

Executive Summary

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

This profile of Manatee 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 Manatee County's existing and potential risk to identified hazards; (2) assess how well local hazard mitigation principles have been incorporated into the County's Comprehensive Plan; (3) provide recommendations on how hazard mitigation can better be integrated into the Comprehensive Plan; and (4) determine if any enhancements could be made to the LMS to better support comprehensive planning. Best available statewide level data is provided to convey exposure and risk as well as to illustrate the vulnerability assessment component of the integration process.

Summary of Recommendations

Manatee 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 Manatee County can continue to reduce or eliminate risks from 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 and tropical cyclone generated storm surge. 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, 7,396 acres are susceptible to Category 1 storm surge (CHZ), 7,383 acres are susceptible to Category 1 – 3 storm surge (HVZ), 14,232 are susceptible to 100-year flood, 4,405 acres are susceptible to wildfire, and 220 acres are susceptible to sinkholes. Susceptibility for surge, flood, and wildfire are based on risk, whereas susceptibility for sinkhole is based on exposure. Therefore, further analysis is needed to determine the level of risk associated with sinkhole hazards.

Storm Surge

Around 88% of the 7,396 vacant acres in the Coastal High Hazard Area and 86% of the 7,383 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 using the Coastal Evacuation Area (CEA) and Coastal Storm Vulnerability Area (CSVA) as future land use overlay districts to limit population and infrastructure, whereby no new development will be approved in the velocity zone of the Coastal High Hazard Area (CHHA) over 3 du/ac, no new industrial development will be approved over the allowed intensity in the IL future land use category, no new manufactured homes will be allowed in the Coastal Planning Area, and new acute care medical facilities in the CEA will be prohibited and expansions will be discouraged.
- The County should continue not allowing new public-funded infrastructure in the CHHA except to improve evacuation clearance times, or new County maintained infrastructure to support new development seaward of the 5 foot topographic contour; minimizing development or relocating structures out of the CEA which have sustained recurring hurricane related damage; maintaining naturally vegetated buffer zones to mitigate surge and tidal velocity, and only accepting the responsibility to maintain new roadways in the CSVA under certain conditions.
- The County should continue requiring that all project approvals within the CEA meet performance standards in the land development regulations which may include procedures for hurricane shelter capacity and evacuation time standards, mitigation measures such as fair share contribution to preserve sheltering capacity and the maintenance or reduction of evacuation clearance times, and establishing a surcharge or fee to recoup public expenditures for infrastructure after a disaster.
- The County should continue promoting the clustering of development and transfer of development density/intensity to limit development and reduce storm damage to infrastructure in areas subject to natural disasters in the CSVA, and prohibiting the construction of new or expansion of existing bridges linking the mainland to any island or key unless shown on the Future Traffic Circulation Map.
- The County should continue coordinating evacuation roadway improvements with the Metropolitan Planning Organization, Manatee County Sheriff's Department, Florida Department of Transportation, and Florida Division of Emergency Management.
- The County should consider prohibiting new septic tanks and floodproof existing water and wastewater facilities in the CHHA.
- The Comprehensive Plan should consider not allowing solid waste and commercial hazardous waste management facilities in the HVZ.
- The County should consider denying requests for residential density increases within the CHHA, above what is included on the Future Land Use Map.
- The County should consider developing an inventory of transportation disadvantaged persons that would be affected by an evacuation order, and ensure the availability of adequate transportation for safe and timely evacuation of high risk areas.
- The County should consider prohibiting new schools in the CHHA and retrofitting new schools as shelters outside the HVZ, where possible.
- The County should consider requiring that the deeds for the sale of land or structures in hurricane vulnerable zones contain a hurricane hazard disclosure statement.
- The Comprehensive Plan should consider prohibiting the development of nursing homes and adult congregate living facilities inside the CHHA. Building these facilities out of harm's way reduces risk to critical and essential government facilities, and lessens evacuation needs of the special needs population. In addition, the number of evacuees is reduced who are under medical supervision or need medical staff chaperones, potentially reducing hurricane evacuation clearance times.
- The Comprehensive Plan should consider including a policy to maintain or reduce the hurricane evacuation clearance time published in the FDEM Hurricane Evacuation Study by instituting a level of service (LOS) standard that is tied to levels of development or population.

Flood

About 67% of the 14,232 vacant acres in the 100-year floodplain are to be developed for residential, commercial, industrial uses or public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- The Comprehensive Plan should continue implementing policies to promote clustering of development and transfer of development density/intensity to limit development in areas subject to natural disasters; prohibit new development (except redevelopment) in the floodway; limit impervious surface within the Watershed Overlay District through the use of pervious materials for paths and driveways, clustering of uses within a single versus multiple structures, transfers of development density/intensity, and using increased setbacks and buffers.
- The Comprehensive Plan should continue implementing policies for stormwater management that protect natural features and prevent flooding, prohibiting development of interim wastewater treatment plants in areas that flood except if special approval is granted, requiring stormwater management planning and construction of capital improvements to coincide with stormwater drainage requirements to adequately address growth and development, ensuring private stormwater systems are privately funded and maintained, requiring new development to bear the cost of stormwater management so it is not paid for by county taxpayers, and coordinating local stormwater programs with Southwest Florida Water Management District programs and permit requirements.
- The Comprehensive Plan should continue ensuring that no wetlands are impacted in at least 65% of development projects containing wetlands; prohibiting the removal, alteration, or encroachment within wetlands to minimize development impacts except in cases where no other practical alternative exists; and requiring that all fill within the 100-year floodplain be compensated by creation of storage of an equal or greater volume.
- The County should consider including a policy for reducing repetitive (flood) loss properties such as at risk property acquisition or elevation.
- The County should consider including a policy to not approve variances to required flood elevations.
- The County should consider the requirement for the installation of back-flow preventers on new septic tanks in the 100-year floodplain to mitigate impacts from flood, or create incentives and disincentives to reduce the desirability of septic installation within the 100-year floodplain.
- The County should consider requiring that all structures built in the 100-year floodplain include at least 1 foot freeboard; the current policy. Many post-disaster building performance/damage assessments have shown that it is advisable to include freeboard to reduce future flood damages. Okaloosa and Brevard Counties, City of Jacksonville and the Santa Rosa Island Authority are example communities that have adopted freeboard requirements.
- The County should consider requiring that developers incorporate wetland portions of sites within the 100-year floodplain as conservation easements.
- 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 58% of the 4,405 vacant acres that are susceptible to wildfire are to be developed for residential, commercial, industrial uses or public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- The County should consider participating in the Firewise Medal Community program to reduce risks within the wildland urban interface.
- Where reasonable, consideration should be made to design structures and sites within the County to minimize potential for loss of life and property (e.g., outdoor sprinkler systems, fire-resistant building materials or treatments, and landscaping and site design practices); review proposals for subdivisions, lot splits, and other developments for fire protection needs during site plan review process; coordinate with fire protection service or agencies to determine guidelines for use and development in wildfire-prone areas.
- The County should consider requirement for all new development to include & 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 risk was considered to be very low in the hazards analysis in the latest version of the Manatee County LMS.

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

General

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

Local Mitigation Strategy Preliminary Recommendations

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

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

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1. County Overview

Geography and Jurisdictions

Manatee County is located along the Gulf of Mexico in the western portion of the central Florida peninsula. It covers a total of 982.8 square miles, of which 741 square miles are land and 151.7 square miles are water. There are six incorporated municipalities within Manatee County, as shown in **Table 1.1**. The City of Bradenton 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 Manatee County and the percent change from the 2000 U.S. Census are presented in **Table 1.1**. While most residents live in unincorporated areas, approximately 74% live in incorporated jurisdictions in the county. Manatee County has experienced significant population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, Manatee County had a growth rate of 24.7%, which was slightly greater than the statewide average of 23.5% for the same time period.

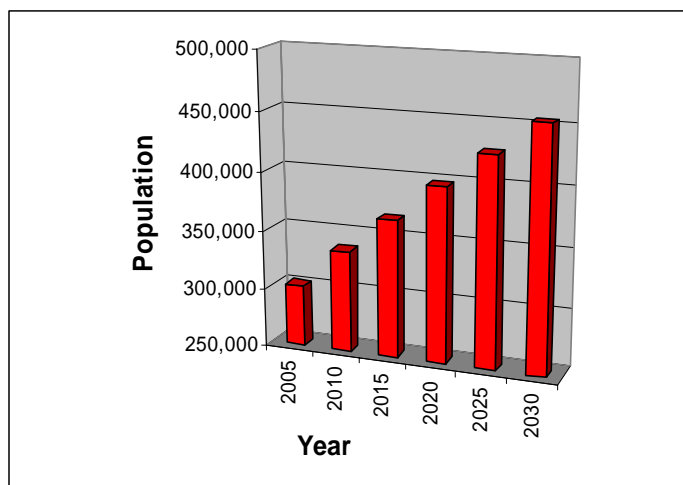
Table 1.1 Population Estimates by Jurisdiction

Jurisdiction	Population (Census 2000)	Population (Estimate 2004)	Percent Change 2000-2004	Percent of Total Population (2004)
Unincorporated	191,074	218,616	14.41%	74.05%
Anna Maria	1,814	1,848	1.87%	0.63%
Bradenton	49,504	52,599	6.25%	17.82%
Bradenton Beach	1,482	1,513	2.09%	0.51%
Holmes Beach	4,966	5,026	1.21%	1.70%
Longboat Key (part)	2,591	2,605	0.54%	0.88%
Palmetto	12,571	13,035	3.69%	4.42%
Total	264,002	295,242	11.83%	100.00%

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

According to BEBR (2004), Manatee County's population is projected to grow steadily and reach an estimated 453,900 by the year 2030, increasing the average population density of 398 to 613 persons per square mile. **Figure 1.1** illustrates medium growth population projections for Manatee County based on 2004 calculations.

Figure 1.1 Population Projections for Manatee County, 2005–2030



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

Of particular concern within Manatee 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 264,002 persons residing in Manatee County 24.9% are listed as 65 years old or over, 23.3% are listed as having a disability, 10.1% are listed as below poverty, and 12.3% live in a home where the primary language is other than English.

2. Hazard Vulnerability

Hazards Identification

The highest risk hazards for Manatee County as identified in the County's Local Mitigation Strategy (LMS) are hurricanes and coastal storms, severe storms, flood and severe rain events, wildfires, and port vessel collision or open water hazardous material spill. Sinkholes were discussed in the LMS, but the risk was considered to be very low for the entire county.

Hazards Analysis

The following analysis examines four hazard types: surge from tropical cyclones, flood, wildfire, and sinkholes. All of the information in this section was obtained through the online Mapping for Emergency Management, Parallel Hazard Information System (MEMPHIS). MEMPHIS was designed to provide a variety of hazard related data in support of the Florida Local Mitigation Strategy DMA 2K project, and was created by Kinetic Analysis Corporation (KAC) under contract with the Florida Department of Community Affairs (DCA). Estimated exposure values were determined using the Category 3 Maxima Scenario for storm surge; FEMA's designated 100-year flood zones (i.e., A, AE, V, VE, AO, 100 IC, IN, AH) for flood; all medium-to-high risk zones from MEMPHIS for wildfire (Level 5 through Level 9); and the combined high, very high, extreme and adjacent zones for sinkhole based on the KAC analysis. Storm surge exposure data is a subset of flood exposure; therefore, the storm surge results are also included in the flood results. For more details on a particular hazard or an explanation of the MEMPHIS methodology, consult the MEMPHIS Web site (<http://lmsmaps.methaz.org/lmsmaps/index.html>).

Existing Population Exposure

Table 2.1 presents the population currently exposed to each hazard in Manatee County. Of the 264,002 (U.S. Census 2000) people that reside in Manatee County, 14.8% are exposed to storm surge, 22.3% are exposed to 100-year flooding, 37.6% are exposed to wildfire, and 1.3% is exposed to sinkholes. Of the 58,810 people exposed to flood, 35.7% are disabled and 28.5% are over age 65.

Table 2.1 Estimated Number of Persons Exposed to Selected Hazards

Segment of Population	Storm Surge**	Flood	Wildfire	Sinkhole
Total (all persons)*	38,946	58,810	99,194	3,645
Minority	1,346	4,593	11,677	315
Over 65	14,892	16,756	24,813	521
Disabled	14,961	20,973	36,185	1,125
Poverty	2,459	4,333	8,475	279
Language-Isolated	642	961	932	0
Single Parent	1,782	2,485	4,944	219

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 Manatee 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 Manatee County, but also for other counties in the region as shown in **Table 2.2**. Also, population that will reside in new housing stock might not be required to evacuate as new construction will be built to higher codes and standards.

**Table 2.2 County Clearance Times per Hurricane Category (Hours)
 (High Tourist Occupancy, Medium Response)**

County	Category 1 Hurricane	Category 2 Hurricane	Category 3 Hurricane	Category 4 Hurricane	Category 5 Hurricane
Hernando	8	8	10.5	16	16
Hillsborough	17	17.5	19	21.5	21.5
Manatee	11	16	16.5	19	19
Pasco	9	10.5	14.5	19.5	19.5
Pinellas	17	17.5	19	21.5	21.5

Source: DCA, DEM Hurricane Evacuation Study Database, 2005

As the population increases in the future, the demand for shelter space and the length of time to evacuate will increase, unless measures are taken now. Currently, it is expected to take between 11 and 19 hours to safely evacuate Manatee 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, Manatee County currently has a significant shelter deficit. According to Florida's Statewide Emergency Shelter Plan, Manatee County has an existing shelter capacity of 23,024 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 42,425 people, leaving an existing shelter deficit of 19,401. In 2009, the projected shelter demand is 47,089, leaving an anticipated shelter deficit of 24,065.

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. Manatee 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 Manatee County by occupancy type that are exposed to each of the hazards being analyzed. Exposure refers to the number of people or structures that are susceptible to loss of life, property damage and economic impact due to a particular hazard. The estimated exposure of Manatee 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	9,912	35,031	24,943	1,483
Mobile Home	1,762	35,418	6,016	51
Multi-Family	10,984	17,132	12,002	395
Commercial	818	6,328	2,344	29
Agriculture	147	3,972	1,643	31
Gov. / Institutional	330	762	1,422	41
Total	23,953	98,643	48,370	2,030

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 149,043 structures exposed to at least one of the four hazards, of which most are single-family homes in subdivisions. Of these structures, 66.2% are exposed to flood. Over 98,000 structures are located within the 100-year floodplain, of which 24.3% are exposed to storm surge induced flooding. Slightly more than 41.4% of the structures exposed to surge are single-family homes, and 45.9% 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. According to the latest National Flood Insurance Program Repetitive Loss Properties list, as of March 2005, there are 109 repetitive loss properties in unincorporated areas of Manatee County. Under the National Flood Insurance Program (NFIP), repetitive loss properties are defined as “any NFIP-insured property that, since 1978 and regardless of any change(s) of ownership during that period, has experienced: a) four or more paid flood losses; or b) two paid flood losses within a 10-year period that equal or exceed the current value of the insured property; or c) three or more paid losses that equal or exceed the current value of the insured property.”

Over 32%, or 48,370 structures are exposed to wildfire, of which 51.6% are single-family homes. As the population of unincorporated Manatee County continues to increase, particularly east of Interstate 75, the number of residents within the wildland/urban interface will continue to rise (Manatee County LMS, 2004). Only 1.4% or 2,030 structures are located within sinkholes susceptible areas, of which 73.1% are single-family homes.

In addition to understanding exposure, risk assessment results must also be considered for prioritizing and implementing hazard mitigation measures. The risk assessment takes into

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

Analysis of Current and Future Vulnerability Based on Land Use

The previous hazards analysis section discussed population and existing structures exposed to surge, flood, sinkholes, and wildfire according to MEMPHIS estimates. This section is used to demonstrate the County's vulnerabilities to these hazards in both tabular format and spatially, in relation to existing and future land uses. DCA tabulated the total amount of acres and percentage of land in identified hazard exposure areas, sorted by existing land use category for the unincorporated areas. Existing land use data was acquired from County Property Appraisers and the Florida Department of Revenue in 2004. DCA also tabulated the total amount of acres and percentage of land in the identified hazards areas sorted by their future land use category according to the local Future Land Use Map (FLUM), as well as the amount of these lands listed as vacant according to existing land use. Manatee County future land use data was acquired in May 2004 and might not reflect changes per recent future land use amendments. DCA has provided maps of existing land use within hazard areas based on the 2004 County Property Appraiser geographic information system (GIS) shapefiles. Maps of future land uses in hazard areas were developed using the Manatee County future land use map dated May 2004. A series of maps were created as part of the analysis and are available as attachments to the county profile. All maps are for general planning purposes only.

For the purposes of this profile, the identified hazard areas include the coastal hazards zone in relation to storm surge, hurricane vulnerability zones in relation to evacuation clearance times, flood zones in relation to the 100-year flood, wildfire susceptible areas, and sinkhole susceptible areas.

In **Attachment A**, two maps present the existing and future land uses within the Coastal Hazards Zone (CHZ), which represents the Category 1 Hurricane Evacuation Zone joined with the Category 1 Storm Surge Zone, to fully demonstrate all areas that are prone to storm surge. The areas that are most susceptible to storm surge are located in the coastal communities adjacent to the Gulf of Mexico, along the Manatee and Braden Rivers, and in the central portion of the county. The total amount of land in the CHZ is 21,705.9 acres. As shown in **Table 2.4**, 34.1% are currently undeveloped; 24.2% are in agricultural use; 15.6% are parks, conservation areas and golf courses; and 14.1% are used for residential single-family homes. **Table 2.5** shows that of the 7,395.5 undeveloped acres, 49.1% are designated as urban fringe. The County has taken favorable action in designating 49.1% as urban fringe, as this area is slated for low density development at 3 dwelling units per gross 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 areas that are most susceptible to storm surge are located in the coastal communities adjacent to the Gulf of Mexico, along the Manatee and Braden Rivers, in the central and western portions of the county. The total amount of land in the HVZ is 21,691 acres. As shown in **Table 2.4**, 34% are currently undeveloped; 24.2% are in agricultural use; 15.6% are parks, conservation areas and golf courses; and 14.2% are used for residential single-family homes. **Table 2.5** shows that of the 7,383.2 undeveloped acres, 48.9% are designated as urban fringe. The County has taken favorable action in designating 48.9% as urban fringe, as this area is slated for low density development at 3 dwelling units per gross acre.

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, primarily in the western and southeastern portions of the County, especially surrounding the many creeks, streams and tidal wetlands including the Manatee and Braden Rivers and along the coastline. The total amount of land in the special flood hazard area is 86,554.9 acres. As shown in **Table 2.4**, 47.2% are in agricultural use; 21.6% are parks, conservation areas and golf courses; 16.4% are currently undeveloped; and 5.7% are used for residential single-family homes. **Table 2.5** shows that of the 14,232.1 undeveloped acres, 32.2% are designated for agriculture/rural residential development. The County has taken favorable action in designating a portion of vacant acreage in the 100-year flood zone for low dwelling density.

In **Attachment D**, two maps present the existing and future land uses within wildfire susceptible areas. These small areas are scattered across the County, predominately in the central portion. The total amount of land in the wildfire susceptible areas is 19,304.9 acres. As shown in **Table 2.4**, 25.8% are in agricultural use; 22.9% are used for residential single-family homes; 22.8% are currently undeveloped; and 15.2% are parks, conservation areas and golf courses. **Table 2.5** shows that of the 4,405.3 undeveloped acres, 41.8% are designated for agriculture/rural residential development. The County should continue to take measures to reduce wildfire risk within the urban/rural interface.

In **Attachment E**, two maps present the existing and future land uses within sinkhole susceptible areas. These few small concentrated areas are located in Bradenton, as well as in the north-central and southeastern parts of the County. The total amount of land in the sinkhole susceptible areas is 1,679.9 acres. As shown in **Table 2.4**, 65.9% are in agricultural use; 13.3% are used for residential single-family homes; 13.1% are currently undeveloped; and 3.5% are currently used for residential group quarters and nursing homes. **Table 2.5** shows that of the 219.6 undeveloped acres, 62.3% are designated as urban fringe. The County might want to conduct additional research to determine the level of risk associated with developing the 136.9 acres in urban fringe areas, so that mitigation measures can be implemented if warranted.

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	5,246.7	5,241.1	40,830.7	4,989.0	1,107.5
	%	24.2	24.2	47.2	25.8	65.9
Attractions, Stadiums, Lodging	Acres	124.0	122.4	154.0	41.5	0.0
	%	0.6	0.6	0.2	0.2	0.0
Places of Worship	Acres	151.1	152.0	124.8	94.3	30.1
	%	0.7	0.7	0.1	0.5	1.8
Commercial	Acres	126.8	119.5	611.7	63.5	1.6
	%	0.6	0.6	0.7	0.3	0.1
Government, Institutional, Hospitals, Education	Acres	1,127.1	1,120.4	4,493.2	1,361.9	14.3
	%	5.2	5.2	5.2	7.1	0.9
Industrial	Acres	75.8	73.3	714.5	197.1	0.2
	%	0.3	0.3	0.8	1.0	0.0
Parks, Conservation Areas, Golf Courses	Acres	3,381.4	3,387.0	18,673.3	2,933.5	0.0
	%	15.6	15.6	21.6	15.2	0.0
Residential Group Quarters, Nursing Homes	Acres	139.1	138.2	83.4	53.1	58.6
	%	0.6	0.6	0.1	0.3	3.5
Residential Multi-Family	Acres	177.2	183.0	449.0	300.7	10.0
	%	0.8	0.8	0.5	1.6	0.6
Residential Mobile Home, or Commercial Parking Lot	Acres	531.2	523.2	832.6	243.9	14.0
	%	2.4	2.4	1.0	1.3	0.8
Residential Single-Family	Acres	3,071.3	3,077.1	4,893.5	4,426.3	224.0
	%	14.1	14.2	5.7	22.9	13.3
Submerged Land (Water Bodies)	Acres	41.2	42.4	102.5	9.4	0.0
	%	0.2	0.2	0.1	0.0	0.0
Transportation, Communication, Rights-Of-Way	Acres	103.9	116.8	80.5	25.6	0.0
	%	0.5	0.5	0.1	0.1	0.0
Utility Plants and Lines, Solid Waste Disposal	Acres	13.6	11.4	279.1	159.8	0.0
	%	0.1	0.1	0.3	0.8	0.0
Vacant	Acres	7,395.5	7,383.2	14,232.1	4,405.3	219.6
	%	34.1	34.0	16.4	22.8	13.1
Total Acres	Acres	21,705.9	21,691.0	86,554.9	19,304.9	1,679.9
	%	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
MANATEE 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
Agriculture/ Rural Residential	Acres	890.8	803.7	888.2	799.0	37,130.8	4,583.7	7,103.9	1,839.8	774.5	64.9
	%	4.1	10.9	4.1	10.8	42.9	32.2	36.8	41.8	46.1	29.6
Conservation	Acres	2,465.8	49.0	2,461.8	48.8	7,397.5	62.0	949.7	0.7	0.0	0.0
	%	11.4	0.7	11.3	0.7	8.5	0.4	4.9	0.0	0.0	0.0
Industrial - Heavy	Acres	658.3	115.3	650.1	113.7	1,643.7	289.8	245.4	38.3	0.0	0.0
	%	3.0	1.6	3.0	1.5	1.9	2.0	1.3	0.9	0.0	0.0
Industrial - Light	Acres	279.1	10.7	280.4	9.8	1,356.1	342.0	271.3	123.5	0.0	0.0
	%	1.3	0.1	1.3	0.1	1.6	2.4	1.4	2.8	0.0	0.0
Industrial - Urban	Acres	0.0	0.0	0.7	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
Mixed Use	Acres	164.3	40.4	160.5	38.1	892.8	308.3	265.1	163.9	0.0	0.0
	%	0.8	0.5	0.7	0.5	1.0	2.2	1.4	3.7	0.0	0.0
Office Low Intensity	Acres	4.9	0.0	4.5	0.2	17.8	0.4	1.1	0.0	4.2	1.1
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5
Public/ Semi- Public 1	Acres	138.7	40.6	129.3	35.4	1,464.4	319.9	1,072.7	150.5	0.0	0.0
	%	0.6	0.5	0.6	0.5	1.7	2.2	5.6	3.4	0.0	0.0
Public/ Semi- Public 2	Acres	0.0	0.0	0.0	0.0	0.0	0.0	14.7	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Recreation/ Open Space	Acres	110.3	1.3	111.2	0.0	9,131.4	5.3	192.2	0.0	0.0	0.0
	%	0.5	0.0	0.5	0.0	10.5	0.0	1.0	0.0	0.0	0.0
RES-1	Acres	2,781.5	928.5	2,790.4	936.8	4,688.4	1,764.9	2,343.0	443.0	0.0	0.0
	%	12.8	12.6	12.9	12.7	5.4	12.4	12.1	10.1	0.0	0.0
RES-16	Acres	382.8	222.0	384.6	225.2	945.7	438.5	183.5	49.7	4.2	0.2
	%	1.8	3.0	1.8	3.1	1.1	3.1	1.0	1.1	0.3	0.1
RES-3	Acres	1,285.6	255.0	1,284.3	258.2	1,624.7	339.7	917.8	156.7	0.0	0.0
	%	5.9	3.4	5.9	3.5	1.9	2.4	4.8	3.6	0.0	0.0
RES-6	Acres	2,431.7	737.9	2,464.9	747.3	4,716.5	1,580.8	1,692.7	559.1	109.0	0.9
	%	11.2	10.0	11.4	10.1	5.4	11.1	8.8	12.7	6.5	0.4
RES-9	Acres	1,310.2	418.0	1,305.5	418.7	2,230.9	570.3	619.7	167.4	47.9	15.6
	%	6.0	5.7	6.0	5.7	2.6	4.0	3.2	3.8	2.9	7.1
Retail/ Office/ Residential	Acres	383.9	140.2	377.0	138.9	947.7	207.8	197.5	103.2	0.9	0.0
	%	1.8	1.9	1.7	1.9	1.1	1.5	1.0	2.3	0.1	0.0
Urban Fringe	Acres	8,418.1	3,632.9	8,397.8	3,613.2	12,366.6	3,418.6	3,234.5	609.5	739.2	136.9
	%	38.8	49.1	38.7	48.9	14.3	24.0	16.8	13.8	44.0	62.3
Total Acres	Acres	21,706.0	7,395.5	21,691.1	7,383.2	86,555.0	14,232.1	19,304.8	4,405.3	1,680.0	219.6
	%	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 Manatee County's six 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. No municipality has any acreage located in the hazard vulnerability zone (HVZ).

The City of Bradenton has the most vacant acres in the Coastal Hazards Zone, but Palmetto has the largest proportion of surge prone acres out of its vacant land area. The City of Bradenton has the most acres in the flood zone as well as the largest proportion of flood zone acres out of its vacant land area. The City of Bradenton is the only municipality with acreage susceptible to wildfire or sinkholes.

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 Manatee 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		Flood Zones		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Anna Maria	Acres	310.8	42.4	370.7	53.5	0.0	0.0	0.0	0.0
	%	100.0	13.6	100.0	14.4	0.0	0.0	0.0	0.0
Bradenton	Acres	1,311.7	499.6	1,881.1	755.3	17.6	10.5	294.0	12.9
	%	100.0	38.1	100.0	40.2	100.0	59.5	100.0	4.4
Bradenton Beach	Acres	206.9	48.8	272.4	61.1	0.0	0.0	0.0	0.0
	%	100.0	23.6	100.0	22.4	0.0	0.0	0.0	0.0
Holmes Beach	Acres	682.6	182.1	745.9	194.4	0.0	0.0	0.0	0.0
	%	100.0	26.7	100.0	26.1	0.0	0.0	0.0	0.0
Longboat Key	Acres	823.3	331.3	1,166.8	409.7	0.0	0.0	0.0	0.0
	%	100.0	40.2	100.0	35.1	0.0	0.0	0.0	0.0
Palmetto	Acres	635.4	324.6	1,282.1	503.8	0.0	0.0	0.0	0.0
	%	100.0	51.1	100.0	39.3	0.0	0.0	0.0	0.0
Total Municipal Acres	Acres	3,970.6	1,428.8	5,719.0	1,977.8	17.6	10.5	294.0	12.9
	%	100.0	36.0	100.0	34.6	100.0	59.5	100.0	4.4

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 Manatee 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 (Page 25-64; and Section X includes maps).

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

Strengths:

- Provides information about demographic, income, and special needs population.
- Provides population and property exposure to flood, wind, tornado risk, sinkhole potential, wildfire potential, 500+ year tsunami zone and USGS 50-year ground motion.
- Provides a hazards analysis, and a qualitative vulnerability assessment for specific occupancy classes including critical facilities.
- Provides a clear description of geographic areas exposed to each of the hazards.
- Includes maps for each of the hazards.
- Includes a qualitative risk assessment table outlining probability/vulnerability to each hazard for each jurisdiction.
- Includes a quantitative risk assessment for existing development.
- Includes a future land use map.
- Includes a detailed inventory and maps of numerous types of critical facilities.
- Includes a list of repetitive losses.

Weaknesses:

- Hazard maps do not include data layers to illustrate population (i.e., density) or property (i.e., value) exposure.
- Does not include a future land use maps that include hazard data layers to illustrate which future land use categories are susceptible to each hazard.
- Does not 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 Manatee County LMS Guiding Principles section contains a list of policies for the county and each municipality. Appendix F in the Manatee County LMS includes the activity (e.g. flood damage prevention ordinance or prohibit seawalls) and the evaluation of the effectiveness of each activity. 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 Manatee 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 strives to maximize hazard prevention and mitigation efforts and minimize the adverse affects of a disaster/hazard event on the residents of Manatee County. This goal is supported by numerous objectives, including to continue to take those steps necessary to prepare for, respond to, minimize the affects of, and redevelop from hurricanes and coastal storms; severe storms and their associated hazards; flooding and severe rainfall events; coastal and riverine erosion; winter storms and freezes; droughts and heat waves; sinkholes; wildfires; hazardous material incidents;

flooding from and/or failure of the Lake Manatee Dam, Ward Dam and Lake Parrish cooling pond; and utility failures/power outages. Other objectives include continuing to take measures to protect and assure delivery of potable (drinking) water and services throughout the county and the City of Bradenton.

Goal 2 states that existing and future ordinances, resolutions, standards, policies, and agreements (as applicable) shall promote and improve hazard mitigation within Manatee County. This is supported by several ongoing objectives: By December 2004, review, and, as appropriate, strengthen and enhance enforcement of current ordinances, resolutions, standards, and policies related to all hazards prevention and mitigation; annually review and, where appropriate, strengthen ordinances, codes, resolutions, standards, policies, and agreements related to all hazards prevention and mitigation; continue to plan for and develop mitigation strategies which addresses those hazards identified within this LMS to which the county is vulnerable; ensure the continued support, development, and implementation of hazard mitigation initiatives; local governments within Manatee County shall coordinate with the Division of Emergency Management in developing strategies for addressing the pre- and post-disaster needs of the special needs population; continue to develop funding mechanisms which could be used for approved county-wide mitigation initiatives; emphasize mitigation goals during the annual preparation of capital improvement budgets, with special attention paid to the prioritization of regional, interlocal, and local projects; participating local governments shall emphasize mitigation funding during the annual budget process; and all participating local governments shall incorporate references to the LMS into their respective comprehensive plan.

Goal 3 strives for a reduction in the number of repetitive loss properties and other associated actions. Objectives include: encourage the retrofitting of repetitive loss properties where financially and environmentally feasible; consider the acquisition of wetland, floodplain, and repetitive loss properties where retrofitting is not a viable option; reduce the vulnerability of identified critical facilities through ongoing implementation of the LMS; and consider the retrofitting and/or relocation of threatened critical facilities (where financially and environmentally sound and consistent with the adopted Comprehensive Plan).

Goal 4 seeks to establish and maintain effective communication mechanisms and operational procedures, training, and opportunities. As a related ongoing objective, the county plans to continue and to enhance the implementation of interlocal stormwater management planning.

Goal 5 emphasizes the establishment and maintenance of an adequate emergency shelter capacity for the residents of Manatee County. This goal is supported by objectives which mandate the development/identification of at least one emergency shelter which has an adjacent pet shelter, as well as the development of a plan and identify locations for refuges of last resort.

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

Comprehensive Emergency Operations Plan (CEMP)

The Manatee County CEMP references the LMS in Annex 2: Recovery and Mitigation. The CEMP notes that all pre-disaster mitigation priorities and projects, as well as specific disaster-scenario mitigation functions, are generated through the LMS through the LMS Technical Working Group. Post-disaster mitigation priorities consider the LMS, in addition to damage assessment reports and the County EOC Command's expertise. The CEMP discusses hazard mitigation in the context of standard operating procedures, activities, responsibilities and available programs. This includes the post-disaster implementation of available disaster mitigation, response and recovery assistance programs, as well as pre-disaster mitigation programs such as the National Flood Insurance Program, Community Rating System, Hazard Mitigation Grant

Program and Emergency Management Preparedness and Assistant Trust Fund Grant, as well as programs available from the Corps of Engineers District Office.

Though the identification of mitigation opportunities lies predominately with LMS working group, the document lists numerous activities and supporting agencies to assist in supporting mitigation in the County. Following a disaster, initial damage assessment teams will include representatives from the County Property Appraiser's office, Building Department, American Red Cross and other appropriate agencies. Municipalities are responsible for the preliminary damage assessment within their jurisdictions. The County Chamber of Commerce will assess economic injury in the county and coordinate business damage assessment. After all impacted areas have been surveyed, the LMS Technical Working Group Core Committee will identify opportunities for hazard mitigation within the disaster area(s) and identify possible measures that are funded under the Hazard Mitigation Grant Program.

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

National Flood Insurance Program/Community Rating System

Manatee County and all of its municipalities participate in the National Flood Insurance Program (NFIP) and the NFIP Community Rating System (CRS). The municipalities of Anna Maria, Bradenton Beach, Holmes Beach and Palmetto each have a CRS rating of eight (8). Manatee County (unincorporated areas) as well as the municipalities of Bradenton and Longboat Key each has a CRS rating of seven (7).

4. Comprehensive Plan Review

Purpose and Intent

The 2020 Manatee County Comprehensive Plan (adopted May 15, 1989; Amendment dates following summary) was reviewed for the purpose of developing this profile. This review was undertaken in order to assess what steps Manatee 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 Manatee County as identified in the County's Local Mitigation Strategy (LMS) are hurricane and coastal storms; severe storms, flooding and severe rain; wildfire; and port vessel collision and open water hazardous materials spills. The LMS risk

assessment indicated sinkholes to be a low risk hazard for Manatee County. Therefore, sinkhole hazard is not addressed in this summary.

Manatee County is a coastal county, so many policies are geared toward coastal management and resource protection. Policies relating to hazard mitigation within the Plan primarily address evacuation and storm surge mitigation, flooding, and natural resource protection. The Manatee County Comprehensive Plan also focuses on the protection of natural features such as floodplains, wetlands, and dune systems through development controls and stormwater management. Although there are policies related to fire protection in the Comprehensive Plan, no policies specifically related to wildfire mitigation were found.

Storm Surge, Evacuation and Sheltering

The Plan uses a number of mechanisms including density controls and planning overlay districts to minimize future damage and prevent loss of life from a storm event. No new development approved in the velocity zone of the Coastal High Hazard Area Overlay District can be over 3 dwelling units per acre. The Future Land Use Element details a Coastal Evacuation Area (CEA) Overlay District within the Category 1 hurricane evacuation zone for Manatee County residents. Goals within this Overlay District include: increasing the degree of protection to public and private property, and protecting the lives of residents within the CEA, by reducing the risk of exposure to storm damage. District language limits development activity which may adversely impact shoreline stability and attempts to reduce impervious surface along coastal areas, to reduce the risk of increased stormwater runoff.

Hurricane evacuation policies rely heavily on an intergovernmental coordination component. Policies require that major evacuation routes have adequate capacities, are adequately maintained and, when necessary, are improved to facilitate an efficient and safe evacuation. The implementation mechanism for this Policy includes interagency coordination between the Division of Emergency Management, Tampa Bay Regional Planning Council, Metropolitan Planning Organization, Manatee County Sheriffs Department, and FDOT.

The Plan addresses the repetitive loss issue from several angles. First, the Plan requires (where feasible) the relocation of structures that have received damage greater than 50% of their assessed value due to a natural disaster, to new locations outside of the CEA. The Planning Department is also tasked with the development of zoning and other mitigative techniques to reduce the probability of future property loss due to a storm event. In addition, policies provide the opportunity to identify and assist neighborhoods in the Coastal Planning Area which require financial or technical assistance to improve sub-standard housing.

All project approvals within the Coastal Evacuation Area are required to meet performance standards as detailed in the land development regulations. New developments in the Coastal Planning Area must also provide hurricane evacuation plans in coordination with the County Emergency Management Division. Funding for this evacuation plan implementation must be provided by the developer or their successor.

A public education component has been integrated into Plan policies. Coastal policies state that there will be annual hurricane preparedness simulations and seminars to test the effectiveness of the hurricane evacuation plan. These events will take place through Coordination by the Division of Emergency Management with members of the Disaster Preparedness Planning Committee.

The Plan contains provisions for the creation of both pre-disaster mitigation plans and a Post Disaster Redevelopment Plan (PDRP) to reduce the risk to life and property from natural disasters. Pre-disaster plans will involve the submittal of hurricane evacuation plans for new development in the Coastal Planning Area, maintenance of natural shoreline resources which protect landward areas from storms, a prohibition on new seawalls, and increasing sheltering capacity.

According to Florida's Statewide Emergency Shelter Plan, Pinellas County had a shelter deficit of 19,401 people in 2004. The opportunity exists to construct new facilities to standards that will allow them to serve as shelters, and to construct future public facilities outside of floodplain and storm surge areas. The deficit for this County is significant and will need attention as future policies are developed and implemented.

Flooding

Flooding is addressed from two vantage points, the protection of natural drainage features, and protection of properties through development standards and stormwater abatement. There are policies directed at minimizing flooding and stormwater runoff, and protecting flood prone areas from potential development impacts. All proposed buildings within the 100-year floodplain are required to be constructed so that finished floor elevations are above the elevation of the 100-year flood. In order to minimize environmental degradation and avoid an increase in the flood risk, the Plan also prohibits the removal, alteration, or encroachment within wetlands except in specific cases, enumerated in the Plan.

Wildfire

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

Comprehensive Plan Amendment Dates:

July 26, 1990	May 27, 1996
August 8, 1990	June 24, 1996
March 11, 1991	July 21, 1996
January 31, 1991	February 10, 1997
July 8, 1991	March 9, 1998
July 26, 1991	April 24, 1998
December 20, 1991	June 11, 1998
December 23, 1991	February 23, 1999
April 6, 1992	July 29, 1999
July 2, 1992	September 23, 1999
August 3, 1992	September 24, 1999
August 5, 1992	December 7, 1999
November 20, 1992	January 31, 2000
November 23, 1992	April 11, 2000
January 6, 1994	December 11, 2000
February 28, 1994	February 22, 2001
December 5, 1994	February 25, 2001
August 18, 1994	July 26, 2001
March 1, 1995	August 24, 2001
May 19, 1995	October 3, 2001
September 23, 1995	January 15, 2002
November 2, 1995	April 25, 2002
December 18, 1995	November 23, 2002
February 16, 1996	January 30, 2003
May 18, 1996	

5. Data Sources

County Overview:

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

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

Hazard Vulnerability:

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

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

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

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

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

GIS Data:

Flood Zone

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

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

Hurricane Evacuation Zone/Coastal High-Hazard Area (Category 1 Hurricane Evacuation Zone)

Source: GIS coverage of hurricane zones compiled by Florida Department of Community Affairs/Division of Emergency Management (2003), from GIS data collected from county emergency management agencies in the State of Florida.

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

Hurricane Storm Surge Zone GIS Data

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

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

Sinkhole Hazard GIS Data

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

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

Wildfire Susceptibility GIS Data

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

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

Parks, Conservation Areas, Golf Courses

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

Municipal Boundaries

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

**ATTACHMENT A
Maps of the Existing and Future Land Uses within Coastal Hazards Zone**

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

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

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

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

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

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

Goal 1: Recognizing the inevitability that Manatee County will be affected by a disaster/hazard event, strive to maximize hazard prevention and mitigation efforts and minimize the adverse affects of a disaster/hazard event on the residents of Manatee County.

Objective 1.1: As an ongoing objective, Manatee County and its jurisdictions shall continue to take those steps necessary to prepare for, respond to, minimize the affects of, and redevelop from hurricanes and coastal storms. Included in this effort shall be continued and improved communication with the National Hurricane Center, National Weather Service, Florida Division of Emergency Management, Tampa Bay Regional Planning Council, adjacent county emergency management agencies, and local broadcast media, and the timely dissemination of information to the residents of Manatee County.

Objective 1.2: As an ongoing objective, Manatee County and its jurisdictions shall continue to take those steps necessary to prepare for, respond to, and minimize the affects of severe storms and their associated hazards. Included in this effort shall be continued and improved communication with the National Weather Service office in Ruskin, and local broadcast media and the timely dissemination of information to the residents of Manatee County.

Objective 1.3: As an ongoing objective, Manatee County and its jurisdictions shall continue to take those steps necessary to prepare for, respond to, and minimize the affects of flooding and severe rainfall events. Included in this effort shall be continued and improved communication with the National Weather Service office in Ruskin and between the county and municipal Public Works Departments, and local broadcast media and the timely dissemination of information to the residents of Manatee County.

Objective 1.4: As an ongoing objective, Manatee County and its jurisdictions shall continue to take those steps necessary to respond to coastal and riverine erosion. Included in this effort shall be continued and improved communication with the various Public Works Departments, Florida Department of Environmental Protection, U.S. Army Corps of Engineers, Area of Bay Management, and the Tampa Bay and Sarasota Bay Estuary Programs.

Objective 1.5: As an ongoing objective, Manatee County and its jurisdictions shall continue to take those steps necessary to prepare for and respond to winter storms and freezes. Included in this effort shall be continued and improved communication with the National Weather Service office in Ruskin, Florida Department of Agriculture, Florida Division of Emergency Management, Manatee County Department of Agriculture and Natural Resources, Florida Power & Light, area social service agencies/providers, and local broadcast media and the timely dissemination of information to the residents of Manatee County.

Objective 1.6: As an ongoing objective, Manatee County and its jurisdictions shall continue to take those steps necessary to respond to droughts and heat waves. Included in this effort shall be continued and improved communication with the National Weather Service office in Ruskin, Southwest Florida Water Management District, Florida Department of Agriculture, Florida Division of Emergency Management, Manatee County Departments of Agriculture and Natural Resources and Utility Operations, Florida Power & Light, Manatee Memorial and Blake Hospitals, area social service agencies/providers, local broadcast media, and the timely dissemination of information to the residents of Manatee County.

Objective 1.7: As an ongoing objective, Manatee County shall continue to take those steps necessary to prepare for and respond to the occurrence of sinkholes. Included in this effort shall be continued and improved communication with the Southwest Florida Water Management District, Manatee Sheriffs Department, local law enforcement agencies, and the Manatee County and municipal Public Works Departments.

Objective 1.8: As an ongoing objective, Manatee County shall continue to take those steps necessary to prepare for and respond to wildfires. Included in this effort shall be continued and improved communication with the Florida Division of Forestry, National Weather Service office in Ruskin, Manatee County Planning and Public Safety Departments, Florida Division of Emergency Management, and local broadcast media and the timely dissemination of information to the residents of Manatee County.

Objective 1.9: As an ongoing objective, Manatee County and its jurisdictions shall continue to take those steps necessary to prepare for and respond to hazardous material incidents. Included in this effort shall be continued and improved communication with the National Weather Service office in Ruskin, Manatee County Public Safety and Sheriffs Departments, local law enforcement agencies, local industry representatives, the Region 8 Local Emergency Planning Committee, and local broadcast media and the timely dissemination of information to the residents of Manatee County.

Objective 1.10: As an ongoing objective, Manatee County, the City of Bradenton, and Florida Power and Light shall continue to take those steps necessary to prepare for and respond to flooding from and/or failure of the Lake Manatee Dam, Ward Dam and Lake Parrish cooling pond. Included in this effort shall be continued and improved communications with the National Weather Service in Ruskin, Manatee County Utility Operations Department, City of Bradenton Public Works, Manatee County Public Safety Department, Manatee County Sheriffs Office, Florida Highway Patrol, local broadcast media and the timely dissemination of information to the residents of Manatee County.

Objective 1.13: As an ongoing objective, Manatee County and its jurisdictions shall continue to take those steps necessary to prepare for and respond to utility failures/power outages. Included in this effort shall be continued and improved communication with the Manatee County Department of Public Safety, Manatee County Sheriffs Department, local law enforcement agencies, Florida Power & Light, and local broadcast media and the timely dissemination of information to the residents of Manatee County.

Objective 1.14: As an ongoing objective, the Manatee County Utility Operations Department shall continue to take measures to protect and assure delivery of potable (drinking) water and services, as required by the Federal (EPA) Bioterrorism Act of 2002. Included in this effort shall be continued and improved coordination and communication with the Environmental Protection Agency, FBI, Department of Homeland Security, Florida Department of Law Enforcement, State of Florida Emergency Management, State of Florida Health Department, Manatee County Public Safety Department, Manatee County Health Department, Manatee County Sheriffs Office, City of Bradenton Public Works, the local broadcast media and the timely dissemination of information to the residents of Manatee County.

Objective 1.15: The on going development, by the City of Bradenton Public Works Department, of measures to protect and assure delivery of potable (drinking) water and services to residents in the City of Bradenton, as required by the Federal (EPA) Bio-terrorism Act of 2002. Included in this effort shall be continued and improved coordination and communication with appropriate agencies including -the Manatee County Utility Operations Department, Manatee County Public Safety Department, Manatee County Health Department, City of Bradenton Police Department, the local broadcast media and the timely dissemination of information to the residents of the City of Bradenton.

Goal 2: As appropriate and applicable, existing and future ordinances, resolutions, standards, policies, and agreements shall promote and improve hazard mitigation within Manatee County.

Objective 2.1: By December 2004, review, and, as appropriate, strengthen and, enhance enforcement of current ordinances, resolutions, standards, and policies related to all hazards prevention and mitigation.

Objective 2.2: On an annual basis, review and, where appropriate, strengthen ordinances, codes, resolutions, standards, policies, and agreements related to all hazards prevention and mitigation.

Objective 2.3: As an ongoing objective, the County shall continue to plan for and develop mitigation strategies which addresses those hazards identified within this LMS to which the county is vulnerable.

Objective 2.4: Through continued communication with all governments involved, Manatee County shall ensure the continued support, development, and implementation of hazard mitigation initiatives.

Objective 2.7: Recognizing the importance of addressing the needs of Manatee County's special needs population (e.g., elderly, disabled, low-income) and the countywide dispersion of such population, local governments within Manatee County shall coordinate with the Division of Emergency Management in developing strategies for addressing the pre- and post-disaster needs of such population.

Objective 2.8: Consistent with the provisions for identifying and funding capital improvement projects found in Section 9J-5.016, FAC, continue to develop funding mechanisms which could be used for approved county-wide mitigation initiatives.

Objective 2.10: Consistent with the provisions of Section 9J-5.016, FAC, emphasize mitigation goals during the annual preparation of capital improvement budgets, with special attention paid to the prioritization of regional, interlocal, and local projects.

Objective 2.11: Participating local governments shall emphasize mitigation funding during the annual budget process pursuant to the provisions of Section 9J-5.016, FAC.

Objective 2.12: To ensure the full and complete implementation of the Manatee County LMS, all participating local governments shall incorporate references to the LMS into their respective comprehensive plan. Such incorporation shall be reflected in the forthcoming preparation of the required Evaluation and Appraisal Reports.

Goal 3: Reduction in the number of repetitive loss properties and other associated actions.

Objective 3.1: Participating local governments should encourage the retrofitting of repetitive loss properties where financially and environmentally feasible.

Objective 3.2: Pursuant to the provisions of Sections 9J-5.006(2)(e) and (3)(b)6, FAC (Future Land Use Element) and 9J-5.012(2)(e)2, (3)(b)8 and (3)(c)5, FAC (Coastal Management Element) participating should consider the acquisition of wetland, floodplain, and repetitive loss properties where retrofitting is not a viable option.

Objective 3.4: Through the ongoing implementation of this LMS by participating local governments, reduce the vulnerability of identified critical facilities.

Objective 3.5: Where financially and environmentally sound and consistent with the adopted Comprehensive Plan, consider the retrofitting and/or relocation of threatened critical facilities.

Goal 4: Establish and maintain effective formal and informal regional and county-wide communication mechanisms and operational procedures, training, and opportunities.

Objective 4.6: As an ongoing objective, continue and to enhance the implementation of interlocal stormwater management planning.

Goal 5: Establishment and maintenance of an adequate emergency shelter capacity for the residents of Manatee County.

Objective 5.4: By June 2004, develop and/or identify at least one emergency shelter which has an adjacent pet shelter.

Objective 5.5: By June 2004, the Division of Emergency Management shall develop a plan and identify locations for refuges of last resort.

ATTACHMENT G
Manatee County Comprehensive Plan Excerpts Pertaining to Hazard Mitigation

From the 2020 Manatee County Comprehensive Plan (October 1998):

FUTURE LAND USE ELEMENT

FUTURE LAND USE OVERLAY DISTRICTS

3) Coastal Storm Vulnerability Area CSVA Limit Public Expenditures That Subsidize Development Within These Coastal Areas, And Direct Population Concentration Away from Known or Predicted Coastal Storm Vulnerability Areas (See Future Land Use, Coastal Management, Capital Improvements, and Public Facilities Element Policies).

4) Coastal Evacuation Area CEA Direct Population Concentrations Away From the Coastal Evacuation Area (See Future Land Use and Coastal Element).

OBJECTIVE 2.2.2 FUTURE LAND USE OVERLAY DISTRICTS: Establish and define a suitable number of overlay districts for use on the Future Land Use Map to establish targeted geographic areas, within which the application of highly specialized policies can be implemented.

Policy 2.2.2.4 CEA: Establish the Coastal Evacuation Area Overlay District as follows:

Policy 2.2.2.4.1 Definition: The geographic area which lies within the evacuation area for a Category 1 hurricane as established by the Manatee County Emergency Management Division of the Public Safety Department in conjunction with the Tampa Bay Regional Planning Council, as updated on a periodic basis.

Policy 2.2.2.4.2 Purpose: (a) To limit population in the Category 1 hurricane evacuation area requiring evacuation during storm events. (b) To limit the amount of infrastructure, both private and public, within the CEA Overlay District and thereby limit magnitude of public loss and involvement in mitigating for loss of private infrastructure to Manatee County residents. (c) To, through exercise of the police power, increase the degree of protection to public and private property, and to protect the lives of residents within the CEA, and reduce the risk of exposing lives or property to storm damage. (d) To accomplish shoreline stabilization along coastal areas by limiting development activity which may adversely impact shoreline stability. (e) To protect coastal water quality by reducing impervious surface along coastal areas, thereby reducing the risk of incomplete treatment of stormwater runoff before discharge into coastal waters. (f) To encourage, establish, and maintain vegetative and spatial buffer zones, in order to maintain the capacity of natural vegetative communities in mitigating the negative effects of storm surge and tidal velocity, and the erosive effect of wave action.

Policy 2.2.2.4.3 Applicable Goals, Objectives, and Policies: Goals, objectives, and policies pertaining to the CEA Overlay District are contained under

OBJECTIVES 4.3.1, 4.3.2, 4.4.2 and 4.4.3 OF THE COASTAL MANAGEMENT ELEMENT:

Compliance with all goals, objectives, and policies listed in these subsections, and with other applicable goals, objectives, policies, and development regulations is required for all activity within the CEA Overlay District.

Policy 2.2.2.4.4 Effect of Mapping: (a) Any project which is at least partially within the CEA Overlay District shall be submitted for approval under the special approval process, except in the instance of any project on lands owned, leased or operated by the Manatee County Port Authority. The area designated under the CEA Overlay District on the Future Land Use Map shall also be subject to all goals, objectives and policies for any future land use category overlaid by the CEA District, except where policies associated with the CEA Overlay conflict with such goals, objectives and polices. In this event, policies associated with the CEA Overlay shall override other goals, objectives and policies.

Policy 2.2.2.4.5 Development Restrictions/conditions a) Prohibit any amendment to the Future Land Use Map which would result in an increase in allowable residential density on sites within the Coastal Evacuation Area.

Policy 2.2.2.5 CSVA: Establish the Coastal Storm Vulnerability Overlay District as follows:

Policy 2.2.2.5.1 Definition: The geographic area which lies seaward of the 5 foot topographic contour, including all areas of known coastal flooding.

Policy 2.2.2.5.2 Purpose: (a) To limit population in areas most vulnerable to coastal storm events. (b) To limit the amount of infrastructure, both private and public, within the CSVA Overlay District and thereby limit magnitude of public loss and involvement in mitigating for loss of private infrastructure to Manatee County residents. (c) To, through exercise of the police power, increase the degree of protection to public and private property, and to protect the lives of residents within the CSVA, and reduce the risk of exposing lives or property to storm damage. (d) To accomplish shoreline stabilization along coastal areas by limiting development activity which may adversely impact shoreline stability. (e) To protect coastal water quality by reducing impervious surface along coastal areas, thereby reducing the risk of incomplete treatment of stormwater runoff before discharge into coastal waters. (f) To encourage, establish, and maintain vegetative and spatial buffer zones, in order to maintain the capacity of natural vegetative communities in mitigating the negative effects of storm surge and tidal velocity, and the erosive effect of wave action.

Policy 2.2.2.5.3 Applicable Goals, Objectives, and Policies: Goals, objectives, and policies pertaining to the CSVA Overlay District are contained under Objectives 4.3.1, 4.3.2, 4.4.2 and 4.4.3 of the Coastal Management Element. Compliance with all goals, objectives, and policies listed in these subsections, and with other applicable goals, objectives, policies, and development regulations is required for all activity within the CSVA Overlay District.

Policy 2.2.2.5.4 Effect of Mapping: (a) Any project which is at least partially within the CSVA Overlay District shall be submitted for approval under the special approval process, except in the instance of any project on lands owned, leased or operated by the Manatee County Port Authority. The area designated under the CSVA Overlay District on the Future Land Use Map shall also be subject to all goals, objectives and policies for any future land use category overlaid by the CSVA District, except where policies associated with the CSVA Overlay conflict with such goals, objectives and policies. In this event, policies associated with the CSVA Overlay shall override other goals, objectives and policies. The extent and coverage of the area designated as CSVA is an approximation, and is subject to a more precise determination on any project within, or proximate to, that area shown on the Future land Use Map as CSVA. At the time of review of any such project for issuance of any development order establishing total or partial development potential, evaluation of a predevelopment topographic survey of the site shall be utilized to determine the extent of the CSVA District Overlay. (b) See also objectives listed under Policy 2.2.2.5.3 above.

OBJECTIVE 2.3.1 CLUSTERING AND DENSITY/INTENSITY TRANSFERS TO PRESERVE NATURAL RESOURCES: Promote the clustering of uses and the transfer of density/intensity to : protect sensitive environments while preserving development potential; decrease impervious surface in important groundwater recharge areas; decrease runoff to potable water reservoirs; limit development in areas subject to natural disasters which may cause damage to life and/or property; preserve endangered and threatened species; preserve open areas to increase light, air, and quality of life; decrease development costs by limiting infrastructure; and decrease maintenance costs for new infrastructure. [See also policy 5.2.1.5]

OBJECTIVE 2.3.3 Floodplain Management: Direct development away from areas subject to flooding to reduce risks to life and property and to minimize costs to County residents for replacing damaged infrastructure.

Policy 2.3.3.1 Prohibit any new development (except redevelopment) within the floodway of any perennial stream, except for water-dependent uses and except for projects which generally would not result in an increase in flood levels in the community during the occurrence of the base (100 years) flood discharge. [See policy 2.3.1.2] Implementation Mechanism: (a) Planning and Building Departments coordination during review of development requests for compliance with this policy and the Floodplain Management Section of the Manatee County Land Development Code.

Policy 2.3.3.2 Require that all fill within the 100-year floodplain shall be compensated by creation of storage of an equal or greater volume, with such compensatory storage also located within the 100-year floodplain. Areas within the 100-year floodplain adjacent to a tidally-influenced water body shall not be subject to this level of service performance standard.

Policy 2.3.3.3 Require that all proposed buildings within the 100-year floodplain are constructed so that finished floor elevations are above the elevation of the 100-year flood.

Policy 2.3.3.4 Prohibit habitable structures and major public and private investment within the 25-year flood plain except for projects which have special exception status or obtain a Special Approval. This policy shall not preclude the development of water-dependent uses, water-related and water-enhanced uses, stormwater management structures, non-habitable structures, and passive recreational uses where appropriate. Any such development shall: minimize impervious surface in the 25-year floodplain; - cluster structures and uses outside of the 25-year floodplain, whenever possible [see policy 2.3.1.2]; protect perennial lakes and streams by encouraging the dedication of conservation easements not subject to any land alteration within the 25-year floodplain. This policy applies only for the purposes of reviewing projects for which mapping of the 25-year floodplain has been accomplished, or where interpolation or use of an existing water surface profile for the watercourse(s) permits the identification of the 25-year flood elevation. Implementation Mechanism(s): (a) Coordination between the Transportation (Stormwater Management Division), Planning, and Building Departments when reviewing development requests for compliance with this policy and the Floodplain Management Section of the Manatee County Land Development Code (b) Coordination between the Manatee County Planning Department and the Manatee County Property Appraiser to ensure that conservation easements dedicated to Manatee County are deleted from private property assessments.

Policy 2.3.4.2 Require that impervious surface within the Watershed Overlay District be minimized through the use of one or more of the following strategies: the appropriate use of pervious materials for pedestrian pathways and driveways, site design which utilizes the joint or shared use of parking areas or access roads where appropriate, clustering of uses within single instead of multiple structures, transfer of density/intensity out of watersheds and away from inflowing watercourses [see policies under objective 2.3.1], use of increased setbacks and buffers from reservoirs and inflowing watercourses and the use of native vegetation within such buffers and setbacks, and through the clustering of uses to maximize the preservation of vegetated open space areas in their natural state. Implementation Mechanism(s): (a) Conditioning of development orders consistent with this policy. (b) Consideration, and adoption by the BOCC where appropriate, of special allowances for reduced off-street parking requirements, use of shared parking, and modifications to roadway and sidewalk design criteria to promote limitations on impervious surface consistent with this policy.

OBJECTIVE 2.9.2 ADVERSE IMPACT ON COMMUNITIES: Mitigate or where possible, prevent adverse impacts on residential uses. (See also Objective 2.6.2)

Policy 2.9.2.4 Require all residential development in areas vulnerable to flooding be consistent with policies under Objs. 2.3.3 and 4.3.2. Implementation Mechanism(s): (a) Planning Department review and comment on proposed development requests. (b) Identification of vulnerable property by the Departments of Public Safety, Building, and Planning.

MONITORING FUTURE LAND USE ELEMENT

OBJECTIVE 2.3.1 CLUSTERING AND DENSITY/INTENSITY TRANSFERS TO PRESERVE NATURAL RESOURCES: Promote the clustering of uses and the transfer of density/intensity to: protect sensitive environments while preserving development potential; decrease impervious surface in important groundwater recharge areas; decrease runoff to potable water reservoirs; limit development in areas subject to natural disasters which may cause damage to life and/or property; preserve endangered and threatened species; preserve open areas to increase light, air, and quality of life; decrease development costs by limiting infrastructure; and decrease maintenance costs for new infrastructure.

Monitoring Measure 1. Increase in clustered development approvals.

OBJECTIVE 2.3.2 SOIL/TOPOGRAPHY CONSTRAINTS: Conserve soils, discourage erosion, and maintain water quality through consideration of topographic conditions and natural soil constraints.

Monitoring Measure 1. Soil stabilization practices required for all new construction.

OBJECTIVE 2.3.3 FLOODPLAIN MANAGEMENT: Direct development away from areas subject to flooding to reduce risks to life and property and to minimize costs to County residents for replacing damaged infrastructure.

Monitoring Measure 1. No new development approvals in the 25-year floodplain. 2. All new development in the 100-year floodplain finished floor elevation above the 100 year flood.

MONITORING CONSERVATION ELEMENT

OBJECTIVE 3.3.1 WETLANDS PROTECTION: Preserve and protect existing, viable wetland systems to: maintain control of flooding and erosion through storage of agricultural and urban runoff in wetland areas; achieve biological filtration of pollutants associated with urban and agricultural runoff by wetlands; maintain protection of coastal areas from tidal storm surges through maintaining wetlands as a natural buffer; achieve water recharge of surficial aquifers through wetland areas; maintain unique habitat functions of wetland areas as homes and critical breeding areas for many animal and plant species; maintain essential chemical and energy cycles facilitated by wetlands; maintain educational and recreational opportunities provided by wetlands.

Monitoring Measures: 1. No wetlands impacts in at least 65% of development projects containing wetlands. 2. Increase in wetlands quality throughout the County. 3. No loss of wetland function. 4. Type and quality of wetland mitigation.

Policy 3.3.1.1 Prohibit removal, alteration, or encroachment within wetlands except in cases where no other practical alternatives exist that will permit a reasonable use of the land or where there is an overriding public benefit. Such determination will require completion of impact avoidance and minimization analyses which clearly demonstrate the necessity of the proposed impact. [See policy 4.1.2.2 of the Coastal Management Element for coastal wetlands.]

Implementation Mechanism: (a) Review by the Planning and Environmental Management Departments to ensure that impacts by development are minimized.

MONITORING COASTAL ELEMENT

OBJECTIVE 4.2.1 WATER-DEPENDENT AND OTHER USES: Give priority to the siting and development of water-dependent uses within the Coastal Planning Area, as compared with other shoreline uses and provide for compatibility of water-dependent and other uses in the Coastal Planning Area to protect natural shorelines, habitat and water quality.

Policy 4.2.1.2 Require that marina-type uses meet the following criteria, or are consistent with the following guidelines: **CRITERIA:** (1) Shall prepare hurricane preparedness plans;...

OBJECTIVE 4.3.1 DEVELOPMENT TYPE, DENSITY AND INTENSITY: Limit development type, density and intensity within the Coastal Planning Area and direct development to areas outside of the Coastal High Hazard Area to mitigate the potential negative impacts of natural hazards in this area.

Monitoring Measures 1. No new development approved in the velocity zone of the Coastal High Hazard Area Overlay District over 3 du/ac. 2. No new industrial development approved over the intensity allowed in the IL future land use category. 3. Increased number of joint docks and clustered development in the CHHA. 4. No new manufactured home parks in the Coastal Planning Area.

Policy 4.3.1.1 Direct population concentrations away from the Coastal Evacuation Area (CEA).
Implementation Mechanism: (a) Update requirements in the Manatee County Land Development Code consistent with this Comprehensive Plan element.

Policy 4.3.1.2 Limit the density of new residential development within the FEMA Velocity-Zone to a maximum of three dwelling units per gross acre or to the maximum density shown on the Future Land Use Map for the area within the V-Zone, whichever is less. Any reduction in residential development potential within the FEMA Velocity-Zone resulting from the limit of 3 du/ga within that area may be recaptured on the subject site in areas outside of the CSVA where consistent with other provisions of this Comprehensive Plan.

Implementation Mechanism: (a) Planning Department review of projects within the CSVA to ensure compliance with this policy.

Policy 4.3.1.3 Require that non-industrial redevelopment activities within the FEMA Velocity-Zone of the Coastal Storm Vulnerability Area to be limited to the density/intensity in existence for the development site prior to the effective date of the Comprehensive Plan; or be limited to three dwelling units per gross acre or the maximum Floor Area Ratio associated with the Future Land Use designation(s) on the project site, whichever is less. All such redevelopment activities shall also be subject to compliance with other applicable goals, objectives, and policies of this comprehensive plan, and all applicable development regulations.

Implementation Mechanism:(a) Planning Department review of all proposed redevelopment within the FEMA Velocity-Zone for compliance with this policy.

Policy 4.3.1.5 Maximize the clustering of uses in the Coastal Storm Vulnerability Area.

1) Clustering shall be promoted to protect coastal resources from the impacts of dock accesses, runoff from impervious surface and to minimize infrastructure subject to potential storm damage. 2) Net density limits may be waived for appropriate clustered projects. 3) For projects located partially within the CSVA, development shall be encouraged to transfer from areas within the CSVA to portions of the site outside of the CSVA. [See policies under objective 2.3.1 of the Future Land Use Element]

Implementation Mechanism: (a) Planning Department to encourage clustering of density/intensity at time of pre-application meeting and at development review.

Policy 4.3.1.6 Prohibit the development of new manufactured home projects within the Coastal Planning Area

Implementation Mechanism: (a) Planning Department review of all development requests for compliance with this policy.

Policy 4.3.1.7 Prohibit the siting of new acute care medical facilities within the Coastal Evacuation Area and discourage existing medical facilities from locating new facilities or expanding existing facilities on sites within the Coastal Planning Area.

Implementation Mechanism:

(a) Planning Department review of new acute care medical facilities for consistency with this policy.

Policy 4.3.1.8 Maintain the minimum construction setback line for all areas of the Coastal Planning Area which have not been delineated for a Coastal Control Construction Line.

Implementation Mechanism: (a) Manatee County Building Department enforcement of setbacks consistent with this policy

OBJECTIVE 4.3.2 PUBLIC INFRASTRUCTURE IN THE COASTAL PLANNING AREA:

Minimize public expenditures on infrastructure for new development within the Coastal Planning Area to limit replacement costs in case of damage from natural hazards.

Monitoring Measures 1. No new public-funded infrastructure in the CHHA except to improve hurricane evacuation times, provide public recreation, or maintain LOS. 2. No new County maintained infrastructure to support new development seaward of the 5' topographic contour.

Policy 4.3.2.1 Limit the placement of County-funded infrastructure within the Coastal Planning Area which exceeds the demands generated by approved development except to provide for hurricane evacuation needs and as allowed in policy 4.3.2.2.

Implementation Mechanism: (a) All new development in the Coastal Planning Area which require infrastructure improvements shall meet applicable Level of Service standards.

Policy 4.3.2.2 Prohibit the construction of County-funded public facilities within the CSVA except for the following: public recreation consistent with natural resource preservation; maintenance of hurricane evacuation times; facilities which are necessary for public health, safety, or resource restoration; roadways shown on the Future Traffic Circulation Map or the Major Thoroughfare Map contained in the Traffic Circulation Element of the Comprehensive Plan; improvements required to maintain Level of Service standards; projects which are of an overriding public interest as determined by the Board of County Commissioners.

Implementation Mechanism: (a) Transportation, Utilities Operations, Public Safety, and Parks and Recreation Departments development of capital improvements budgets consistent with this policy. (b) Planning Department input to the Sarasota-Manatee Metropolitan Planning Organization to discourage the inclusion of transportation improvements within the CEA unless such improvements are consistent with policy 4.3.2.4.

Policy 4.3.2.3 Prohibit Manatee County from accepting responsibility for maintaining new roadways within the CSVA except for those which are consistent with policies 4.4.2.1 and 4.3.2.4.

Implementation Mechanism: (a) Transportation, Project Management and Utilities Operations Departments coordination with the Planning Department to implement this policy.

Policy 4.3.2.4 Prohibit construction of new, or widening of existing, bridges linking the mainland to any island/key area within Manatee County unless such bridge or improvement is shown on the Future Traffic Circulation Map. Implementation Mechanism: (a) Utilities Operations, Project Management and Transportation Department coordination with the Florida Department of Transportation to review all applications for bridge construction to ensure compliance with this policy.

Policy 4.3.2.5 Establish a lower priority for the funding of public infrastructure within the CEA as compared to non-CEA areas, except where expenditures are necessary to: alleviate dangerously overcrowded or otherwise hazardous roads; replace or construct wastewater facilities to alleviate or prevent potential violations of potable water quality standards or water quality standards applicable to surface waters; construct recreational facilities unique to coastal sites.

Implementation Mechanisms: (a) Coordination between the Project Management, Utilities Operations, Transportation, and Planning Departments during preparation of the Capital Improvements Projects budget to achieve policy compliance.

Policy 4.3.2.6 Continue to provide assistance to identified neighborhoods in the Coastal Planning Area which require financial or technical assistance to improve sub-standard housing. (See also Obj. 6.1.4)

Implementation Mechanism: (a) Community Services Department to coordinate with state and local agencies to ensure policy compliance.

OBJECTIVE 4.4.1 HURRICANE EVACUATION: Maintain or reduce hurricane evacuation clearance times through mitigation and response techniques to protect the health and safety of residents and visitors in areas subject to coastal storms.

Monitoring Measures 1. Increase the rate of evacuee mobilization.

Policy 4.4.1.1 Develop and implement provisions for increasing the rate of evacuee mobilization, in coordination with other local governments within Manatee County and other adjacent counties. Implementation Mechanism(s): (a) Coordination between the Emergency Management Division, Project Management Department, Transportation Department, and the Tampa Bay Regional Planning Council (TBRPC) to prepare and annually update the Comprehensive Peacetime Emergency Management Plan (PEP) in coordination with other local governments. The PEP will contain measures for hurricane preparedness, evacuation decision and implementation, public shelter, recovery, damage assessment, and hazard mitigation. (b) Coordination between the Emergency Management Division, Metropolitan Planning Organization, Project Management Department, and the TBRPC to distribute annual disaster guides free of charge to the public which identify emergency preparedness procedures and evacuation shelters. Distribution should include the possibility of mailing disaster guides to all residents in the Hazard

Policy 4.4.1.2 Maintain adequate capacity on all identified major evacuation routes. Implementation Mechanism: (a) Coordination between the Division of Emergency Management and the Tampa Bay Regional Planning Council to ensure that major evacuation routes have adequate capacities, are adequately maintained and, when necessary, are improved to facilitate an efficient and safe evacuation. Roadway improvements to all evacuation routes will be coordinated by the Transportation, Project Management, Metropolitan Planning Organization, Manatee County Sheriffs Department, and FDOT, with input from the Division of Emergency Management.

Policy 4.4.1.3 Cosponsor and participate in annual hurricane preparedness simulations and seminars to test the effectiveness of the hurricane evacuation plan. Implementation Mechanism: (a) Coordination by the Division of Emergency Management with members of the Disaster Preparedness Planning Committee to stage annual hurricane preparedness activities.

Policy 4.4.1.4 Coordinate all emergency management activities including evacuation orders with all state, regional, and local emergency response agencies to effect a safe and efficient evacuation and resettlement of County residents. Implementation Mechanism: (a) Division of Emergency Management will be the lead county agency to implement all emergency management operations and coordination activities with adjacent counties.

OBJECTIVE 4.4.2 HAZARD MITIGATION: Create pre-disaster mitigation plans to reduce the risk to life and property from natural disasters.

Monitoring Measures 1. Submittal of hurricane evacuation plans for all new development in the Coastal Planning Area. 2. Maintenance of natural shoreline resources which protect landward areas from the effects of storms. 3. No new seawalls. 4. Increase in sheltering capacity.

Policy 4.4.2.1 Require that all project approvals within the Coastal Evacuation Area meet performance standards as described in detail in land development regulations and which may include: procedures for development and establishment of hurricane shelter capacity and evacuation time standards; mitigation measures such as fair share contribution to preserve sheltering capacity and maintain evacuation times, or reductions in project density; special design standards for infrastructure construction; development of hurricane evacuation plans in coordination with the Manatee County Division of Emergency Management; and specific surcharges or fees to recoup public expenditures for infrastructure after a storm.

Policy 4.4.2.2 Require new development in the Coastal Planning Area to provide hurricane evacuation plans for the project in coordination with the County's Emergency Management

Division, and require the implementation of such plans with funding for such planning and implementation provided by the developers of the project or their successors.

Implementation Mechanism(s): (a) Emergency Management Division participation in the development review process and review of all development in the Coastal Planning Area to ensure consistency with this policy. (b) Development Orders will stipulate that no later than one year of construction approval, development projects will submit a hurricane evacuation plan to the Division of Emergency Management for review.

Policy 4.4.2.3 Minimize the location of development within areas of the CEA which have sustained recurring hurricane related damage.

Implementation Mechanism(s): (a) Building Department identification of repetitive loss properties and coordination with the County Administrators Office, Planning Department, and Land Acquisition Division of the Transportation Department to implement fee simple acquisition. (b) Planning Department development of zoning and other mitigative techniques to reduce the probability of future property loss due to a storm event.

Policy 4.4.2.4 Implement policies of the Local Hazard Mitigation Strategy after it is adopted.

Implementation Mechanism(s): (a) Planning and Public Safety Departments coordination to achieve policy compliance. (b) Interagency hazard reports review and inclusion during development if the Local Mitigation Strategy.

Policy 4.4.2.5 Minimize the disturbance of natural shoreline resources that provide shoreline stabilization and protect landward areas from the effects of storm events.

Implementation Mechanism(s): (a) Implementation of the policies under Objective 4.1.2 and policies 4.4.2.5 and 4.4.2.6. (b) Planning and Environmental Management Department recommendation of conditions for projects within the CEA to achieve this policy. Such conditions may include, but are not limited to, conservation easements, lease agreements, land donations, deed restrictions or covenants. These provisions will be implemented to protect shoreline integrity through non-disturbance of coastal vegetation and soils.

Policy 4.4.2.6 Prohibit the construction of new seawalls and the repair and reconstruction of existing seawalls except as permitted by applicable federal and state regulations.

Implementation Mechanism: (a) Environmental Management Department review of proposed construction and seawall repair or reconstruction activities for policy compliance.

Policy 4.4.2.7 Improve sheltering capacity through the development of more shelters, through increased public education regarding evacuation options, or through other techniques which reduce the number of persons needing shelter during a major storm.

Implementation Mechanism(s): (a) Planning Department coordination with the Emergency Management Division to improve sheltering capacity. Improvement techniques may include: procedures for evaluating the impact of the each proposed development on hurricane shelter capacity and evacuation clearance times; establishment of required standards for available hurricane shelter capacity and evacuation clearance times; a requirement for mitigation techniques to ensure that new projects contribute fair share improvements or funding to maintain required shelter capacity. Such mitigation measures may include reduction in project densities to ensure compliance with the established standards; establishment of a Home Host program for selected areas of the County.

OBJECTIVE 4.4.3 POST DISASTER RECOVERY: Identify and prioritize cleanup and recovery in the event of a major storm event to provide for quick recovery in case of a natural disaster.

Monitoring Measures: 1. Preparation of a Post Disaster Redevelopment Plan by December 31, 1998. 2. Number of structures relocated from high hazard areas after a storm event.

Policy 4.4.3.1 Prioritize immediate repair and cleanup actions and permitting activities following a natural disaster.

Implementation Mechanism(s): (a) County Damage Assessment Team established in the Manatee County Comprehensive Emergency Plan collection of initial storm damage data

following a disaster, and presentation of this data to the Board of County Commissioners for prioritization of recovery activities. (b) Prioritization of building permit issuance by the Building Department after a disaster to ensure that those structures that can be quickly restored to use are issued permits first and that structures that require the most time and materials to restore are issued permits last. (c) Coordination with the Transportation, Project Management and Utilities Operations Departments to prioritize essential infrastructure repair and reconstruction.

Policy 4.4.3.2 By 1998, prepare a Post Disaster Redevelopment Plan (PDRP).
Implementation Mechanism: (a) Emergency Management Division Coordination with the Planning Department to ensure policy compliance.

Policy 4.4.3.3 Whenever feasible, relocate structures which have incurred damage from a natural disaster event, where damage is greater than 50% of their assessed value, to new locations that are outside of the CEA. Alternatively, utilize improved construction or site development practices during redevelopment in a manner consistent with Manatee County Land Development Regulations to minimize the risk of recurrent damage.
Implementation Mechanism: (a) Planning Department review of all building permits for property within the CEA for which the reconstruction of a structure is proposed to ensure application of this policy.

WASTEWATER TREATMENT SUB-ELEMENT

Policy 9.2.4.4 Prohibit the development of any interim wastewater treatment plants for any project located within the wastewater treatment collection areas as shown on Map 9-A, unless Special Approval is granted not to connect to the public sanitary sewer system under policy 9.2.1.2 and approved by the Board of County Commissioners. Analysis of the following factors shall be included in the approval of any interim wastewater treatment plants: ...-Location within areas subject to flooding.

MONITORING DRAINAGE AND GROUNDWATER RECHARGE SUB-ELEMENT

OBJECTIVE 9.4.1 LEVEL OF SERVICE STANDARDS: Maintain the following stormwater management level of service standards for planning capital improvements and reviewing development applications.

Monitoring Measures 1. Maintain standard for the rate of stormwater discharge from new development to be equal to, or less than, the rate of discharge that existed prior to development, based on a 25 year frequency – 24 hour duration storm event. Also, maintain the design of trunk sewers and major drainage channels to accommodate stormwater runoff based on the same frequency-duration storm event. 2. Maintain standard for the rate of stormwater discharge from internal, or on site, drainage facilities of any project to accommodate stormwater runoff resulting from a 10 year frequency – critical duration based on the project site time of concentration. 3. Land development regulations that require all projects discharging stormwater into the WO District on the future land use map meet state and local design standards for discharge into Outstanding Florida Waters. 4. Land development regulations with standards for design and construction to detain and permit filtration of stormwater runoff for all projects not within the WO District.

OBJECTIVE 9.4.2 MAJOR PUBLIC FACILITIES DESIGN AND MAINTENANCE: Establish criteria with which to identify, construct or reconstruct major drainage facilities which will be maintained by Manatee County according to a regular schedule.

Monitoring Measures: 1. Require that stormwater management planning and construction of capital improvements coincide with stormwater drainage requirements to adequately address growth and development. 2. Modify existing steeply sloped drainage ways, and construct all new public drainage ways as swaled facilities, where right-of-way acquisition is financially feasible. 3. Improve appearance of major drainage facilities by adequate mowing and landscaping. Also, improve wildlife habitat and supplement natural systems by the development of wetland systems within public stormwater basins, where appropriate and feasible. 4. Coordinate local stormwater

programs with Southwest Florida Water Management District programs and permit requirements. 5. Identification of revenue sources to fund individual stormwater basin studies as prioritized, and undertaking the Stormwater Master Drainage Plan Study of such basins to develop basin specific stormwater systems.

OBJECTIVE 9.4.3 FUNDING FOR PUBLIC DRAINAGE FACILITIES: Establish a county-wide stormwater management funding mechanism to be used to resolve water quantity and quality problems from stormwater runoff, monitor stormwater quality, and maintain public stormwater management systems ensuring that the treatment and retention of stormwater is consistent with standards contained under Objective 9.4.1.

Monitoring Measures 1. Utilization of funds generated from adopted ordinances creating county-wide stormwater management funding sources to correct existing deficiencies in major public drainage facilities. 2. Utilization of funds for monitoring and for public capital improvement drainage projects only in areas that have had a detailed stormwater study prepared, using revenues to perform and implement such studies.

OBJECTIVE 9.4.4 STORMWATER DESIGN STANDARDS: Require new development to meet stormwater retention/detention system standards to: protect natural features and prevent flooding; maintain or improve water quality in surficial aquifers and in groundwater; and ensure that the cost of constructing and maintaining new development does not fall to County taxpayers

Monitoring Measures: 1. Maintain level of service standards as identified under Objective 9.4.1. 2. Protect natural drainage features and preserve the function of these features by prohibiting alteration unless deemed within the public interest. 3. Development consistent with FEMA regulations.

OBJECTIVE 9.4.5 PRIVATE DRAINAGE SYSTEMS: Ensure the maintenance and operation of private stormwater systems is funded by private sources.

Monitoring Measures 1. Require all private stormwater management systems be maintained by an identified responsible party in a manner consistent with local, state, and federal standards. 2. Recover costs of public maintenance, repair, and improvements to private stormwater facilities through the levy of special assessments on the parties legally responsible for the operation and maintenance of the stormwater system.

CAPITAL IMPROVEMENTS ELEMENT

OBJECTIVE 10.1.2 CAPITAL IMPROVEMENTS PRIORITIZATION CRITERIA: Prioritization of capital improvement projects in a manner that achieves and maintains adopted Level of Service standards within the shortest time frame possible, while maintaining and protecting the County's investment in existing capital facilities.

Monitoring Measures 1. Establishment of concurrency management system that warns of early deficiencies and annual review of LOS compliance. 2. County expenditures for rehabilitation and reuse as a percent of total expenditures in CIP. 3. Efficient provision of capital improvements by minimizing public expenditures that subsidize development in high hazard coastal area. 4. Expenditure of funds on projects designed to maintain level of service standards.

Policy 10.1.2.3 Encourage efficient provision of capital improvements by minimizing public expenditures that subsidize development in Coastal Planning Area (see Objective 4.3.2).

OBJECTIVE 10.1.9 COASTAL INFRASTRUCTURE: Limiting public investments in the Coastal High Hazard Area to those necessary or those designed to minimize loss of public investment.

Monitoring Measures: 1. Limited expenditure of public funds in the coastal high hazard area based on policies guiding public investment in this area.

Policy 10.1.9.1 Limit expenditures of public funds in the Coastal Storm Vulnerability Area, using Objective 4.3.2 and related policies to guide decision-making on public investment within the Coastal Storm Vulnerability Area.

INTERGOVERNMENTAL COORDINATION ELEMENT

OBJECTIVE 11.1.4 EFFICIENCY IN SERVICE DELIVERY: Maintain a government environment conducive to the efficient and effective provision of services to County citizens.

Policy 11.1.4.1 Continue to meet with the Fire Districts, Cities, Sheriff's Office, Florida Department of Health, American Red Cross and other participating agencies through the Disaster Preparedness Planning Committee (DPPC) to ensure effective coordination during emergency situations.