

## **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 Pasco 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 Pasco 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**

Pasco 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 Pasco County can continue to reduce or eliminate risks from storm surge, flood, wildfire, and sinkhole. These recommendations pertain to the use of vacant lands and/or redevelopment practices. Based on the land use tabulations, most of the vacant acreage is susceptible to flood, sinkholes, and wildfire. For more information about the methodology and data used for the land use tabulations, please refer to Section 2. Hazard Vulnerability in this hazards profile.

Of the vacant lands, 4,408 acres are susceptible to Category 1 storm surge (CHZ), 5,658 acres are susceptible to Category 1 – 3 storm surge (HVZ), 21,412 are susceptible to 100-year flood, 11,009 acres are susceptible to wildfire, and 11,705 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 68% of the 4,408 vacant acres in the Coastal High Hazard Area and 75% of the 5,658 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 limiting densities and intensities in the Coastal High Hazard Area (CHHA) by establishing land uses with the lowest allowable densities and intensities and designating the CHHA on the Future Land Use Map; prohibiting county investments for public infrastructure in the CHHA with few exceptions; requiring development within the Coastal Lands (CL) to preserve open space; and not providing infrastructure to serve private development of offshore islands, coastal swamps, marshlands, and beaches.
- The Comprehensive Plan should continue to require that land development applications in the CHHA address density limitations, be compatible with site development characteristics through use of Planned Unit Development requirements (except for a single dwelling unit), and promote clustering of uses.
- The Comprehensive Plan should continue prohibiting schools in CLs; new expansion of existing mobile home parks and/or recreational vehicle subdivisions; new acute care medical facilities, expansion and renovations of existing hospitals, or facilities that house non-ambulatory persons; or County-funded facilities in the CHHA; and encourage the establishment of facilities for special needs populations (e.g., low to middle income, elderly, and handicapped) outside of the CHHA.
- The Comprehensive Plan should continue to fund improvements to local transportation roadways already shown on the Future Transportation Map or those needed to maintain adequate evacuation capacity, and prohibit publicly funded new bridges linking the mainland to an island or key.
- The County should continue maintaining or reducing an evacuation clearance time of 18 hours through the use of signage; maintaining adequate vehicle capacity; and encouraging capital improvements for critical evacuation routes lacking capacity through coordination with a variety of local, state, and regional government agencies.
- The County should continue minimizing disturbance and protecting natural shoreline resources.
- The County should continue requiring deeds for the sale of land and/or structures in hurricane vulnerable zones; and consider relocation, mitigation, or replacement of infrastructure as deemed needed in the CHHA.
- The County should consider prohibiting the construction of new or expansion of existing bridges linking the mainland to any island or key unless shown on the Future Traffic Circulation Map.
- The County should consider prohibiting new septic tanks and floodproofing 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 requiring that proposed development in the HVZ evaluate the impact that additional traffic will have on evacuation times and that additional population will have on shelter capacity, and not increase evacuation clearance time
- The County should consider coordinating with the MPO to prioritize transportation maintenance and other improvements for critical evacuation routes.
- 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 retrofitting new schools as shelters outside the HVZ, where possible.
- The County should consider using transfer of development rights from areas within the CHHA to areas outside the CHHA to reduce residential and commercial development in surge prone areas.

- The Comprehensive Plan should consider prohibiting the development of nursing homes and adult congregate living facilities, and other high-risk developments inside the CHHA. Building these facilities out of harm's way reduces risk to critical and essential government facilities, and lessens evacuation needs of the special needs population. In addition, the number of evacuees is reduced who are under medical supervision or need medical staff chaperones, potentially reducing hurricane evacuation clearance times.
- The Comprehensive Plan should consider a policy to institute a level of service (LOS) standard for evacuation route capacity that is tied to levels of development or population and/or institute an impact fee in the CHHA or HVZ to help pay for additional road capacity, retrofits required for evacuations, and shelter space.

### *Flood*

About 76% of the 21,412 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 for prohibiting new schools in floodways; and requiring the removal, relocation, or structural modification of structures and infrastructure that have been damaged by a hurricane (e.g., flood).
- The Comprehensive Plan should continue requiring stormwater management policies that establish priorities to correct existing deficiencies which cause flooding on evacuation routes, urbanized areas, rural areas, and new facilities; allocating funds for public drainage projects in areas with a detailed stormwater study prepared; requiring stormwater systems to be designed to decrease velocity and enhance percolation; and requiring that stormwater discharge from new developments be equal or less than pre-development rates.
- The County should continue to develop Interlocal agreements and other arrangements with other jurisdictions and the Southwest Florida Water Management District to ensure coordination on a drainage-basin basis.
- The Comprehensive Plan should continue implementing policies for protecting floodplains and other natural areas which have a beneficial hydrological characteristics through the Flood Damage Prevention Ordinance of the Land Development Code; requiring setbacks, maintenance of natural vegetation, and limitation of impervious surfaces around the designated water bodies and post development wetlands; using existing natural storage areas to minimize the need for artificial drainage facilities; and prohibiting unmitigated encroachment in the 100-year floodplain; and other measures to reduce the risk from flood.
- The County should consider encouraging new developments to demonstrate cluster development to achieve open space to protect floodplains, and minimizing filling low lying areas as a means of meeting minimum flood elevations.
- The County should consider including a policy for reducing future losses through transfers of development right from areas within the 100-year floodplain to areas outside the 100-year floodplain, and impose density and intensity limitations in the 100-year floodplain.
- The County should consider including a policy to not approve variances to required flood elevations.
- The County should consider establishing an impact fee and/or other equitable user-oriented revenue sources for the construction of drainage facilities, either county-wide or in districts of high flooding potential.
- 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 County LMS recommends freeboard

of 1 to 2 feet. Many post-disaster building performance/damage assessments have shown that it is advisable to include freeboard to reduce future flood damages. Okaloosa and Brevard Counties, City of Jacksonville and the Santa Rosa Island Authority are example communities that have adopted freeboard requirements.

- The County should consider requiring that stormwater management planning and construction of capital improvements coincide with stormwater drainage requirements to adequately address growth and development.
- The County should consider requiring that developers incorporate wetland portions of sites within the 100-year floodplain as conservation easements.
- The County should consider requiring that the maintenance and operation of private stormwater systems is funded by private sources.
- 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 94% of the 11,009 vacant acres that are susceptible to wildfire are to be developed for residential, commercial, industrial uses or public facilities, indicating that these risk reduction strategies should be considered prior to development of this vacant land.

- The County should consider participating in the Firewise Medal Community program to reduce risks within the wildland urban interface.
- Where reasonable, consideration should be made to design structures and sites within the County to minimize potential for loss of life and property (e.g., outdoor sprinkler systems, fire-resistant building materials or treatments, and landscaping and site design practices); review proposals for subdivisions, lot splits, and other developments for fire protection needs during site plan review process; coordinate with fire protection service or agencies to determine guidelines for use and development in wildfire-prone areas.
- The County should consider requirement for all new development to include and implement a wildfire mitigation plan specific to that development, subject to review and approval by the County Fire Rescue Department.
- The County should consider increasing public awareness of prescribed burning and require management plans for conservation easements that address reduction in wildfire fuels.

#### *Sinkhole*

About 90% of the 11,705 vacant acres that are susceptible to sinkhole 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 consider implementing policies for reducing risk from sinkholes such as publishing available sinkhole data and providing for consideration of sinkhole risk in land suitability analyses through the review process of land development codes, including stormwater management measures.
- The County should consider coordinating with the Southwest Florida Water Management District to provide technical expertise to the public with regard to sinkhole risks.
- The County should consider possibly requiring new development to demonstrate clustered development to achieve open space to protect aquifer recharge, and prohibiting new stormwater management facilities from discharging untreated stormwater runoff into directly-connected sinkholes or the Floridan Aquifer.

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

*General*

- The Comprehensive Plan should continue 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 continue including a policy to incorporate applicable provisions of the Comprehensive Plan into the Comprehensive Emergency Management Plan (CEMP) and the Local Mitigation Strategy.
- The Comprehensive Plan should continue including a policy to require land development applications to be reviewed for implementation, if appropriate, of provisions contained in the Hazard Mitigation Section of the CEMP.
- Include each hazard layer on the existing and future land use maps to determine where risks are possible to target hazard mitigation strategies.
- Continue educating the public, especially those at high risk from hurricanes, floods, wildfires, and sinkholes, and make them aware of proactive steps they can take to mitigate damage.

**Local Mitigation Strategy Preliminary Recommendations**

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

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

## Table of Contents

1. County Overview.....	1
2. Hazard Vulnerability .....	2
3. Existing Mitigation Measures.....	9
4. Comprehensive Plan Review .....	13
5. Data Sources .....	16
Attachments.....	A-1

## 1. County Overview

### Geography and Jurisdictions

Pasco County is located along the Gulf of Mexico in the western portion of the central Florida peninsula. It covers a total of 868 square miles, of which 744.9 square miles are land and 123.1 square miles are water. There are six incorporated municipalities within Pasco County, as shown in **Table 1.1**. The City of Dade City 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 Pasco County and the percent change from the 2000 U.S. Census are presented in **Table 1.1**. While some residents live in incorporated jurisdictions, nearly 90% live in unincorporated areas of the county. Pasco County has experienced significant population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, Pasco County had a growth rate of 22.6%, which is slightly less than the statewide average of 23.5% for the same time period.

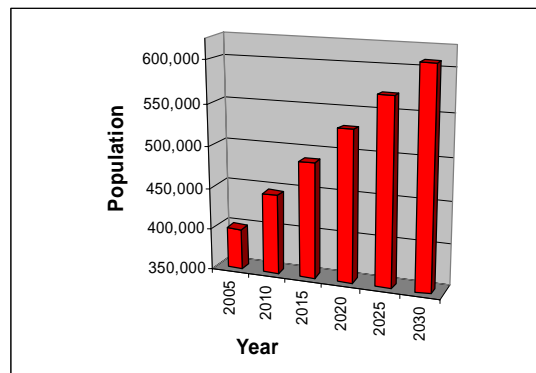
**Table 1.1 Population Estimates by Jurisdiction**

Jurisdiction	Population (Census 2000)	Population (Estimate 2004)	Percent Change 2000-2004	Percent of Total Population (2004)
Unincorporated	307,335	350,110	13.92%	89.82%
Dade City	6,188	6,615	6.90%	1.70%
New Port Richey	16,117	16,334	1.35%	4.19%
Port Richey	3,021	3,167	4.83%	0.81%
Saint Leo	590	894	51.53%	0.23%
San Antonio	684	828	21.05%	0.21%
Zephyrhills	10,833	11,828	9.18%	3.03%
<b>Total</b>	<b>344,768</b>	<b>389,776</b>	<b>13.05%</b>	<b>100.00%</b>

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

According to BEBR (2004), Pasco County's population is projected to grow steadily and reach an estimated 608,700 by the year 2030, increasing the average population density of 523 to 817 persons per square mile. **Figure 1.1** illustrates medium growth population projections for Pasco County based on 2004 calculations.

**Figure 1.1 Population Projections for Pasco County, 2005–2030**



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

Of particular concern within Pasco 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 344,768 persons residing in Pasco County, 26.8% are listed as 65 years old or over, 27.2% are listed as having a disability, 10.7% are listed as below poverty, and 10.3% live in a home where the primary language is other than English.

**2. Hazard Vulnerability**

**Hazards Identification**

The highest risk hazards for Pasco County as identified in the County’s Local Mitigation Strategy (LMS) are flooding; coastal flooding, hurricanes and tropical storms, wildfire, and sinkholes.

**Hazards Analysis**

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

*Existing Population Exposure*

**Table 2.1** presents the population currently exposed to each hazard in Pasco County. Of the 344,768 (U.S. Census 2000) people that reside in Pasco County, 7.1% are exposed to storm surge, 34.8% are exposed to 100-year flooding, 36.5% are exposed to wildfire, and 48.6% are exposed to sinkholes. Of the 119,938 people exposed to flood, 45.5% are disabled and 28.2% are over age 65.

**Table 2.1 Estimated Number of Persons Exposed to Selected Hazards**

Segment of Population	Storm Surge**	Flood	Wildfire	Sinkhole
<b>Total (all persons)*</b>	<b>24,638</b>	<b>119,938</b>	<b>125,899</b>	<b>167,626</b>
Minority	870	6,875	9,915	9,987
Over 65	7,947	33,796	28,253	51,293
Disabled	14,340	54,580	54,491	81,032
Poverty	3,197	11,908	13,703	18,952
Language-Isolated	11,075	16,849	11,751	8,566
Single Parent	1,240	5,835	6,533	9,291

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 Pasco 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 Pasco 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 9 and 19.5 hours to safely evacuate Pasco 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, Pasco County currently has a significant shelter deficit. According to Florida’s Statewide Emergency Shelter Plan, Pasco County has an existing shelter capacity of 23,413 people. The 2004 shelter demand for a Category 4 or Category 5 hurricane is 63,866 people, leaving an existing shelter deficit of 40,454. In 2009, the projected shelter demand is 70,359, leaving an anticipated shelter deficit of 46,947.

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. Pasco 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 Pasco 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 Pasco 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	9,903	63,279	36,485	55,537
Mobile Home	2,094	23,706	15,075	10,895
Multi-Family	3,048	12,033	6,201	6,658
Commercial	828	4,170	2,332	2,752
Agriculture	11	4,145	1,632	467
Gov. / Institutional	107	864	1,685	468
<b>Total</b>	<b>15,991</b>	<b>108,197</b>	<b>63,410</b>	<b>76,777</b>

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 248,384 structures exposed to at least one of the four hazards, of which most are single-family homes in subdivisions. Of these structures, 43.6% are exposed to flood. Over 108,000 structures are located within the 100-year floodplain, of which 14.8% are exposed to storm surge induced flooding. Nearly 62% of the structures exposed to surge are single-family homes, and 19.1% are multi-family homes. Typically, structures exposed to surge are high-value real estate due to their proximity to the ocean such as the Gulf of Mexico. According to the latest National Flood Insurance Program Repetitive Loss Properties list, as of March 2005, there are 485 repetitive loss properties in unincorporated areas of Pasco 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 25%, or 63,410 structures are exposed to wildfire, of which 57.5% are single-family homes. Approximately one-third of its acreage is undeveloped, forested, or pastureland, and as more development occurs adjacent to these areas, the county becomes more susceptible to wildfire at the wildland/urban interface areas. (Pasco County LMS, 2003). Nearly 31% or 76,777 structures are located within sinkholes susceptible areas, of which 72.3% 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. Pasco County future land use data was acquired from Pasco County in March 2003 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 Pasco County future land use map dated March 2003. 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 of Port Richey and New Port Richey, along the western coastline of the county. The total amount of land in the CHZ is 15,002.5 acres. As shown in **Table 2.4**, 31.6% are parks, conservation areas and golf courses; 29.4% are currently undeveloped; 10.7% are used for residential single-family homes; and 9.6% are transportation, communication, and rights-of-way. **Table 2.5** shows that of the 4,408.2 undeveloped acres, 44.6% are designated for residential development with six dwelling units per acre. The County has taken favorable action in designating a portion of vacant acreage in the CHZ for low dwelling density.

In **Attachment B**, two maps present the existing and future land uses within the Hurricane Vulnerability Zone (HVZ), which represents Category 1 to 3 Hurricane Evacuation Zones. The HVZ is predominantly located in the coastal communities of Port Richey and New Port Richey, but are also found in the western portion of the county. The total amount of land in the HVZ is 24,565.4 acres. As shown in **Table 2.4**, 23% are currently undeveloped; 22.8% are parks, conservation areas and golf courses; 19.1% are used for residential single-family homes; and 11.8% are transportation, communication, and rights-of-way. **Table 2.5** shows that of the 5,658.4 undeveloped acres, 44.7% are designated for residential development with six dwelling units per acre. The County has taken favorable action in designating a portion of vacant acreage in the HVZ for low dwelling density.

In **Attachment C**, two maps present the existing and future land uses within a 100-year flood zone. There are flood-prone areas scattered across the County. However, a majority of the large swaths surround the many creeks, streams and tidal wetlands and along the coastline and in central and southern portions of the County. The total amount of land in the special flood hazard area is 174,747.2 acres. As shown in **Table 2.4**, 38% are parks, conservation areas and golf courses; 28% are in agricultural use; 12.3% are currently undeveloped; and 7.6% are used for residential single-family homes. **Table 2.5** shows that of the 21,412.2 undeveloped acres, 22.3% are designated for residential development with six dwelling units per acre. 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 areas are scattered across the County, but are predominately located in the northwest portion of the County. The total amount of land in the wildfire susceptible areas is 56,803.1 acres. As shown in **Table 2.4**, 19.4% are currently undeveloped; 19% are used for residential single-family homes; 16.7% are in agricultural use; and 14.8% are used for residential mobile homes or commercial parking lots. **Table 2.5** shows that of the 11,008.5 undeveloped

acres, 43.6% are designated for residential development with one dwelling unit per acre. The County should continue to take measures to reduce wildfire risk within the urban/rural interface.

In **Attachment E**, two maps present the existing and future land uses within sinkhole susceptible areas. These areas are scattered across the County, with concentrations in or near Port Richey, New Port Richey, Zephyrhills, and Dade City. The total amount of land in the sinkhole susceptible areas is 66,890.9 acres. As shown in **Table 2.4**, 24.2% are used for residential single-family homes; 17.5% are currently undeveloped; 16.7% are in agricultural use; and 10.6% are parks, conservation areas and golf courses. **Table 2.5** shows that of the 11,704.7 undeveloped acres, 33.2% are designated for residential development with six dwelling units per acre.

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

Existing Land Use Category		Coastal Hazard Zone	Hurricane Vulnerability Zone	Flood Zones	Wildfire Susceptible Areas	Sinkhole Susceptible Areas
Agriculture	Acres	204.9	513.2	48,874.7	9,503.3	11,180.2
	%	1.4	2.1	28.0	16.7	16.7
Attractions, Stadiums, Lodging	Acres	3.1	19.6	48.8	92.3	41.2
	%	0.0	0.1	0.0	0.2	0.1
Places of Worship	Acres	51.1	133.3	418.2	329.0	421.8
	%	0.3	0.5	0.2	0.6	0.6
Commercial	Acres	509.4	1,306.1	1,528.2	344.2	2,296.4
	%	3.4	5.3	0.9	0.6	3.4
Government, Institutional, Hospitals, Education	Acres	189.5	403.5	1,879.5	1,650.1	2,409.2
	%	1.3	1.6	1.1	2.9	3.6
Industrial	Acres	49.5	230.3	408.9	186.8	706.5
	%	0.3	0.9	0.2	0.3	1.1
Parks, Conservation Areas, Golf Courses	Acres	4,739.7	5,597.8	66,477.5	8,135.6	7,074.0
	%	31.6	22.8	38.0	14.3	10.6
Residential Group Quarters, Nursing Homes	Acres	22.1	92.1	83.8	45.5	150.5
	%	0.1	0.4	0.0	0.1	0.2
Residential Multi-Family	Acres	207.5	485.8	2,486.1	3,515.6	2,072.4
	%	1.4	2.0	1.4	6.2	3.1
Residential Mobile Home, or Commercial Parking Lot	Acres	457.0	1,219.2	4,605.3	8,395.5	5,389.8
	%	3.0	5.0	2.6	14.8	8.1
Residential Single-Family	Acres	1,602.2	4,695.6	13,207.3	10,780.2	16,205.9
	%	10.7	19.1	7.6	19.0	24.2
Submerged Land (Water Bodies)	Acres	62.4	79.8	466.6	14.0	99.2
	%	0.4	0.3	0.3	0.0	0.1
Transportation, Communication, Rights-Of-Way	Acres	1,442.1	2,901.2	10,267.9	2,430.4	6,340.6
	%	9.6	11.8	5.9	4.3	9.5
Utility Plants and Lines, Solid Waste Disposal	Acres	1,053.8	1,229.5	2,582.2	372.1	798.5
	%	7.0	5.0	1.5	0.7	1.2
Vacant	Acres	4,408.2	5,658.4	21,412.2	11,008.5	11,704.7
	%	29.4	23.0	12.3	19.4	17.5
<b>Total Acres</b>	<b>Acres</b>	<b>15,002.5</b>	<b>24,565.4</b>	<b>174,747.2</b>	<b>56,803.1</b>	<b>66,890.9</b>
	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Department of Community Affairs

**INTEGRATION OF THE LOCAL MITIGATION STRATEGY INTO THE LOCAL COMPREHENSIVE PLAN  
PASCO 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
Agricultural	Acres	0.0	0.0	0.0	0.0	7,444.7	259.3	1,731.3	157.8	2,066.6	109.5
	%	0.0	0.0	0.0	0.0	4.3	1.2	3.0	1.4	3.1	0.9
Agricultural/Rural	Acres	0.0	0.0	0.0	0.0	18,802.1	1,815.1	3,591.6	319.9	3,521.0	393.7
	%	0.0	0.0	0.0	0.0	10.8	8.5	6.3	2.9	5.3	3.4
Coastal Lands	Acres	2,797.1	1,253.5	2,774.1	1,222.3	3,163.8	1,363.2	101.7	68.2	861.6	554.0
	%	18.6	28.4	11.3	21.6	1.8	6.4	0.2	0.6	1.3	4.7
Conservation	Acres	1,000.1	66.7	955.3	80.0	51,059.2	307.9	4,697.1	134.7	826.8	140.9
	%	6.7	1.5	3.9	1.4	29.2	1.4	8.3	1.2	1.2	1.2
Gulf	Acres	445.6	42.4	303.0	62.0	4,280.3	537.5	1.1	0.2	107.0	9.4
	%	3.0	1.0	1.2	1.1	2.4	2.5	0.0	0.0	0.2	0.1
Industrial-Heavy	Acres	343.5	6.2	397.9	25.9	1,218.8	135.3	137.8	36.6	319.0	123.3
	%	2.3	0.1	1.6	0.5	0.7	0.6	0.2	0.3	0.5	1.1
Industrial-Light	Acres	151.1	117.5	459.0	239.2	982.0	423.6	746.6	397.0	931.8	257.0
	%	1.0	2.7	1.9	4.2	0.6	2.0	1.3	3.6	1.4	2.2
Major Attractors	Acres	0.0	0.0	0.0	0.0	88.1	28.1	216.7	14.5	0.0	0.0
	%	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.1	0.0	0.0
Major Recreation/ Open Space	Acres	1,469.8	18.7	1,457.1	15.6	2,452.5	435.2	128.9	4.2	340.9	0.4
	%	9.8	0.4	5.9	0.3	1.4	2.0	0.2	0.0	0.5	0.0
Mixed Use	Acres	0.0	0.0	0.0	0.0	1,480.0	393.2	648.1	181.7	987.1	315.2
	%	0.0	0.0	0.0	0.0	0.8	1.8	1.1	1.7	1.5	2.7
New Town	Acres	0.0	0.0	0.0	0.0	4,127.5	213.8	814.1	74.5	1,012.3	38.3
	%	0.0	0.0	0.0	0.0	2.4	1.0	1.4	0.7	1.5	0.3
Public/Semipublic	Acres	0.0	0.0	0.0	0.0	434.7	0.0	908.2	19.2	1,103.5	16.9
	%	0.0	0.0	0.0	0.0	0.2	0.0	1.6	0.2	1.6	0.1
Residential-1.0 du/ga	Acres	216.2	167.0	218.0	156.3	16,530.9	3,877.0	21,658.3	4,795.0	8,211.0	1,779.4
	%	1.4	3.8	0.9	2.8	9.5	18.1	38.1	43.6	12.3	15.2
Residential-12.0 du/ga	Acres	478.4	174.1	524.8	169.2	783.2	276.2	85.4	24.7	476.2	141.1
	%	3.2	3.9	2.1	3.0	0.4	1.3	0.2	0.2	0.7	1.2
Residential-24.0 du/ga	Acres	192.2	88.3	262.6	103.9	390.8	145.1	44.1	32.1	192.6	85.8
	%	1.3	2.0	1.1	1.8	0.2	0.7	0.1	0.3	0.3	0.7
Residential-3.0 du/ga	Acres	191.5	41.9	237.0	28.3	32,249.5	4,457.7	12,326.9	2,326.7	11,022.3	1,479.8
	%	1.3	1.0	1.0	0.5	18.5	20.8	21.7	21.1	16.5	12.6
Residential-6.0 du/ga	Acres	4,258.2	1,965.4	7,748.8	2,526.5	17,554.4	4,768.9	6,612.1	1,566.1	18,322.2	3,883.0
	%	28.4	44.6	31.5	44.7	10.0	22.3	11.6	14.2	27.4	33.2
Residential-9.0 du/ga	Acres	2,200.5	163.0	6,045.4	356.7	7,300.1	819.9	1,104.2	276.9	10,965.0	1,008.5
	%	14.7	3.7	24.6	6.3	4.2	3.8	1.9	2.5	16.4	8.6
Retail/Office/ Residential	Acres	1,186.9	287.8	3,111.9	657.9	4,138.3	1,100.2	1,249.1	578.5	5,616.9	1,364.8
	%	7.9	6.5	12.7	11.6	2.4	5.1	2.2	5.3	8.4	11.7
Water	Acres	71.3	15.8	70.4	14.7	266.4	55.1	0.0	0.0	6.9	3.6
	%	0.5	0.4	0.3	0.3	0.2	0.3	0.0	0.0	0.0	0.0
<b>Total Acres</b>	<b>Acres</b>	<b>15,002.5</b>	<b>4,408.2</b>	<b>24,565.3</b>	<b>5,658.4</b>	<b>174,747.2</b>	<b>21,412.2</b>	<b>56,803.2</b>	<b>11,008.5</b>	<b>66,890.8</b>	<b>11,704.7</b>
	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Department of Community Affairs

The amount of total land and existing vacant land in identified hazard areas was also tabulated for each of Pasco 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.

The City of Port Richey has the most vacant acres in the Coastal Hazards Zone, as well as the largest proportion of surge prone acres out of its vacant land area. The City of Port Richey has the most acres in the HVZ, as well as the largest proportion of HVZ acres out of its vacant land area. The City of Port Richey 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 New Port Richey has the most acres in the wildfire susceptible areas, but Port Richey has the largest proportion of wildfire susceptible acres out of its vacant land area. Dade City has the most acres in sinkhole susceptible areas, but Port Richey has the largest proportion of sinkhole susceptible acres out of its vacant land area.

Vacant land is often destined to be developed. It is prudent to conduct further analyses of what the vacant lands will be used for, to determine whether they will be populated, and at what level of intensity/density, to ensure that hazard risks are minimized or eliminated. Each of the municipalities in Pasco County has vacant lands that are in hazard areas. Since hazards cross jurisdictional boundaries, it is important to consider all hazard areas to collaboratively formulate hazard mitigation strategies and policies throughout the county.

**Table 2.6 Total Land and Existing Vacant Land in Hazard Areas by Municipal Jurisdiction**

Jurisdiction		Coastal Hazard Zone		Hurricane Vulnerability Zone		Flood Zones		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Dade City	Acres	0.0	0.0	0.0	0.0	439.6	86.1	28.1	0.0	1,095.7	145.8
	%	0.0	0.0	0.0	0.0	100.0	19.6	100.0	0.0	100.0	13.3
New Port Richey	Acres	967.7	124.2	1,968.5	169.7	1,483.8	241.7	103.7	49.5	1,935.0	141.8
	%	100.0	12.8	100.0	8.6	100.0	16.3	100.0	47.7	100.0	7.3
Port Richey	Acres	940.8	275.1	1,286.1	339.7	1,696.3	390.6	17.6	9.4	351.6	56.6
	%	100.0	29.2	100.0	26.4	100.0	23.0	100.0	53.2	100.0	16.1
San Antonio	Acres	0.0	0.0	0.0	0.0	716.5	105.4	0.0	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.0	100.0	14.7	0.0	0.0	0.0	0.0
St. Leo	Acres	0.0	0.0	0.0	0.0	947.2	181.5	0.0	0.0	0.0	0.0
	%	0.0	0.0	0.0	0.0	100.0	19.2	0.0	0.0	0.0	0.0
Zephyrhills	Acres	0.0	0.0	0.0	0.0	239.0	27.6	6.5	0.9	306.1	33.7
	%	0.0	0.0	0.0	0.0	100.0	11.6	100.0	13.8	100.0	11.0
<b>Total Municipal Acres</b>	<b>Acres</b>	<b>1,908.5</b>	<b>399.3</b>	<b>3,254.6</b>	<b>509.4</b>	<b>5,522.4</b>	<b>1,032.8</b>	<b>155.8</b>	<b>59.7</b>	<b>3,688.4</b>	<b>377.9</b>
	<b>%</b>	<b>100.0</b>	<b>20.9</b>	<b>100.0</b>	<b>15.7</b>	<b>100.0</b>	<b>18.7</b>	<b>100.0</b>	<b>38.3</b>	<b>100.0</b>	<b>10.2</b>

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 Pasco County LMS (adopted in 2003) 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 8-51)*

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

**Strengths:**

- Provides information about demographic, income, and housing stock.
- Provides a hazards analysis and a qualitative vulnerability assessment.
- Provides a clear description of geographic areas exposed to each of the hazards.
- Includes maps for each of the hazards, as well as for repetitive loss areas and critical facilities.
- Includes a qualitative risk assessment for each hazard for each jurisdiction (Figure 3-Vulnerability Assessment Table).
- Includes a quantitative risk assessment for flood and wind (i.e., loss estimates).

**Weaknesses:**

- Does not include data for population and property exposure to each hazard.
- 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 map that includes hazard data layers to illustrate which future land use categories are susceptible to each hazard.
- Does not include a quantitative risk assessment for existing and future development (i.e., loss estimates) or specific critical facilities for wildfire and sinkholes.

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 Pasco County LMS Guiding Principles section contains a list of policies for the county and each municipality. Appendix A in the Pasco County LMS includes the goal, objective, analysis/assessment, and implementation mechanisms. 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 Pasco 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.

Goals one through seven and their supporting objectives address pre-and post-disaster planning. Goals eight and nine and their supporting objectives support resource protection. Regulation of new development and redevelopment is addressed through goals 10 through 13 and their supporting objectives.

Goal 1 aims to protect the health, safety and welfare of the public. This goal is supported by objectives striving to: inform and educate the public about potential hazards; encourage homebuyers to research and determine if property is located within a flood prone area; ensure new development and redevelopment complies with all applicable federal, state and local regulations; and provide hurricane shelter for the population at risk.



Goal 2 seeks to promote hazard awareness and education. Objectives supporting this goal include: developing a Hazard Information Library; encouraging homeowners and renters to purchase flood insurance/renters contents insurance (for wind and flood) inside and outside flood zones; educating the public and business/industry about property protection measures, disaster preparedness, evacuation procedures and shelter availability; and to coordinate with Pasco County Utilities Department regarding an educational program for the safe storage and disposal of household and commercial hazardous materials.

Goal 3 pledges to develop mitigation initiatives that protect business and industry. Objectives supporting this goal include minimizing business interruptions through disaster preparedness and education as well as assisting business and industry in the preparation of Hazardous Materials Plans.

Goal 4 encourages economic diversification and development. This is supported through objectives aiming to assist and encourage new economic development and post-disaster redevelopment as well as encourage public-private partnerships.

Goal 5 strives to maintain a high state of preparedness/coordination to mitigate disaster incidents. This can be accomplished through the following objectives: maintain and update (as necessary) the Comprehensive Emergency Management Plan; coordinate emergency evacuation procedures; coordinate inter-jurisdictional resources during recovery efforts; conduct annual updates and revisions to the LMS; and coordinate and prioritize applications for Hazard Mitigation and Flood Mitigation Assistance Program (FMAP) Grants.

Goal 6 aims to develop and implement guidelines for Post-Disaster Redevelopment. This is supported by objectives striving to: expedite Post-Disaster Recovery through the development of a Post-Disaster Recovery Ordinance; enable small businesses to utilize public property in the event of a disaster; advocate property acquisition in repetitive loss areas, substantially damaged areas and for the purpose of ensuring public health, safety and welfare; encourage mitigation initiatives in the Coastal High Hazard Area; establish and implement a plan for long-term temporary housing; request waivers of the normal regulatory barriers for Community Development Block Grant funds to expedite disaster recovery; create and support Community Emergency Response Teams (CERT) that are capable of performing public education, warning and notification, damage assessment and coordination of service delivery into the neighborhoods; develop a Debris Management Plan to handle controlled burns after a disaster; and, if funding is available, land use densities/intensities will be reviewed and amended in disaster-stricken areas.

Goal 7 seeks to establish Pre- and Post-Disaster Mitigation Initiatives (programs and projects) through the LMS. Supporting objectives include: manage public expenditures that encourage new development in the Coastal High Hazard Area to ensure consistency with the local government Comprehensive Plans; encourage capital improvement expenditures for critical evacuation routes; encourage development and implementation of a Stormwater Management Program; utilize project evaluation criteria identified in the Local Mitigation Strategy to determine the ranking of Pre- and Post-Disaster mitigation initiatives; identify and pursue available grant funds and other funding sources for hazard mitigation activities; and provide sufficient shelter space to satisfy in-County demand.

Goal 8 encourages the protection of natural resources. This goal is supported by objectives aiming to: participate with the State in the acquisition of lands and/or development rights for environmental protection; conserve and improve wetlands; protect the functions of natural drainage features and surficial aquifer recharge areas; restrict infrastructure-supporting expansion to offshore islands, coastal swamps, marshlands and beaches; minimize the impacts of Public Facilities and Utilities on the natural environment; and mitigate wetland loss in accordance with the local Comprehensive Plans.

Goal 9 encourages the conservation of historical and cultural resources, which is supported by objectives striving to identify and document historical and cultural resources, as well as to

prioritize funding for Post- Disaster Redevelopment of property that is currently listed on the National Register of Historic Places or eligible for inclusion on the National Register of Historic Places.

Goal 10 encourages the resolution of stormwater quantity and quality problems. Supporting objectives aim to: develop or maintain a Stormwater Management Plan that identifies and recommends solutions to stormwater problems; encourage the creation of a Stormwater Utility for the management of storm drainage; maintain or improve existing drainage systems; require all new development and redevelopment to regulate the rate and volume of storm water runoff; regulate on-site management of stormwater runoff; protect the function of natural drainage features and surficial aquifer recharge areas; and protect and preserve wetlands, floodplains and coastal lands.

Goal 11 pledges to reduce property damage caused by flooding, supported by objectives striving to: elevate all construction above the Base Flood Elevation and 16 inches above the crown of the road, unless an alternative is provided; encourage the provision of one to two feet of free board on all construction for added insurance benefits; identify and correct local flooding conditions; ensure compliance with the National Flood Insurance Program; continue to improve the ratings under the Community Rating System; control development in the 25- and 100-year floodplain; implement substantial damage provisions; and maintain and update the Floodplain Management Plan.

Goal 12 aims to regulate the impacts of new development and redevelopment through code enforcement. Objectives aimed toward achieving this goal include: the prohibition of expansion/placement of mobile home parks/subdivisions in the Coastal High Hazard Area; the prohibition of new development of Critical Care Facilities in the Coastal High Hazard Area; ensuring compliance with the Coastal Construction Code for all construction; to provide and encourage preservation of open space; to preserve and encourage use of native vegetation; ensuring that new development and redevelopment complies with Federal Flood Insurance Regulations; encouraging the inclusion of opening protection standards windows, doors and garage doors; to require lot-grading plans, which address drainage with each building permit; to encourage mitigation for repetitive loss properties; to encourage owners/developers of mobile homes, mobile home parks (subdivisions) and recreational vehicle parks to provide hurricane shelters in clubhouses (outside the Hurricane Vulnerability Zone); and enforcing Wellhead Protection Ordinances.

Goal 13 pledges to regulate and prioritize the construction of critical facilities, supported by objectives aiming to maintain or improve critical evacuation routes as well as prioritize and retrofit existing critical facilities.

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

### **Comprehensive Emergency Operations Plan (CEMP)**

The Pasco County CEMP references the LMS in the Recovery Element. The CEMP notes that all pre-disaster mitigation priorities and projects are generated through the LMS. Post-disaster mitigation priorities consider the LMS analyses and project lists, in addition to damage assessment reports. The CEMP discusses hazard mitigation in the context of standard operating procedures, activities, responsibilities and available programs. This includes the post-disaster implementation of the Hazard Mitigation Grant Program and related disaster mitigation, response and recovery assistance programs, as well as pre-disaster mitigation programs such as the National Flood Insurance Program, Community Rating System, Flood Mitigation Assistance

Program, and the Section 406 Public Assistance Program. A primary activity during the long-term recovery phase is the implementation of the LMS.

Though the identification of mitigation opportunities lies predominately with the County Hazard Mitigation Officer and the Hazard Mitigation Planning Committee, the document lists numerous activities and supporting agencies to assist in supporting mitigation in the County. Following a disaster, preliminary damage assessments are conducted by County departments, municipalities, and the American Red Cross. Each County department is responsible for conducting a public damage assessment of their facilities. The Development Department is responsible for all private damage assessments of housing and businesses. The Facilities Management Department will assess all joint use facilities and assist other departments as needed. Municipalities are responsible for the preliminary damage assessment within their jurisdictions. After all impacted areas have been surveyed, the Hazard Mitigation Planning Committee will identify opportunities and priorities for hazard mitigation within the disaster area(s) and identify possible measures that are eligible for post-disaster funding.

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

#### **National Flood Insurance Program/Community Rating System**

Pasco County and the municipalities of Dade City, New Port Richey, Port Richey, San Antonio, and Zephyrhills participate in the National Flood Insurance Program (NFIP). Pasco County as well as the municipalities of New Port Richey and Port Richey also participates in the NFIP Community Rating System (CRS), each with a CRS rating of eight (8). The municipalities of Dade City, Saint Leo, San Antonio, and Zephyrhills do not currently participate in the CRS program.

### **4. Comprehensive Plan Review**

#### **Purpose and Intent**

The Pasco County Comprehensive Plan (adopted October 2000) was reviewed for the purpose of developing this profile. This review was undertaken in order to assess what steps Pasco County has taken to integrate hazard mitigation initiatives from their Local Mitigation Strategy (LMS) and hazard mitigation initiatives in general, into the local planning process. Each Element of the Plan was evaluated to establish the extent to which the principles from the LMS were incorporated into the objectives and policies of the existing Comprehensive Plan.

#### **Approach**

This review includes an assessment of tropical cyclone generated storm surge, flooding, wildfire and sinkhole hazards. A preliminary list of objectives and policies currently contained in the Plan that pertain to hazard mitigation and any policies related to these hazards is found in **Attachment G**. The following is a discussion of the extent to which the Plan appears to address each of the hazards. Recent policy amendments may not have been available for review, or proposed policies might be in the process of creation, which address these hazards. As a result, this assessment is considered preliminary and subject to input from the local government.

#### **Summary of Findings**

The highest risk hazards for Pasco County as identified in the County's Local Mitigation Strategy (LMS) are flooding, coastal flooding, hurricanes and tropical storms, wildfire, and sinkholes.

Pasco County is a coastal county, so policies in the Coastal Management Element are geared toward managing development and populations inside surge-prone areas. Policies relating to hazard mitigation within the Plan include those relating to flooding, stormwater control and protection, and surge mitigation. There were no policies in the Plan focused on wildfire or sinkhole mitigation and protection measures.

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

### **Storm Surge, Evacuation and Sheltering**

Pasco County has several policies dedicated to sheltering. Policy 3.1.4 of the Coastal Management Element requires the County to develop and maintain adequate shelter space for populations within the Hurricane Vulnerability Zone during a Category 3 hurricane event. Policy 3.1.6 of the CME addresses intergovernmental coordination needs with state, regional, and local emergency response authorities in safe and efficient sheltering and evacuation activities. Finally, Policy 5.2.8 of the Future Land Use Element (FLUE) requires the County to provide shelter capacity to the population at risk within the coastal zone.

According to Florida's Statewide Emergency Shelter Plan, Pasco County had a shelter deficit of 40,454 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.

Additional storm surge mitigation measures include: controlling population densities inside the Coastal High Hazard Area (CHHA) (Objective 5.2 FLUE); limiting public investment in the CHHA (Policy 5.2.2 FLUE); and prohibiting the supply of infrastructure needs to the development of marshes, coastal swamps, off shore islands and beaches (Policy 5.2.4 FLUE).

### **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 several policies directed at minimizing flooding and stormwater runoff, and protecting flood prone areas from potential development impacts. The Plan incorporates development controls in place to minimize the impact of new development within the 100-year floodplain which include: the limitation of development inside the 100-year floodplain (Policy 5.1.4 FLUE). Setbacks are required on the several rivers within Pasco County, including the Anclote, Hillsborough, and Withlacoochee Rivers, and all Outstanding Florida Waters (Policy 2.3.1 Conservation Element (CE)). Also, the Plan enables the Flood Damage Prevention Ordinance to protect floodplains which have beneficial hydrological characteristics. This regulation must include prohibiting new development to have adverse impacts on the 25-year flood plain without mitigation (Policy 2.3.2 CE)

The mitigation of flood waters through stormwater quantity levels are addressed in the Public Facilities Element. This element includes level of service standards limiting the rate of stormwater discharge in accordance to Rule 40D-4 of the Florida Administrative Code (Policy 5.1.2 PFE). Other level of service standards exist in Policies 5.1.3, 5.1.4, and 5.1.7 of the Public Facilities Element. Finally, Objective 6.2 of the PFE requires the development of a comprehensive Stormwater Management Ordinance to include Best Management Practices. The policies that follow this object continue to provide quantifying criteria for the ordinance.

**Wildfire**

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

**Sinkholes**

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

## 5. Data Sources

### County Overview:

Florida Statistical Abstract – 2004 (38<sup>th</sup> 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/](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**

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

**PRE- AND POST- DISASTER PLANNING**

**Goal 1.** Protect the health, safety and welfare of the public.

Objective 1.1. Inform and educate the public about potential hazards.

Objective 1.2. Encourage homebuyers to research and determine if property/parcel is located within a flood prone area.

Objective 1.3. Ensure new development and redevelopment complies with all applicable federal, state and local regulations.

Objective 1.4. Provide hurricane shelter for the population at risk.

**Goal 2.** Promote hazard awareness and education.

Objective 2.1. Develop Hazard Information Library.

Objective 2.2. Encourage homeowners and renters to purchase flood insurance/renters contents insurance (for wind and flood) inside and outside flood zones.

Objective 2.3. Educate the public and business/industry about property protection measures.

Objective 2.4. Educate the public about disaster preparedness, evacuation procedures and shelter availability.

Objective 2.5. Coordinate with Pasco County Utilities Department regarding an educational program for the safe storage and disposal of household and commercial hazardous materials.

**Goal 3.** Develop mitigation initiatives that protect business and industry

Objective 3.1. Minimize business interruptions through disaster preparedness and education.

Objective 3.2. Assist business and industry in the preparation of Hazardous Materials Plans.

**Goal 4.** Encourage economic diversification and development.

Objective 4.1. Assist and encourage new economic development and post- disaster redevelopment.

Objective 4.2. Encourage public-private partnerships.

**Goal 5.** Maintain high state of preparedness/coordination to mitigate disaster incidents.

Objective 5.1. Maintain and update (as necessary) the Comprehensive Emergency Management Plan.

Objective 5.2. Coordinate emergency evacuation procedures.

Objective 5.3. Coordinate inter-jurisdictional resources during recovery efforts.

Objective 5.4. Conduct annual updates and revisions (as deemed necessary) to the Local Mitigation Strategy.

Objective 5.5. Coordinate and prioritize applications for Hazard Mitigation and Flood Mitigation Assistance Program (FMAP) Grants.

**Goal 6.** Develop and implement guidelines for Post-Disaster Redevelopment

Objective 6.1. Expedite Post-Disaster Recovery through the development of a Post- Disaster Recovery Ordinance.

Objective 6.2. Enable small businesses to utilize public property in the event of a disaster.

Objective 6.3. Advocate property acquisition in repetitive loss areas, substantially damaged areas and for the purpose of ensuring public health, safety and welfare.

Objective 6.4. Encourage mitigation initiatives in the Coastal High Hazard Area.

Objective 6.5. Establish and implement a plan for long-term temporary housing

Objective 6.6. Request waivers of the normal regulatory barriers for Community Development Block Grant funds to expedite disaster recovery.

Objective 6.7. Create and support Community Emergency Response Teams (CERT) that are capable of performing public education, warning and notification, damage assessment and coordination of service delivery into the neighborhoods.

Objective 6.8. Develop a Debris Management Plan to handle controlled burns after a disaster.

Objective 6.9. If funding is available, land use densities/intensities will be reviewed and amended in disaster-stricken areas.

**Goal 7.** Establish Pre- and Post- Disaster Mitigation Initiatives (programs and projects) through the Local Mitigation Strategy.

Objective 7.1. Manage public expenditures that encourage new development in the Coastal High Hazard Area to ensure consistency with the local government Comprehensive Plans

Objective 7.2. Encourage capital improvement expenditures for critical evacuation routes.

Objective 7.3. Encourage development and implementation of a Stormwater Management Program.

Objective 7.4. Utilize project evaluation criteria identified in the Local Mitigation Strategy to determine the ranking of Pre- and Post-Disaster mitigation initiatives.

Objective 7.5. Identify and pursue available grant funds and other funding sources for hazard mitigation activities.

Objective 7.6. Provide sufficient shelter space to satisfy in-County demand.

**RESOURCE PROTECTION**

**Goal 8.** Encourage the protection of Natural Resources.

Objective 8.1. Participate with the State in the acquisition of lands and/or development rights for environmental protection.

Objective 8.2. Conserve and improve wetlands

Objective 8.4. Protect the functions of natural drainage features and surficial aquifer recharge areas.

Objective 8.5. Restrict infrastructure-supporting expansion to offshore islands, coastal swamps, marshlands and beaches.

Objective 8.6. Minimize the impacts of Public Facilities and Utilities on the natural environment.

Objective 8.7. Wetland loss shall be mitigated in accordance with the local Comprehensive Plans.

**Goal 9.** Encourage the conservation of historical and cultural resources.

Objective 9.1. Identify and document historical and cultural resources.

Objective 9.2. Prioritize funding for Post- Disaster Redevelopment of property that is currently listed on the National Register of Historic Places or eligible for inclusion on the National Register of Historic Places.

## **REGULATION OF NEW DEVELOPMENT AND REDEVELOPMENT**

**Goal 10.** Encourage the resolution of stormwater quantity and quality problems.

Objective 10.1. Develop or maintain a Stormwater Management Plan that identifies and recommends solutions to stormwater problems

Objective 10.2. Encourage the creation of a Stormwater Utility for the management of storm drainage.

Objective 10.3. Maintain or improve existing drainage systems.

Objective 10.4. Require all new development and redevelopment to regulate the rate and volume of storm water runoff.

Objective 10.5. Regulate on-site management of stormwater runoff.

Objective 10.6. Protect the function of natural drainage features and surficial aquifer recharge areas.

Objective 10.7. Protect and preserve wetlands, flood plains and coastal lands.

**Goal 11.** Reduce property damage caused by flooding.

Objective 11.1. Elevate all construction above the Base Flood Elevation and 16 inches above the crown of the road, unless an alternative is provided.

Objective 11.2. Encourage the provision of one to two feet of free board on all construction for added insurance benefits.

Objective 11.3. Identify and correct local flooding conditions.

Objective 11.4. Ensure compliance with the National Flood Insurance Program.

Objective 11.5. Continue to improve the ratings under the Community Rating System.

Objective 11.6. Control development in the 25- and 100-year floodplain.

Objective 11.7. Implement substantial damage provisions.

Objective 11.8. Maintain and update the Floodplain Management Plan.

**Goal 12.** Regulate the impacts of new development and redevelopment through code enforcement.

Objective 12.1. Prohibit expansion/placement of mobile home parks/subdivisions in the Coastal High Hazard Area.

Objective 12.2. Prohibit new development of Critical Care Facilities in the Coastal High Hazard Area.

Objective 12.3. Ensure compliance with the Coastal Construction Code for all construction.

Objective 12.4. Provide and encourage preservation of open space.

Objective 12.5. Preserve and encourage use of native vegetation.

Objective 12.6. Ensure new development and redevelopment complies with Federal Flood Insurance Regulations.

Objective 12.7. Encourage the inclusion of opening protection standards windows, doors and garage doors).

Objective 12.8. Require lot-grading plans, which address drainage with each building permit.

Objective 12.9. Encourage mitigation for repetitive loss properties.

Objective 12.10. Encourage owners/developers of mobile homes, mobile home parks (subdivisions) and recreational vehicle parks to provide hurricane shelters in clubhouses (outside the Hurricane Vulnerability Zone).

Objective 12.11. Enforce Wellhead Protection Ordinances.

**Goal 13.** Regulate and prioritize the construction of critical facilities.

Objective 13.1. Maintain or improve critical evacuation routes.

Objective 13.2. Prioritize and retrofit existing critical facilities.



**ATTACHMENT G**  
**Pasco County Comprehensive Plan Excerpts Pertaining to Hazard Mitigation**

From the Pasco County Comprehensive Plan (adopted October 2000):

**FUTURE LAND USE ELEMENT**

**Policy 5.1.3** Require the identification of the 100-year flood plain on any proposed development site prior to the issuance of a development order.

**Policy 5.1.4** Limit development within the 100-year flood plain in order to minimize property damage from a 100-year storm event.

**OBJECTIVE 5.2** Control land use densities and intensities in Coastal High Hazard Areas where property damage and potential loss of life due to natural disasters may occur (e.g., hurricanes and floods).

It shall be the policy of Pasco County to:

**Policy 5.2.1** Designate upon a map in the Future Land Use Map series the general location of the Coastal High Hazard Area and limit densities and intensities therein by establishing land uses with the lowest allowable densities and intensities within the area.

**Policy 5.2.2** Prohibit County investments for public infrastructure within the Coastal High Hazard Area except for public recreation, natural and historic resource restoration or enhancement, or other facilities deemed necessary to serve existing development or due to overriding public interest as determined by the Board of County Commissioners.

**Policy 5.2.3** Require that new development within the Coastal High Hazard Area complies with the provisions of the Coastal Zone Reauthorization Amendments of 1990.

**Policy 5.2.4** Provide neither directly nor indirectly infrastructure needed to serve the private development of offshore islands, coastal swamps, marshlands, and beaches.

**Policy 5.2.5** Participate in and coordinate emergency evacuation procedures with the Tampa Bay Regional Planning Council.

**Policy 5.2.6** Require the contiguous clustering of residential development within the CL (Coastal Lands) Land Use Classification through a system of density credit transfers. This system shall operate as described in the Calculation of Residential Densities section in this Element.

**Policy 5.2.7** Require development within the CL (Coastal Lands) Land Use Classification to preserve open space according to the following schedule:

- a. Tracts of 51 acres or more must retain 80 percent open space.
- b. Tracts greater than 20 acres but less than 51 acres must retain 50 percent open space.
- c. Tracts of 20 acres or less are not required to retain open space.

This policy applies to Lots of Record in existence at the time of adoption of this Comprehensive Plan. Property subsequently divided must meet open space requirements applicable to the parcel size of the parent parcel in existence at the time of the Comprehensive Plan adoption. This policy shall not supersede other policies in this Comprehensive Plan.

**Policy 5.2.8** Provide hurricane shelter capacity for the population at risk within the coastal zone in conjunction with the regional hurricane evacuation plan.

**Policy 7.1.1** (in part) Allow public schools in all Future Land Use categories except CL (Coastal Lands), CON (Conservation Lands), and Industrial, proximate to urban residential areas consistent with the following criteria:

- f. The proposed location is not within a velocity flood zone or floodway.

Table 2-3 Coastal Lands land use category:

Appropriate small-scale residential support uses; and appropriate water-dependent, water-related or water-enhanced nonresidential uses.

Intent: To limit land use densities and intensities in Coastal High Hazard Areas where potential property damage and loss of life due to natural disasters exists.

### **CAPITAL IMPROVEMENTS ELEMENT**

**OBJECTIVE 1.5** Prioritization of capital improvement projects in a manner that achieves and maintains adopted level of service standards while protecting the County's investment in existing public facilities.

It shall be the policy of Pasco County to:

**Policy 1.5.3** Encourage efficient provision of capital improvements by limiting public investments that subsidize development in Coastal High Hazard Areas to those necessary or those designed to minimize loss of public investment (see also the Coastal Management Element).

### **COASTAL MANAGEMENT ELEMENT**

**Policy 1.1.3** Require mandatory setbacks around the Anclote, Hillsborough, Pithlachascotee, and Withlacoochee Rivers; Outstanding Florida Waters; Classified Shellfish Harvesting Areas (Class II water); and post development wetlands (i.e., wetland mitigation and natural wetlands). The mandatory setbacks, as defined below, shall generally remain in native vegetation and prohibit the location of impervious surfaces, except to permit consideration of, where appropriate, bona fide agricultural activities, water-dependent uses, storm-management facilities, seawalls and docks, or other activities which do not require the usage of impervious surfaces unless compatible with the Recreation and Open Space or Transportation Elements. The mandatory setbacks are as follows:

- a. A 50-foot setback from the mean annual flood line, as established by the Southwest Florida Water Management District, of the Anclote, Hillsborough, Pithlachascotee, and Withlacoochee Rivers.
- b. A 50-foot setback from the landward most wetland jurisdictional line or the ordinary high water, or mean high water of all areas identified in Section 62, Florida Administrative Code (Outstanding Florida Waters), and Classified Shellfish Harvesting Areas as determined by the Florida Department of Environmental Protection.
- c. Setbacks from the landward most postdevelopment-wetland jurisdictional line associated with any natural water body or wetland not cited in a. or b. above which are required by appropriate State regulatory agencies.

**Policy 1.2.1** Encourage the use of altered, isolated wetlands within the coastal planning area in conjunction with stormwater management plans as a means to limit offsite, stormwater discharge into coastal waters through the development review process as set forth in the Pasco County Land Development Code.

**OBJECTIVE 2.2** Limit density within the Coastal High Hazard Area through limitations on density for property in the Future Land Use Plan, restrictions on extensions of public infrastructure, and implementation of flood damage prevention regulations.

It shall be the policy of Pasco County to:

**Policy 2.2.1** Continue to require that land development applications for proposed development within the Coastal High Hazard Area address density limitations established for the purposes of limiting growth in such areas.

**Policy 2.2.2** Require those land development applications for development within the Coastal High Hazard Area, except for a single dwelling unit, be planned in a specific manner that is compatible with site characteristics through use of the Planned Unit Development requirements of the Pasco County Land Development Code.

**Policy 2.2.3** Promote the clustering of uses for land development projects located within the Coastal High Hazard Area through implementation of the PUD Planned Unit Development requirements of the Pasco County Land Development Code.

**Policy 2.2.4** Prohibit the siting of new or the expansion of existing mobile home parks and/or recreational vehicle subdivisions within the Coastal High Hazard Area.

**Policy 2.2.5** Except for expansions and renovations of existing hospitals, prohibit the siting of acute care medical facilities or any other facilities which house non-ambulatory persons within the Coastal High Hazard Area.

**Policy 2.2.6** Prohibit the generation, storage, or disposal of hazardous waste materials as defined and listed in the Code of Federal Regulations, Title 40, Part 261, and as adopted in Chapter 62-30, Florida Administrative Code, in excess of 100 kilograms per month, within the coastal velocity zone and discourage the same within the Coastal High Hazard Area.

**OBJECTIVE 2.4** Limit public infrastructure expenditures for land development within the Coastal High Hazard Area.

It shall be the policy of Pasco County to:

**Policy 2.4.1** Prohibit the expenditure of County funds for the construction of facilities within the Coastal High Hazard Area which would open up new areas for development. This does not include public recreation, natural and historic resource restoration or enhancement, or other facilities deemed necessary to serve existing development or which are needed due to overriding public interest as determined by the Board of County Commissioners.

**Policy 2.4.2** Construct, improve, or maintain only those local transportation roadways which are existing or are shown on the Future Transportation Map in the Transportation Element, or those roads that are needed to maintain an adequate level of service for evacuation efforts in the event of a natural disaster within the Coastal High Hazard Area.

**Policy 2.4.3** Prohibit publicly funded construction of new bridges linking the mainland to any island or key.

**Policy 2.5.2** By 1998, require that repair and replacement of infrastructure in the coastal area coincide with the demands generated by development activities as reviewed through the concurrency management system (see the Coastal Zone Section of the Future Land Use Element).

**Goal 3.** Ensure the public's safety, health, and welfare by providing adequate warning from natural disasters.

**OBJECTIVE 3.1** Maintain or reduce hurricane evacuation clearance times of 18 hours for an average response scenario within the hurricane vulnerability area.

It shall be the policy of Pasco County to:

**Policy 3.1.1** Develop and implement provisions which will increase the rate of evacuee mobilization, such as clear and readily apparent signage indicating emergency evacuation routes.

**Policy 3.1.2** Maintain adequate vehicle capacity on all identified major evacuation routes and consider additional routes necessary to implement this objective.

**Policy 3.1.3** Encourage capital improvement expenditures for critical evacuation routes lacking adequate capacity to clear the hurricane vulnerability area through coordination between Pasco County Development Services Branch, Office of Emergency Management, and the Board of County Commissioners. Also, the Florida Department of Transportation and the Tampa Bay Regional Planning Council shall be consulted with regard to provision of adequate capacity for critical evacuation routes.

**Policy 3.1.4** Develop and maintain adequate shelter capacity for the population at risk within the Hurricane Vulnerability Zone under a Category 3 hurricane.

**Policy 3.1.5** Participate and sponsor annual hurricane preparedness simulations and to provide general information to the public on evacuation procedures.

**Policy 3.1.6** Coordinate all emergency management activities including evacuation orders with State, regional, and local emergency response agencies to affect a safe and efficient evacuation and sheltering of County residents.

**OBJECTIVE 3.2** Reduce the risks to human life and public and private property from natural disasters through implementation of hazard mitigation measures and post-disaster redevelopment planning within the hurricane vulnerability area as described in the Pasco County Comprehensive Emergency Management Plan.

It shall be the policy of Pasco County to:

**Policy 3.2.1** Inform County residents of areas which have sustained recurring hurricane related damage.

**Policy 3.2.2** Require removal, relocation, or structural modification of damaged structures and infrastructure which have incurred damage from a natural disaster event as determined by the local government but consistent with Federal funding provisions.

**Policy 3.2.3** Prioritize immediate repair cleanup actions and permitting activities following a natural disaster.

**Policy 3.2.4** Implement a post-disaster management plan which includes temporary measures to reduce impacts upon hazard-prone areas.

**Policy 3.2.5** Require that land development applications be reviewed for implementation, if appropriate, of provisions contained in the Hazard Mitigation Section (Annex XIX) of the Comprehensive Emergency Management Plan.

**Policy 3.2.6** Annually update and incorporate applicable provisions of the Comprehensive Plan as amended into the Comprehensive Emergency Management Plan.

**Policy 3.2.7** Minimize the disturbance of natural resources which provide shoreline stabilization and protect landward areas from natural hazards.

**Policy 3.2.8** Discourage the repair or reconstruction of seawalls unless no other alternative shore stabilization techniques are available which afford reasonable property protection.

**Policy 3.2.9** Require that the deeds for the sale of land and/or structures in hurricane vulnerable zones (Evacuation Levels A, B, and C) contain a hurricane hazard disclosure statement.

**Policy 3.2.10** Consider relocation, mitigation, or replacement, as deemed appropriate by local government, of infrastructures presently within the Coastal High Hazard Area when State funding is anticipated to be needed.

**Policy 3.2.11** Incorporate recommendations from existing and future interagency hazard mitigation reports into the Comprehensive Plan during the Evaluation and Appraisal Report process as determined to be feasible and appropriate by the Board of County Commissioners.

**CONSERVATION ELEMENT**

**Policy 2.2.2** Protect areas of high volume recharges by managing quality and quantity of stormwater run-off.

**OBJECTIVE 2.3** Maintain and enhance the quality and quantity of groundwaters and surface waters through utilization of natural resource and land use programs to meet or exceed Chapter 62-3, Florida Administrative Code, Water Quality Standards.

It shall be the policy of Pasco County to:

**Policy 2.3.1** Require mandatory setbacks around the Anclote, Hillsborough, Pithlachascotee, and Withlacoochee Rivers; Outstanding Florida Waters; Classified Shellfish Harvesting Areas; and postdevelopment wetlands (i.e., wetland mitigation and natural wetlands). The mandatory setbacks, as defined below, shall generally remain in native vegetation and prohibit the location of impervious surfaces, except to permit consideration of, where appropriate, bona fide agricultural activities, storm management facilities, water access facilities, seawalls and docks, or other activities which do not require the usage of impervious surfaces unless compatible with the Recreation and Open Space or Transportation Elements. The mandatory setbacks are as follows, as set forth in the Pasco County Land Development Code:

- a. A 50-foot setback from the mean annual flood line, as established by the Southwest Florida Water Management District of the Anclote, Hillsborough, Pithlachascotee, and Withlacoochee Rivers.
- b. A 50-foot setback from the landward most wetland jurisdictional line or the ordinary high water, or mean high water of all areas identified in Section 62-3.041, Florida Administrative Code (Outstanding Florida Waters), and Classified Shellfish Harvesting Areas (Class II) as determined by the Florida Department of Environmental Protection.
- c. Setbacks from the landward most postdevelopment wetland jurisdictional line associated with any natural water body or wetland not cited in a. or b. above which are required by appropriate State regulatory agencies.

**Policy 2.3.2** Protect flood plain and other natural areas which have beneficial hydrological characteristics through the Flood Damage Prevention section of the Land Development Code. Such protection shall include, but not be limited to, prohibiting new development which would have adverse impacts upon the 25-year flood plain without mitigation, other than for roadways providing access across the 25-year flood plain.

**Policy 2.3.6** Require on-site stormwater treatment facilities for new development activities or a development order condition which will address the development's stormwater treatment needs and comply with Chapter 40D-4, Florida Administrative Code.

**HOUSING ELEMENT**

**Policy 6.1.6** Encourage establishment of facilities for very-low, low-, and moderate-income households; the elderly; and handicapped outside the Coastal High Hazard Area.

**PUBLIC FACILITIES ELEMENT**

**Goal 5.** Reduce existing and avoid future flooding problems and improve surface-water quality in Pasco County.

**Level of Service Standards**

**OBJECTIVE 5.1** Establish the following level of service standards for planning capital improvements and reviewing applications for development approval.

It shall be the policy of Pasco County to:

**Policy 5.1.1** Limit the rate of stormwater discharge from new developments to amounts which are equal to, or less than, the rate of discharge which existed prior to development in accordance with the rules of Chapters 40D-4 and 40D-40 administered in the Southwest Florida Water Management District.

**Policy 5.1.2** Regulate the volume of stormwater discharge in accordance with the rules of Chapters 40D-4 and 40D-40 administered in the Southwest Florida Water Management District.

**Policy 5.1.3** Require, at minimum, that on-site drainage facilities for any new project attenuate the stormwater run-off resulting from a 24-hour/25-year storm.

**Policy 5.1.4** Require all new projects be designed and constructed to the Florida Department of Environmental Protection standards contained in Chapter 17-25, Florida Administrative Code.

**Policy 5.1.6** Require the placement of structures or impervious surfaces within the 25-year flood plain be limited commensurate with the ability of the project to adequately mitigate potential flood impact via compensating storage volumes, and with due consideration of potential flood impact upon adjacent properties.

**Policy 5.1.7** Require that net encroachment within the same basin containing the development and the 100-year flood plain be compensated by creation of storage for an equal or greater volume elsewhere within the 100-year flood plain. Any required compensating storage shall be provided above the seasonal high water level and below the 100-year flood stage. The 100-year flood plain areas within and immediately adjacent to a tidally influenced water body (Velocity Zone) shall not be subject to this level of service performance standard.

**Policy 5.1.8** Permit rights-of-way and unused easements to be used for drainage purposes provided this will not cause roadway flooding.

**Policy 5.1.9** Regulate the use of flood plains in accordance with the County Land Development Code and to comply with Federal requirements under the National Flood Insurance Program.

**Policy 5.1.10** Require that all proposed buildings within the 100-year flood plain shall be constructed so that finished floor elevations are at or above the elevation of the 100-year flood, as indicated by the Federal Insurance Rate Map in effect at the time of Building Permit application or as established by site survey.

**Policy 5.1.11** Develop a public-participation, education program by 2000 to provide the general public with input into stormwater-management policies, procedures, and practices.

**Policy 5.1.12** Permit flood plains to be used for conservation, recreation, and open space.

**OBJECTIVE 5.2** Establish criteria to identify, construct, or reconstruct major drainage facilities which will be maintained by Pasco County according to a regular schedule.

It shall be the policy of Pasco County to:

**Policy 5.2.1** Require all new drainageways to use swaled, rather than steep-sided cross sections where possible.

**Policy 5.2.2** Construct or require to be constructed detention/retention basins in accordance with rules and procedures which Pasco County shall prescribe.

**Policy 5.2.6** Require stormwater systems to be designed to decrease velocity, enhance percolation, and allow suspended solids to settle out. This policy shall not be construed to prohibit certain components, such as bridge or culvert crossings, which may increase velocity with no adverse impact on properties upstream.

**Policy 5.2.7** Require dedication of drainage easements by developers in order for the County to have access for maintenance.

**OBJECTIVE 5.4** By 2000, implement 50 percent of the priority recommendations contained in the Pasco County stormwater management plan which provide for improvements to the primary drainage system.

It shall be the policy of Pasco County to:

**Policy 5.4.1** Establish the following general priorities among stormwater improvements as recommended in the Pasco County stormwater management plan:

- a. Correction of existing deficiencies which cause flooding on roadways designated as County evacuation routes.
- b. Correction of existing deficiencies in urbanized areas.
- c. Correction of existing deficiencies in rural areas.
- d. New facilities to be provided concurrently with new development.

**Policy** Solve drainage problems in a systematic and cost-effective manner, utilizing existing rights-of-way and easements supplemented by acquisition.

**Policy 5.4.3** Require regular maintenance of erosion and sedimentation-control devices of all public-and private-drainage systems.

**Policy 5.4.4** Establish routine maintenance of major drainageways whether natural or manmade.

**Policy 5.4.5** Expand the County's Aquatic Weed Control Program Countywide.

**Policy 5.4.6** Fund water-quality monitoring as required by Federal regulations.

**OBJECTIVE 5.5** Pursue stormwater-management techniques which minimize the need for pipes, concrete culverts, or other facilities designed to increase conveyance.

It shall be the policy of Pasco County to:

**Policy 5.5.1** Use natural, water-storage areas for retention, infiltration, and evapotranspiration of stormwater where consistent with other applicable local, State, and Federal regulations.

**Policy 5.5.2** Protect natural-drainage features, such as streams, lakes, wetlands, and estuaries, and the function of these natural features for conveyance, storage, and treatment of stormwater run-off.

**Policy 5.5.3** Use existing natural water-storage systems for run-off, such as bayheads and cypress domes, wherever possible, to minimize the need for artificial drainage facilities.

**OBJECTIVE 5.6** Develop interlocal agreements and other appropriate arrangements with cities, counties, and the Southwest Florida Water Management District to ensure coordination on a drainage-basin basis.

It shall be the policy of Pasco County to:

**Policy 5.6.1** Develop a maintenance schedule in accordance with elements of the Pasco County stormwater management plan so that other governmental entities can organize their maintenance efforts. improvements in Pasco County.

**Policy 5.7.1** Fund the correction of existing deficiencies in major, public-drainage facilities, as referenced in Objective 5.4.

**Policy 5.7.3** Allocate funds for public-drainage projects in areas that have had a detailed, stormwater study prepared. Drainage studies shall define the flooding and water-quality problems, provide a prioritized list of solutions to the problems, and estimate the cost of the necessary improvements.

**OBJECTIVE 6.2** Develop and adopt, by 2000, a comprehensive stormwater management ordinance, including Best Management Practices.

It shall be the policy of Pasco County to:

**Policy 6.2.1** Implement drainage and stormwater management practices which:

- a. Regulate stormwater quality, quantity, and recharge.
- b. Require the use of a detention/retention basin or natural wetland systems as a means of compliance with post-development and predevelopment, stormwater-discharge rates.
- c. Establish specific criteria for shoreline management.
- d. Prevent deprivation of adequate water and nutrients to natural systems.
- e. Establish a program to assign maintenance responsibilities for all stormwater pipe, swale, retention, detention, and management facilities.
- f. Develop criteria for retention/detention facilities and water bodies to ensure mosquito control techniques are employed.
- g. Require the use of retention-basin designs that address soil conditions (percolation capacity), groundwater elevations, and the temporal distribution of rainwater events.
- h. Require that side slopes on all retention/detention basins be stabilized by grass or other means that are acceptable to the County.
- i. Encourage the use of minimum side slopes along the perimeter of wet detention areas such as manmade lakes.
- j. Expand the County's water quality testing capability to include the monitoring of surface waters, the evaluation of stormwater pollution abatement practices, and the provision of vital background data for analysis and detection of water quality problems.
- k. Provide funding for operation and maintenance of County stormwater management facilities.
- l. Discourage the removal of shoreline vegetation and the establishment of bulkheads.