormwater Quality Program consistent with the National Pollutant Discharge Elimination System (NPDES) permit issued to the County by the U.S. Environmental Protection Agency. The Comprehensive Stormwater Quality Program shall provide for management and control of stormwater runoff to reduce pollution at the source and discharge of pollutants into receiving waters from the County's stormwater system to the maximum extent possible. (RU-32, Ord. 97-063, July 8, 1997)

Policy 3.2.2: The County shall require that the treatment of stormwater discharge meets standards which will ensure that there will not be adverse impacts on the quality of potable public surface water supplies. (RU-32, Ord. 97-063, July 8, 1997)

Policy 3.2.3: New development in the 100-year floodplains shall be consistent with the Goals, Objectives, and policies of the Environment, Public Facilities, and Future Land Use Plans. (Renumbered by RU-32, Ord. 97-063, July 8, 1997)

OBJECTIVE 3.3: To ensure that development and redevelopment provides for adequate stormwater management. (RU-32, Ord. 97-063, July 8, 1997)

Policy 3.3.2: Stormwater Level Of Service:

- 1) Stormwater Quality: no discharge from any stormwater facility shall cause or contribute to a violation of water quality standards in waters of the State as provided for in County Ordinances, Federal Laws and State Statutes. Water quality levels of service shall be set consistent with the protection of public health, safety and welfare and natural resources functions and values. To protect water quality and maintain stormwater quality level of service standards:
- 2) Stormwater Quantity: Stormwater management systems shall provide for adequate control of stormwater runoff. The Stormwater Quantity Level of Service shall be:

Stormwater Quantity Level of Service and Design Criteria

<u>Flooding Reference</u> (buildings, roads and sites)	<u>Level of Service</u> (flood intervals in years)
I. Buildings:	
Emergency shelters and essential services	>100
Habitable	100
Employment/Service Centers	100
II. Road Access: roads shall be passable during flooding. Roadway flooding ≤ 6 " depth at the outside edge of pavement is considered passable.	
Evacuation	>100
Arterials	100
Collectors	25
Neighborhood	10
III. Sites: flooding refers to standing water in agricultural land, developed open or green space (yards and parking lots etc.) and undeveloped lands designated for future development. This does not include areas incorporated into the stormwater or Basin Master Plan as flowways, floodplain, or flood storage areas.	
A. Urban (>1 unit/acre)	5
B. Rural	2

IV. The water quantity level of service can be adjusted to allow for greater amounts of flooding of roads and sites if the flooding is provided for in a Basin Master Plan or as part of a stormwater management system design and does not adversely impact public health and safety, natural resources or property. The level of service for existing development and for improvements to existing roadways may be adjusted based on existing conditions such as adjacent topography, and economic and social impacts.

The requirements to maintain stormwater quantity level of service standards are stated below: a) New developments shall be designed to maintain the water quantity level of service standard and to minimize adverse stormwater impacts. Stormwater runoff shall not be diverted in such a way as to overload onsite or off-site stormwater management systems and natural drainage features or floodways beyond their level of service standard. Stormwater management plan designs shall provide for the attenuation/retention of stormwater from the site. Water released from the site shall be in such a manner as to ensure that the rate of runoff after development is less than or equal to that before development under existing conditions for up to and including a 100-year, 24-hour storm. The County shall pursue opportunities for off-site public or private regional stormwater attenuation/retention facilities to be used to accomplish stormwater attenuation requirements.

b) Until drainage improvements are made to upgrade the level of service, developments in basins identified through Basin Master Plans as not meeting the Level of Service shall limit the rate of runoff after development to the drainage system capacity by limiting the 100-year, 24-Hour post-development runoff rates to the apportioned downstream flow capacities which do not cause flooding of residential structures.

TRANSPORTATION ELEMENT

OBJECTIVE 1.1: Development of a future thoroughfare system, consistent with the adopted Future Thoroughfare Plan and Maps, proposed population densities, housing and employment patterns, and land uses, shall be based on the Future Land Use Plan and coordinated with the plans of adjacent jurisdictions. (RU-34, Ord. 97-065, July 8, 1997)

Policy 1.1.3: All construction and maintenance of the thoroughfare system shall be consistent with the Environment Plan specifically:

- to reduce where practicable the maintenance of transportation facilities in Coastal High Hazard Areas subject to repeated storm damage and consider the relocation of facilities when determined to be in the best interest of the public health, safety and welfare; and
- to discourage the expansion of existing transportation facilities on or onto the urbanized Barrier Islands unless: a) the expansion will not encourage the further development on the Barrier Islands; b) the expansion will provide for the safe movement of traffic; and c) the expansion will assist in the safe evacuation of the resident and seasonal population. (RU-34, Ord. 97-065, July 8, 1997)

FUTURE LAND USE ELEMENT

OBJECTIVE 1.1: To protect environmentally sensitive lands, conserve natural resources, protect floodplains, maintain water quality, and open space, and conserve and protect historic and archeological resources. (RU-27, Ord. 96-027, April 30, 1996)

Policy 1.1.2: Barrier Islands are designated on the Future Land Use Map to recognize existing land use patterns and to provide a basis for hurricane evacuation planning and disaster mitigation efforts. The intensity of future development on the Barrier Islands of Sarasota shall not exceed that allowed by existing zoning. (RU-31, Ord. 97-000, July, 1997)

Policy 1.1.3: The designated County Coastal High Hazard Area shall include the evacuation zone for a Category 1 hurricane, as established in the regional hurricane evaluation study. (RU-27, Ord. 96-027, April 30, 1996)

Policy 1.1.4: Residential development within the adopted Coastal High Hazard Area shall conform to the following:

- In the event that a residential structure located within the adopted Coastal High Hazard Area is voluntarily destroyed, or destroyed by natural forces, the redevelopment of said property must conform to the underlying zoning;
- The provisions of this Policy shall not be construed as restricting the rebuilding of a single family residence on an existing lot-of-record, provided that such property meets all requirements pertaining to construction in the Coastal High Hazard Area; and
- In the event that natural forces render a property located in the Coastal High Hazard Area unbuildable, or reduce the development potential of a property as allowed by the prior acreage and the underlying zone district, utilization of the Transfer of Development Rights concept will be encouraged. Development The reduction of densities and intensities, including the vacation of platted lots-of-record, shall be encouraged by the establishment of a Barrier Island Sending Zone for the transfer of development rights. (RU-27, Ord. 96-027, April 30, 1996)
- Rights, in such cases, shall be determined based upon pre-disaster conditions.

Policy 1.1.6: No development order shall be issued which would permit development in 100-year floodplains, as designated on Federal Emergency Management Agency Flood Insurance Rate Maps or adopted County flood studies, or on floodplain associated soils, defined as Soils of Coastal Islands, Soils of the Hammocks, Soils of Depressions and Sloughs, and Soils of the Floodplains and shown in Figure 2-2, that would adversely affect the function of the floodplains or that would degrade the water quality of water bodies associated with said floodplains in violation of any local, State, or federal regulation, including water quality regulations. (RU-27, Ord. 96-027, April 30, 1996)

Policy 1.1.10: Normal management practices associated with maintaining and restoring native habitats such as controlled burning within public and private Conservation/Preservation areas shall be permitted. (RU-27, Ord. 96-027, April 30, 1996)

OBJECTIVE 3.1: To provide guidelines for the regulation of residential land uses. (RU-27, Ord. 96-027, April 30, 1996)

Policy 3.1.6: Residential development in the Future Urban Service Area shall have a maximum density of the underlying land use area, i.e., Semi-Rural or Rural, until such time as it is designated and included in the Urban Service Area. Development may be concentrated through the designation of a residential receiving zone in one portion of a parcel, and an Urban Reserve sending zone in the remainder of the parcel. The residential receiving zone may be designated and developed consistent with the provisions of Policy 3.1.1 and the specifications of the Moderate Density Residential designation. The maximum number of units in the area to be developed shall be the sum of the number of units permitted within that area and the number of development rights transferred. If included in the Urban Service Area, the Urban Reserve sending zone may be developed in accordance with then applicable provisions of Apoxsee. The rezoning that creates the residential receiving zone and Urban Reserve sending zone shall meet all of the following standards:

A credit of one dwelling unit per acre shall given for development rights transferred from a conservation sending zone, defined as any area Countywide, not located in either an Urban Reserve sending or residential receiving zone, for which a conservation easement is granted in perpetuity, and which in its entirety meets one of more of the following four criteria: 1) is designated on Figure 2-10: Sites of High Ecological Value; 2) is in an Area of Special Flood Hazard, as determined from the Federal Emergency Management Agency's maps or the latest available County approved studies; 3) is located in a Category or Category 2 storm surge area; 4) watercourses or slough systems, along with associated contiguous wetlands and mesic hammock areas, and include a 200-foot wide buffer measured from the landward extent of the contiguous wetland and/or mesic hammock areas or measured from the top of the bank if there are no wetlands or mesic hammock areas. The delineation should consider the potential for incorporation into a regional greenways system. The area may be used for recreational trails, wildlife corridors and existing agricultural uses consistent with a County-approved resource management plan.

Residential receiving zones and Urban Reserve sending zones shall not include land which meets one or more of the following three criteria: 1) is designated on Figure 2-10: Sites of High Ecological Value; 2) is an Area of Special Flood Hazard, as determined from the Federal Emergency Management Agency' maps or the latest available County approved studies; or 3) is located in a Category 1 or Category 2 storm surge area.

CAPITAL IMPROVEMENTS ELEMENT

OBJECTIVE 1.2: Proposed expenditure of public funds that subsidize or enable land development in Coastal High Hazard Areas shall be limited to those projects identified in the Environment Chapter. (There are no Policies associated with this Objective.)

OBJECTIVE 1.5: The County shall manage its fiscal resources in order to ensure that capital improvements needed because of previously issued development orders and future development orders are provided in accordance with the Five-Year Schedule of Capital Improvements (Table 10-3).(RU-37, Ord. 97-068, July 8, 1997)

Policy 1.5.3: Capital improvements proposed to be added to the Five-Year Schedule of Capital Improvements (Table 10-3) shall be evaluated with project selection criteria that consider, but are not limited to, the following factors:

- the relationship to relevant Chapters of the Comprehensive Plan;
- the elimination of public hazards; the elimination or mitigation of existing deficiencies; the impact on the annual operating and capital budgets; location in relation to the "Future Land Use Map"; the accommodation of new development and redevelopment facility demands; the financial feasibility of the proposed project; and the relationship of the improvement to the plans of State agencies and the Southwest Florida Water Management District.

ATTACHMENT H
City of North Port Comprehensive Plan Excerpts Related to Hazard Mitigation

FUTURE LAND USE ELEMENT

OBJECTIVE 2: The City shall amend its Land Development Code in 1998 to provide standards, including intensity and density standards, and gateway criteria for Activity Centers to achieve the desired and economically feasible mixture of land uses.

Policy 2.20: To protect or mitigate the impact of Activity Center development upon viable wetlands or wetland systems, the City shall, at the time of initiation of PCD rezoning and approval of the Development Concept Plan, work with the Applicant(s) to place the development in locations to ensure that incompatible uses are located outside of, and at the appropriate distance away from, the wetlands. The type, intensity, extent, distribution and location of allowable land uses and the types, values, functions, sizes, conditions, and locations of wetlands are land use factors which shall be considered when directing incompatible land uses away from wetlands. All proposed developments shall comply with, or exceed, the criteria for wetland protection of all appropriate local, state, or federal regulatory agencies. When no reasonable alternatives to avoid wetland impacts exist, mitigation shall be considered as one of the means to compensate for loss of wetland functions.

OBJECTIVE 5: Future growth and development will be managed through the preparation, adoption, implementation and enforcement of land development regulations.

Policy 5.1: Amend the land development regulations, consistent with F.S. 163.3202 (1), as amended, that shall contain specific and detailed provisions required to implement the adopted Comprehensive Plan, and which as a minimum: d. Regulate areas subject to seasonal and periodic flooding and provide for drainage and stormwater management

OBJECTIVE 9: Revised land development regulations, consistent with F.S. 163.3202 (1), as amended, shall be adopted to ensure that development activities provide for the protection of natural, historic, and archeological resources.

Policy 9.3: Amend the Land Development Code by 2000 to regulate proposals for development within the designated riverine floodplains identified on FEMA 100 year floodplain maps. These amendments should ensure that significant alteration of the functions of the floodplain will not occur, the proposed development is consistent with performance standards regulating development, or takes advantage of any incentives, if appropriate.

Policy 9.4: The developer/owner of any site, except single-family residential, shall be responsible to meet stormwater regulations and other appropriate regulations, as applicable.

OBJECTIVE 10: Through increased frequency of meetings and exchange of information, the City shall improve coordination with affected and appropriate governments and agencies to maximize their input into the development process and mitigate potential adverse impacts of future development activities.

Policy 10.3: Where appropriate the City will concentrate the location and development of infrastructure to take advantage of high elevations and opportunities for rapid evacuation as identified in the Southwest Florida Comprehensive Hurricane Evacuation Plan.

OBJECTIVE 13: In order to fulfill the build-out vision for the City of North Port, any property under unified ownership or united application within the City, which can meet the minimum requirements to form a village, town center, and neighborhoods contributing to the formation of a village, may receive a Village Land Use Classification.

Policy 13.1: General Village Principles - Each Village must adhere to the following general Community Planning Principles: l. Where appropriate, civic structures, schools, clubhouses and other structures shall be designed as hurricane shelters to provide a safe environment for the residents or employees. m. City shall adopt standards governing development in storm surge I and II areas, per FEMA regulations.

OBJECTIVE 13: In order to fulfill the build-out vision for the City of North Port, any property under unified ownership or united application within the City, which can meet the minimum requirements to form a village, town center, and neighborhoods contributing to the formation of a village, may receive a Village Land Use Classification.

Policy 13.6: Initiation of a Village/District Planned Development:

Detailed Village boundaries must be established through the adoption of a Village District Pattern Plan (VDPP). No development shall be permitted within a Neighborhood, Neighborhood Center, Village Center or a Town Center until a VDPP for the entire Village or Town Center has been approved by the North Port City Commission. However, the initiation of a VDPP does not constitute proposal of an actual plan of development by the developers of land within the Village, and the approval of a VDPP by the North Port City Commission does not constitute an authorization to commence development within the Village. Following approval of a VDPP, a developer of land within the Village must apply for and obtain from the City approval of specific plans of development which are consistent with the approved VDPP. A VDPP must be prepared in sufficient detail to allow evaluation of the interrelationship of its parts and establish consistency with Policies 13.1 -- 13.12 in this section. Each and every step involved in the preparation of the VDPP must be directed by, or coordinated with, the City and must include at a minimum the following information:

III. Proposed VDPP

Based on the results of the informational session described in II.f., preparation of the proposed Village District Pattern Plan will include the following elements:

1. Statement of the community goals and objectives to be accomplished by the VDPP.
2. Preparation of the VDPP Exhibits:
 - Land use plan
 - Transportation plan
 - Environmental impact plan
 - Public facilities plan
 - Design performance standards
3. Preparation of a Public Improvements Plan which identifies the infrastructure necessary to support development of the VDPP, the proposed source of funding, and the approximate timing for construction. The Public Improvements Plan shall include an analysis of the need for roadways, utilities and schools and shall demonstrate how the VDPP addresses those including:
 - (b) A Transportation Plan. This plan shall include the location of all arterial and collector roadways, their right-of-way width, and design cross section. It shall also address the proposed location of transit routes and the manner in which they can be integrated into the regional transportation system. The location of all bikeways and pedestrian paths shall be provided demonstrating the ability to access all schools, commercial and civic areas. The transportation plan shall be accompanied by an analysis report demonstrating the impact on transportation facilities, including impact on hurricane evacuation clearance times, and documenting the timing and estimated cost for transportation improvements required by development.

TRANSPORTATION ELEMENT

-Hurricane Evacuation-

OBJECTIVE 10: To facilitate the safe evacuation of City residents within the Hurricane Vulnerability Zones 1 and 2 as shown on SLOSH maps, as amended, during a natural disaster or other emergency situation.

Policy 10.1: Prior to 2001, the City shall initiate a thorough review and identification of all arterial and collector roadways for possible designation as an approved Emergency Evacuation Route. This effort shall be coordinated with the Southwest Florida Regional Planning Council, and appropriate officials of Sarasota County and Charlotte County.

Policy 10.2: Prior to 2001, the City shall explore alternatives for the necessary roadway improvements based on regional evacuation needs identified in the 1995 Hurricane Evacuation Study drafted by the Southwest Florida Regional Planning Council.

Policy 10.3: The City of North Port, Sarasota County, and Charlotte County shall coordinate the timing and funding of improvements to Toledo Blade Boulevard to ensure adequate roadway capacity to carry regional hurricane evacuees.

Policy 10.4: The City of North Port, Sarasota County, and Charlotte County shall work closely with the Sarasota/Manatee and Charlotte County-Punta Gorda Metropolitan Planning Organizations to coordinate the timing and funding of improvements necessary to ensure that Toledo Blade Boulevard has the road capacity to carry regional hurricane evacuees.

STORMWATER MANAGEMENT ELEMENT

OBJECTIVE 1: The City will continue to implement procedures to ensure that at the time a development permit is issued, adequate surface water management facilities are available or will be available to serve the development within a reasonable time, as defined in the Concurrency Management System Ordinance of the Unified Land Development Code.

Policy 1.1: The following level of service standards are hereby adopted to adequately achieve management and storage of surface waters, and shall be used as the basis for determining the availability of facility capacity and the demand generated by a development:

Primary Drainage System - Design Storm Within the City of North Port:

- 10-year frequency, 5-day duration for existing surface water management systems.
- 25-year frequency, 24-hour duration pursuant to SWFWMD criteria for permitting new surface water management systems.

Water Quality:

- Development activities (excluding currently platted single-family lots) shall not violate the water quality standards as set forth in Chapter 17-3, Florida Administrative Code, as amended.

OBJECTIVE 3: Existing deficiencies which have been identified in the Camp, Dresser & McKee Big Slough Watershed Study, will be corrected by undertaking the following policies:

Policy 3.3: Prior to 2000, the City shall analyze the feasibility of prohibiting septic tank installation within the 100-year flood plain, as delineated by the FEMA Flood Insurance Rate Map (FIRM); and other potential disposal methods which may serve as desirable alternatives to septic tanks.

Policy 3.4: Prior to 2000, the City shall amend the Unified Land Development Code to provide for incentives and disincentives intended to reduce the desirability of septic tank installation within the 100-year flood plain, as delineated by the FEMA Flood Insurance Rate Map (FIRM).

Policy 3.5: Prior to 2000, the City shall encourage development activities which would not decrease the storage volume of the 100-year floodplain, as delineated by the FEMA Flood Insurance Rate Map (FIRM); these means may include, but not necessarily be limited to, adoption of a schedule of tax incentives and other appropriate inducements to encourage the use of alternative construction methods.

Policy 3.6: Prior to 2000, the City shall consider the implementation of additional early warning measures in order to better protect residents from potential floods and other natural disasters.

Such measures would include, but not necessarily be limited to, the purchase of automated stream gauges, as well as other equipment and software.

Policy 3.7: Prior to 2000, the Land Development Code shall be appropriately amended to be consistent with the FEMA Flood Insurance Rate Map (FIRM).

OBJECTIVE 4: Projected demands for drainage through the year 2000 will be met by implementing the following policies:

Policy 4.1: The capital improvements identified in the Public Works Department Five-Year Stormwater Master Plan may be completed by the year 2000.

Policy 4.2: The maintenance activities identified in the Public Works Department Five-Year Stormwater Master Plan may be completed by the year 2000.

Policy 4.3: All requirements contained in the National Pollutant Discharge Elimination System (N.P.D.E.S.) permit issued by the United States Environmental Protection Agency for stormwater discharges will be implemented in accordance with the schedule contained in the permit (1995-1999).

OBJECTIVE 6: Prior to 2000 the City will have revised land development regulations to provide for the control of stormwater, the maintenance of stormwater facilities, and the recharge of the surficial aquifer.

Policy 6.1: Prior to 2000, the City's stormwater drainage regulations will be reviewed and revised to assure that they conform with SWFWMD hydraulic analysis requirements and to ensure that future development utilizes stormwater management systems compatible with applicable water management district regulations, and adopted level of service standards.

Policy 6.2: Prior to 2000, adequate secondary and tertiary drainage facilities will be provided in new developments to control street flooding, to maintain hurricane evacuation routes, and to provide water quality treatment. The City will explore retrofitting methods to alleviate street flooding, to maintain evacuation routes and to provide water quality treatment in the existing built areas of the City.

OBJECTIVE 7: Intergovernmental Coordination shall be increased to ensure acceptable construction and maintenance of primary, secondary and tertiary drainage systems.

Policy 7.2: The City shall continue to enter into or, as may be necessary, amend, interlocal agreements with Charlotte and Sarasota County to effectively monitor and maintain identified interjurisdictional drainage facilities.

Policy 7.3: The City shall cooperate with other governmental agencies to examine regional solutions to regional drainage problems.

Policy 7.4: The City, in updating its drainage ordinances, will continue to meet with SWFWMD to ensure that the local regulatory framework is consistent with the planning objectives and regulations of the region.

OBJECTIVE 8: Prior to 2000, The City shall establish an ongoing public relations program to better inform present and potential future residents concerning the realities of summer rainy season drainage conditions in Florida generally and in the City of North Port in particular. The elements of such a program shall include, but not be limited to, the following: the development and distribution of informative brochures and other published information; increased coordination with the Planning, Building and Development Services Development; and public meetings,

including annual pre-season informational meetings to be held concurrently with hurricane awareness meetings.

Policy 8.1: In coordination with FEMA, the City will, beginning in 1998, take all feasible measures necessary to improve upon its Class 8 rating relative to the FEMA Community Rating System in order to educate the public concerning summer drainage conditions and help flood insurance policy holders qualify for additional discounts. Such measures will include, but necessarily be limited to, conducting public workshops, including annual pre-season informational meetings to be held concurrently with hurricane awareness meetings.

Policy 8.2: Beginning in 1998, in coordination with FEMA and other appropriate agencies both within and outside of City government, the City will initiate the development and distribution of information brochures and other published information in order to better educate the public concerning flood hazards and flood damage prevention.

CONSERVATION AND COASTAL ZONE MANAGEMENT ELEMENT

OBJECTIVE 6: The City of North Port shall continue to enforce the City's wetland ordinance that conserves and protects the health, function and biological integrity of all remaining viable wetland systems as defined by State agencies in order to prevent the violation of State water quality standards; maintain freshwater storage capabilities; reduce damage to property and loss of life due to flooding; maintain the viability and diversity of native plants and animals and their habitats; and assure the continued conservation of irreplaceable natural resources.

Policy 6.3: Prior to 2000, the City shall amend the Land Development Code to include the use of Transfer of Development Rights, or other techniques, and appropriate construction methods within the FEMA FIRM 100 year floodplain.

OBJECTIVE 8: The City shall increase protection of the natural functions of the FEMA - FIRM 100 year floodplain through the establishment of revised land development regulations so that the flood-carrying and flood-storage capacity are maintained.

Policy 8.1: The City shall review and update appropriate flood damage prevention ordinances to ensure its compatibility with all current state and federal water management regulatory controls and its consistency with the policies of this Plan.

Policy 8.2: Prior to 1999, the City shall review land development regulations, which establish criteria governing land development activities within the "Conservation" area for consistency with new and modified policies.

Policy 8.3: The City shall continue its participation in the National Flood Insurance Program's Community Rating System and will undertake those activities necessary to maintain or enhance its rating in order to provide increased awareness of flood protection, reduce damage from floods, and to provide reduced flood insurance premiums for residents of the City.

OBJECTIVE 12: The City of North Port shall protect and maintain its soils as an integral part of the city's natural resources and economy.

Policy 12.1: To preserve and protect native soils, the City will continue to implement the erosion control guidelines stipulated in the Land Development Code.

Policy 12.2: To preserve and protect native soils, the City shall encourage alternatives to the utilization of fill for flood protection of buildings including the construction of stem walls and piling supported structures.

COASTAL MANAGEMENT ELEMENT

OBJECTIVE 14: The City shall continue to require infrastructure necessary to meet its future land use demand for coastal infrastructure consistent with public safety and to maintain Levels of Service as described in the various elements of this Plan.

Policy 14.1: The City will continue to regulate development throughout the planning period to ensure that public facilities are provided concurrent with need and to maintain Levels of Service as described in the various elements of this Plan.

Policy 14.2: Man-made structures shall meet all applicable height and set-back requirements when constructed within the FEMA "A" zones or SLOSH Category 1 zones of the City of North Port. This policy shall be reflected in the City's Building Code.

Policy 14.3: The City shall minimize the addition of road, water, sewer, or drainage infrastructure in the "A" Zone, or Category 1 SLOSH Zone, and shall limit the building of public infrastructure.

OBJECTIVE 15: By 1999, the City shall adopt land development regulations which establish standards for types, sizes, densities, and intensities of all land use categories, consistent with the County and Regional Hurricane Evacuation Plans.

Policy 15.1: The City will continue to provide staff support and assistance to aid the Southwest Florida Regional Planning Council and Sarasota and Charlotte Counties in the identification of public and private shelter, including rental space, for all city residents, consistent with the Southwest Florida Regional Planning Council's Hurricane Evacuation Plan.

Policy 15.2: The City will participate in all transportation planning efforts to ensure that minimum evacuation times can be maintained during an evacuation on the City's evacuation routes consistent with the Southwest Florida Regional Strategic Plan.

Policy 15.3: The City will continue to participate in erosion-prevention and flood-prevention programs for those areas along the City's evacuation routes where erosion and flooding are potential problems.

Policy 15.4: The City shall continue to cooperate with local, state and regional agencies to ensure that safe shelter is available for the City's at risk populace.

Policy 15.5: Consistent with the Southwest Florida Regional Planning Council's Hurricane Evacuation Plan, the City shall continue to fulfill its assigned role as specified within the Sarasota County Peacetime Emergency Plan and its policies regarding hurricane evacuation and sheltering.

Policy 15.6: Within one year of the adoption of this plan, the City will meet with Charlotte and Sarasota County Disaster Preparedness and local Red Cross officials for the purpose of identifying and designating additional public and private structures, both inside and outside the City, as hurricane evacuation shelters, consistent with the regional Hurricane Evacuation Plan.

OBJECTIVE 16: In order to limit public expenditures that may be construed as subsidizing development and post-disaster redevelopment in coastal high-hazard areas, the City of North Port will continue to regulate the number and type of structures subject to damage in FEMA "A" Zones, or Category 1 SLOSH Zones.

Policy 16.1: The City will continue to promote the relocation of repeatedly- damaged structures in FEMA "A" zones, or Category 1 SLOSH zones, to safe locations.

Policy 16.2: The City will continue to enforce FEMA, DEP and local setback and height requirements for the safety of structures, especially those located along the Myakkahatchee Creek.

Policy 16.3: In the event a hurricane strikes, the recovery effort will be accelerated by the immediate distribution of free emergency permits by the appropriate authority for repair and clean up of damage to private and public structures and utilities, to the extent such situations are still marginally usable without such repair.

Policy 16.4: Structures in the FEMA "A" zone, the Category 1 SLOSH zone or in areas subject to severe erosion or flooding which are determined to be in excess of 50% damaged, shall not be permitted to be redeveloped to original design specifications.

Policy 16.5: Consistent with SARA Title III, the North Port Fire Rescue Division and the City Police Department, in conjunction with the Sarasota County Division of Emergency Management, shall continue to cooperate in the preparation of an inventory of hazardous materials generators in the City of North Port, or in unincorporated areas where the City Fire and Police Departments have responsibility.

OBJECTIVE 1: To plan, acquire and improve community parks and open space lands consistent with the needs of North Port's resident population, as determined by the City's recreation level of service, through the year 2017.

Policy 1.2: The City shall adopt the following definitions for recreation and open space lands:

Conservation - Conservation lands are public lands maintained for continuing the sustainable yield of natural resources, including potable water, timber, game and sport fishing. Allowable development activities include wildlife relocation areas and improvements which are ancillary to the principal uses, including fire trails, or facilities which allow limited human access, such as unpaved parking spaces, primitive camping areas, canoe launches, and sanitation facilities. No other uses may be permitted within Conservation Areas, with the exception of the Winchester Boulevard hurricane evacuation route through the Myakka State Forest, which is deemed necessary to protect human life from the threat of natural disasters provided that such facility is constructed so that the impact upon native habitat and wildlife populations are minimized consistent with the policies in the Conservation Plan, and consistent with the requirements of all permitting agencies.

NATURAL GROUNDWATER AQUIFER RECHARGE ELEMENT

OBJECTIVE 1: By 1999, the City shall implement programs, as specified in the policies below, to maintain and improve water quality in the surficial aquifer.

Policy 1.4: The City will continue to require stormwater treatment for all new development and will amend the Land Development Code by 2001 to encourage retrofitting of stormwater treatment facilities to areas already developed.

OBJECTIVE 2: The quantity of surficial aquifer waters will continue to be conserved by maintaining the water table as high as practical, recognizing the tradeoffs between the need to control flooding and reduce the amount of fill placed on the natural landscape and the need to maintain storage in the surficial (water table) aquifer.

Policy 2.1: Consistent with SWFWMD rules for the regulation of water management systems (40D-4 and 40D-40, F.A.C., as amended.), the water table in new surface water management systems will continue to be maintained as near as practical to current levels, recognizing the tradeoffs between the need to control flooding and reduce the amount of fill placed on the natural landscape and the need to maintain storage in the surficial (water table) aquifer.

INTERGOVERNMENTAL COORDINATION ELEMENT

OBJECTIVE 2: The City will maintain and enhance its formal and informal interaction with other jurisdictions.

Policy 2.7: Recognizing the important environmental and safety functions of prescribed burning, the City will continue to cooperate with the State Division of Forestry in assessing and implementing controlled burn programs.

Policy 2.10: The City will continue to coordinate emergency management planning with the Sarasota County Disaster Preparedness Department.

CAPITAL IMPROVEMENTS ELEMENT

OBJECTIVE 2: In order to limit public expenditures that may be construed as subsidizing development and post-disaster redevelopment in coastal high-hazard areas, from 1988, the City of North Port will continue to regulate the number and type of structures subject to damage in FEMA "A" Zones, or Category 1 SLOSH Zones.

Policy 2.1: The City shall promote the relocation of repeatedly flood damaged structures in FEMA "A" Zones, or Category 1 SLOSH Zones, to safe locations.

Policy 2.2: The City will enforce FEMA, FDEP and local setback and height requirements for the safety of structures, especially those located along the Myakkahatchee Creek.

Policy 2.3: As an incentive to encourage the relocation of repeatedly flood damaged houses within FEMA "A" Zones, or Category 1 SLOSH Zones, the City will amend the Transfer of Development Rights Ordinance by 2000 by awarding development rights equal to twice that allowed by Policy 1.1, of the Future Land Use Element, when the property owner agrees to demolish the house or relocates it out of the flood hazard zone.