



**Integrating Hazard Mitigation
into Comprehensive Planning**

Wakulla County Profile

Florida Department of Community Affairs

Executive Summary

The experiences of the 2004 hurricane season epitomize the importance of better integrating hazard mitigation activities into local comprehensive planning. Last fall, residents all over the state experienced significant damages from Hurricanes Charley, Frances, Jeanne, and Ivan as a result of winds, tornadoes, surge, and/or flooding. But this was not the only time we have experienced natural disasters, 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 firefighters' best efforts, 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 Wakulla County Profile has been prepared as part of a statewide effort by the Florida Department of Community Affairs to guide local governments in integrating hazard mitigation principles into local Comprehensive Plans. Information provided in this profile will enable planners to (1) convey Wakulla 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 be better integrated into the Comprehensive Plan; and (4) determine if any enhancements could be made to the Local Mitigation Strategy (LMS) to better support comprehensive planning. Best available statewide level data are provided to convey exposure and risk as well as illustrate the vulnerability assessment component of the integration process.

In this profile, guidance is provided on how hazard mitigation can be a part of comprehensive planning through an examination of population growth, the hazards that put the County at risk, the special needs population and structures that could be affected by these hazards, and the distribution of existing and future land uses in different hazard areas. We hope that this analysis will serve as an example of the issues each jurisdiction should consider as they update their plans to include hazard mitigation. The profile also contains a review of the LMS and the Comprehensive Plan. Based on the analysis and review, we were able to develop specific options for the County on how to incorporate more hazard mitigation into the Comprehensive Plan and how to enhance the LMS so that it is also a better tool for local planners.

During our review, we found that Wakulla County had many strengths regarding hazard mitigation in both its LMS and Comprehensive Plan, and these are outlined in the profile. There are always ways to further strengthen such plans, however, and the following is a summary of some of the options that would enable the County to do so.

Currently Wakulla County does not have a State/FEMA approved DMA2K compliant Local Mitigation Strategy. Therefore, the major recommendation for Wakulla County is to complete the plan that is currently in draft form and have all participating jurisdictions adopt it. After this process is completed, the County can work to better integrate hazard mitigation and the Local Mitigation Strategy into their Comprehensive Plan.

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1. County Overview

Geography and Jurisdictions

Wakulla County is located along the southern coast of North Florida. It covers a total of 607 square miles with an average population density of 37.7 people per square mile (U.S. Census, 2000).



There are two incorporated municipalities within the County, and these are listed in **Table 1.1**.

Population and Demographics

Official 2004 population estimates for all jurisdictions within Wakulla County as well as the percent change in population from the 2000 U.S. Census are presented in **Table 1.1**. The most current estimated countywide population of Wakulla County is 25,505 people (University of Florida, Bureau of Economic and Business Research, 2004). The most populated city in Wakulla County is Sopchoppy, but 97.2% of the countywide population lives in the unincorporated portion of the County. Between 1990 and 2000, Wakulla County as a whole had a growth rate of 61.0%, which was almost triple the statewide growth rate of 23.5% in those 10 years.

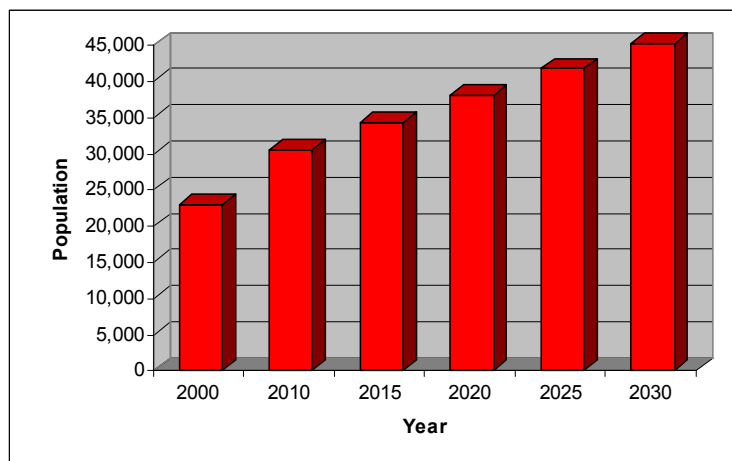
Table 1.1 Population Estimates by Jurisdiction

Jurisdiction	Population, Census 2000	Population Estimate, 2004	% Change, 2000-2004	% of Total Population (2004)
Unincorporated	22,165	24,784	11.8%	97.2%
St. Marks	272	306	12.5%	1.2%
Sopchoppy	426	415	-2.6%	1.6%
Countywide Total	22,863	25,505	11.6%	100.0%

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

According to the University of Florida, Bureau of Economic and Business Research (2004), Wakulla County's population is projected to grow rapidly for the next 25 years, reaching 45,000 people by the year 2030. **Figure 1.1** illustrates medium population projections for Wakulla County based on 2004 calculations.

Figure 1.1 Medium Population Projections for Wakulla County, 2010-2030



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

Of particular concern within Wakulla County’s population are those persons with special needs and/or limited resources such as the elderly, disabled, low-income, or language-isolated residents. According to the 2000 U.S. Census, 10.3% of Wakulla County residents are listed as 65 years old or over, 19.9% are listed as having a disability, 11.3% are listed as below poverty, and 4.3% live in a home with a primary language other than English.

2. Hazard Vulnerability

Hazards Identification

A list of natural hazards that pose a risk for the County as identified in the County’s Local Mitigation Strategy (LMS), is not currently available as the County has not yet completed their LMS. However, based on the presented data in this profile, the following hazards are considered to be a problem for Wakulla County: flooding, storm surge, high winds, tornadoes, wildfire and drought.

Hazards Analysis

The following analysis looks at four major hazard types: hurricanes and tropical storms (specifically surge), flooding, sinkholes, and wildfire. All of the information in this section, except the evacuation and shelter estimates, 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 DMA2K revision project. It was created by Kinetic Analysis Corporation (KAC) under contract with the Florida Department of Community Affairs (FDCA). Estimated exposure values were determined using the Category 3 Maxima Scenario for storm surge, the Federal Emergency Management Agency’s (FEMA’s) designated 100-year flood zones (A, AE, V, VE, AO, 100 IC, IN, AH), levels of concern 5 through 9 for wildfire, and high through adjacent risk zones for sinkholes. Storm surge exposure data are 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>) or your countywide LMS.

Existing Population at Risk

Table 2.1 presents the estimated countywide population at risk from hazards, as well as a breakdown of the sensitive needs populations at risk. The first column in the table summarizes the residents of Wakulla County that live within FEMA Flood Insurance Rate Map zones that signify special flood hazard areas. According to these maps, 31.9% of the population, or 8,145 people, are within the 100-year flood zone. A majority of those at risk of flooding are either elderly and/or disabled. These special-needs citizens require extra planning by local governments to ensure their safety. A total of 4,172 or 16.4% of the entire County would be at risk from surge due to a Category 3 hurricane. Local emergency management officials likely would recommend that all of these residents at risk from surge evacuate or go to a County shelter.

Table 2.1 Estimated Number of Persons at Risk from Selected Hazards

Population	Flood	Sinkhole (high-adjacent risk)	Wildfire (medium-high risk)	Surge
Minority	805	0	0	707
Over 65	1,100	0	0	456
Disabled	3,044	0	0	962
Poverty	852	0	0	596

Language Isolated	0	0	0	0
Single Parent	560	0	0	283
Countywide Total	8,145	0	0	4,172

Source: Florida Department of Community Affairs, 2005a.

Evacuation and Shelters

As discussed in the previous sections, population growth in Wakulla County has been increasing rapidly, and this trend is projected to continue. As the population increases in the future, the demand for shelter space and the length of time it takes to evacuate the County is only going to increase. Currently, evacuation clearance times for Wakulla County are estimated to be 21.25 for Category 3 hurricanes and 22 hours for Category 4 and 5 hurricanes, as shown in **Table 2.2**. These data were derived from 11 regional Hurricane Evacuation Studies that have been produced by FEMA, the U.S. Army Corps of Engineers, and Florida Regional Planning Councils. The study dates range from 1995 to 2004 and are updated on a rotating basis. According to Rule 9J-5, counties must maintain or reduce hurricane evacuation times. Some experts have suggested that counties should try to achieve 12 hours or less clearance time for a Category 3 hurricane. This is due to the limited amount of time between the National Hurricane Center issuing a hurricane warning and when the tropical storm-force winds make landfall. Wakulla County is able to meet this recommendation for now, but with continued growth and the limited road network of the region, it will be difficult to maintain this evacuation time. Additionally, storm events requiring evacuation typically impact larger areas, often forcing multiple counties to issue evacuation orders and placing a greater number of evacuees on the major roadways, further hindering evacuation progress. Thus, it is important to not only consider evacuation times for Wakulla County, but also for other counties in the region as shown in **Table 2.2**.

Table 2.2 County Evacuation Clearance Times in Hours
(High Tourist Occupancy, Medium Response)

County	Hurricane Category				
	1	2	3	4	5
Dixie	6	6	6	6	6
Franklin	5.5	8	8	8	8
Gulf	7	9.75	9.75	10.75	10.75
Jefferson	3.5	3.5	5.25	5.25	5.25
Leon	15.75	23	23	24.5	24.5
Taylor	12	12	12	24	24
Wakulla	13.25	21.25	21.25	22	22

Note: Best available data as of 7/05 Source: State of Florida, 2005
(some counties may be in the process of determining new clearance times)
NA = Not available.

Coupled with evacuation is the need to provide shelters. If adequate space can be provided in safe shelters for Wakulla County residents, then this could be a partial solution to the ever-increasing clearance times for evacuation. Currently, the State Shelter Plan reports that there is space for 650 people in the County's shelters, and there are 107 more people that will need sheltering in the case of a Category 5 hurricane. It is projected that by 2009 the deficit will increase to 250 people in need of space (FDCA, 2004). The County will need to address this deficiency but might also try to decrease the demand for public shelters by encouraging new homes to be built with safe rooms if they are outside of flood and surge zones. Residents who are further inland in the County and not in a flood zone could shelter in place if they had a safe room that could withstand hurricane-force winds. Safe rooms could at least be a last option for residents who cannot evacuate in time, especially in the case of a tornado.

Existing Built Environment

While the concern for human life is always of utmost importance in preparing for a natural disaster, there also are large 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 recover from a disaster. **Table 2.3** presents estimates of the number of buildings in Wakulla County by structure type that are at risk from each of the four hazards being analyzed.

Flooding presents a large risk to property in the County, with 10,810 structures within a flood zone. A majority of those structures are single-family homes, and 20% of the structures are mobile homes. According to the latest National Flood Insurance Program Repetitive Loss Properties list, there are 59 homes in unincorporated Wakulla County that have had flood damage multiple times and received insurance payments but have not remedied the recurring problem (FDCA, 2005). There also are 2,416 structures at risk from surge, as shown in **Table 2.3**.

Table 2.3 also shows 2,134 structures within high to adjacent risk sinkhole areas, with 39% of those structures being single-family homes and 41% being mobile homes. Single-family homes are also at risk from wildfire, with 45.8% of the total 6,375 structures at risk being single-family homes.

Table 2.3 Estimated Number of Structures at Risk from Selected Hazards

Structure Type	Flood	Sinkhole (high-adjacent risk)	Wildfire (medium- high risk)	Surge
Single-Family Homes	4,701	839	2,922	1,142
Mobile Homes	2,170	875	1,109	542
Multi-Family Homes	990	105	381	204
Commercial	692	70	209	216
Agriculture	1,551	39	1,446	245
Gov./Institutional	706	206	308	67
Total	10,810	2,134	6,375	2,416

Source: Florida Department of Community Affairs, 2005a.

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 not only the people and property in a hazard area, but also the probability of occurrence that is necessary to understand the impacts to people and property. 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 in considering where to implement risk reducing comprehensive planning measures.

Analysis of Current and Future Vulnerability

The previous hazards analysis section discussed population and existing structures at risk from flooding, sinkholes, wildfire, and surge according to MEMPHIS estimates. This section demonstrates the County’s vulnerabilities to these hazards spatially and in relation to existing and future land uses. The following maps of existing land use within hazard areas are based on the 2001 geographic information system (GIS) shapefiles from the FEMA FIRM overages, supplied by the University of Florida Geo Plan Florida Geographic Library. Maps of future land uses in hazard areas were developed using the Wakulla County future land use map obtained February 2001.

In **Attachment A**, four maps show the existing and future land uses within the coastal hazard zone (Category 1 storm surge zone) and the hurricane vulnerability zone (Category 1 evacuation

zone). The affected area for the coastal hazard and hurricane vulnerability zones is mostly south of Highway 98. **Table 2.4** presents the number of acres of land in both of these zones. A majority of the land in these two categories is either used for agriculture or parks and conservation. The largest percentage of acreage in these categories is found in parks and conservation, with 60.2% in the coastal hazard zone and 38.7% in the hurricane vulnerability zone. This is very positive for the County since a large portion of these hazard areas are being conserved or have not yet been developed, thereby giving the County opportunities to limit the amount of people needing evacuation or shelter and the amount of property damage that can occur from a hurricane. **Table 2.5** presents future land use estimates and a breakdown of how currently undeveloped land has been designated for future use. For the coastal hazard zone, 28.8% is designated for Urban 1 uses, 14.5% is designated for Urban 2 uses and 16.8% is designated as Rural 1, with only 1.6% of the undeveloped acreage remaining in conservation and 24.9% remaining in Agriculture. For the hurricane vulnerability zones 43.3% of the undeveloped land will remain as designated for agriculture, while 23.5% will be designated as Rural 2, 14.5% as Rural 1 and 12.7% as Urban. This shows that in the recent past, land use amendments have been passed for undeveloped land that would allow more development in the vulnerable coastal zones, thus increasing the risk to the population of Wakulla.

In **Attachment B**, two maps present the existing and future land uses within a 100-year flood zone. The majority of the western portion of the county, the Apalachicola National Forest, is located within the 100-year floodplain, along with the coastal areas of Sopchoppy, Panacea, and Alligator Point. Much of the St. Marks wildlife refuge is located within the 100-year flood plain, along with the areas adjacent to the Wacissa River in the eastern portions of the county. The total amount of land in these special flood hazard areas is 207,936 acres for the unincorporated County. As shown in **Table 2.4**, only 3.8% of these acres are currently undeveloped, with some of the land changed from its previous conservation and agriculture land use designations to designations more conducive to urban and rural development. However, much of the land will remain conserved in both the Apalachicola National Forest and the St. Marks Wildlife Refuge. **Table 2.5** shows that 77.8% of the flood prone acres are designated for conservation and 15.5% is designated for agricultural uses, with just under 7% of the total acres within the flood zone allowed for development.

In **Attachment C**, maps present the land uses associated with high-risk wildfire zones. There are a few patches of wildlife susceptible areas throughout the county, with the majority located in the eastern portions of Wakulla County. A total of 4.6% of the land within these wildfire zones is currently vacant, as shown in **Table 2.4**. Of those 211.8 undeveloped acres, 59.1% is shown to be designated for rural or urban uses in the future (**Table 2.5**). If homes are built in these risk areas, Wakulla County's vulnerability to wildfire hazards will greatly increase. Currently only 3.3% of the wildfire susceptible areas already have residential land uses designations, as seen in **Table 2.4**. Large-lot residential development is the most at risk since these homes typically are surrounded by wooded lots and often do not have enough defensible space to stop a wildfire from spreading throughout the neighborhood.

Attachment D includes maps of potential sinkhole areas in the County. Most of the central and eastern portions for the county are at risk for sinkholes due to the karst foundation of the area. Again, though, a large portion of the sinkhole hazard area is being used for parks and conservation, 8.9%, or agriculture, 43.0%, with 25.5% of the land currently vacant (**Table 2.4**). There are also 1,201.6 acres, or 9.1% of the potential sinkhole area, in single family residential and 10.4% (1,373.2 acres) currently in residential mobile home use, however. Of the undeveloped land at risk, 84.2% of 3,375 acres, is designated for future use as either rural or urban use as seen in **Table 2.5**. This means that the potential persons and property will increase in the future.

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

INTEGRATION OF THE LOCAL MITIGATION STRATEGY INTO THE LOCAL COMPREHENSIVE PLAN

WAKULLA COUNTY

Existing Land Use Category		Coastal Hazard Zone	Hurricane Vulnerability Zone	Flood Zones	Wildfire Susceptible Areas	Potential Sinkhole Areas
Agriculture	Acres	33,536.5	90,993.6	28,359.6	2,054.7	5,697.4
	%	29.2	41.1	13.6	45.0	43.0
Attractions, Stadiums, Lodging	Acres	4.0	4.5	3.6	0.0	0.7
	%	0.0	0.0	0.0	0.0	0.0
Places of Worship	Acres	34.6	147.8	14.3	10.0	57.5
	%	0.0	0.1	0.0	0.2	0.4
Commercial	Acres	148.0	513.2	80.0	0.0	61.8
	%	0.1	0.2	0.0	0.0	0.5
Government, Institutional, Hospitals, Education	Acres	539.9	1,981.0	1,203.4	38.8	59.5
	%	0.5	0.9	0.6	0.8	0.4
Industrial	Acres	184.6	211.6	123.5	15.6	10.3
	%	0.2	0.1	0.1	0.3	0.1
Parks, Conservation Areas, Golf Courses	Acres	69,286.2	85,625.2	165,680.2	2,017.1	1,177.5
	%	60.2	38.7	79.7	44.1	8.9
Residential Group Quarters, Nursing Homes	Acres	1,316.4	1,326.9	1,320.4	5.1	0.0
	%	1.1	0.6	0.6	0.1	0.0
Residential High-Density	Acres	93.9	96.8	0.0	0.0	0.0
	%	0.1	0.0	0.0	0.0	0.0
Residential Low-Density	Acres	985.4	4,249.9	0.0	8.9	0.0
	%	0.9	1.9	0.0	0.2	0.0
Residential Medium-Density	Acres	268.6	561.3	0.0	1.1	0.0
	%	0.2	0.3	0.0	0.0	0.0
Residential Multi-Family	Acres	968.6	1,460.2	871.2	45.3	163.9
	%	0.8	0.7	0.4	1.0	1.2
Residential Mobile Home, or Commercial Parking Lot	Acres	582.7	4,268.7	736.3	53.3	1,373.2
	%	0.5	1.9	0.4	1.2	10.4
Residential Single-Family	Acres	1,016.3	5,045.6	1,202.3	36.3	1,201.6
	%	0.9	2.3	0.6	0.8	9.1
Submerged Land (Water Bodies)	Acres	166.1	243.7	0.0	1.6	0.0
	%	0.1	0.1	0.0	0.0	0.0
Transportation, Communication, Rights-of-Way	Acres	637.8	1,346.9	368.1	62.2	53.7
	%	0.6	0.6	0.2	1.4	0.4
Utility Plants and Lines, Solid Waste Disposal	Acres	49.3	74.7	53.3	8.5	2.7
	%	0.0	0.0	0.0	0.2	0.0
Vacant	Acres	5,183.3	23,172.0	7,920.7	211.8	3,375.6
	%	4.5	10.5	3.8	4.6	25.5
Total Acres	Acres	115,002.2	221,323.6	207,936.9	4,570.3	13,235.4
	%	100.0	100.0	100.0	100.0	100.0

Table 2.5 Total and Undeveloped Acres in Hazard Areas by Future Land Use Category for the Unincorporated County

Future Land Use Category		Coastal Hazard Zone		Hurricane Vulnerability Zone		Flood Zones		Wildfire Susceptible Areas		Potential Sinkhole Areas	
		Total	Undev.	Total	Undev.	Total	Undev.	Total	Undev.	Total	Undev.
Agriculture	Acres	28,607.0	1,003.9	85,698.5	10,027.6	32,146.3	3,082.2	2,241.8	68.2	3,950.3	514.3
	%	24.9	19.4	38.7	43.3	15.5	38.9	49.1	32.2	29.8	15.2
Conservation	Acres	66,327.2	83.8	74,544.2	157.2	161,805.0	121.3	1,268.5	3.8	770.7	16.7
	%	57.7	1.6	33.7	0.7	77.8	1.5	27.8	1.8	5.8	0.5
Industrial	Acres	1,651.9	449.4	1,902.7	464.1	1,304.8	281.8	114.1	14.5	0.0	0.0
	%	1.4	8.7	0.9	2.0	0.6	3.6	2.5	6.8	0.0	0.0
Rural 1	Acres	11,521.5	869.2	26,076.6	3,367.6	5,808.2	1,196.9	446.1	27.0	2,394.9	607.7
	%	10.0	16.8	11.8	14.5	2.8	15.1	9.8	12.7	18.1	18.0
Rural 2	Acres	2,574.6	556.0	21,975.1	5,445.3	3,116.3	808.6	324.4	4.5	5,007.2	1,563.6
	%	2.2	10.7	9.9	23.5	1.5	10.2	7.1	2.1	37.8	46.3
Urban 1	Acres	2,720.0	1,467.5	9,528.3	2,937.5	2,446.9	1,566.1	170.1	90.7	775.8	462.4
	%	2.4	28.3	4.3	12.7	1.2	19.8	3.7	42.8	5.9	13.7
Urban 2	Acres	1,600.0	753.5	1,598.0	772.7	1,309.3	863.9	5.3	3.1	336.4	210.9
	%	1.4	14.5	0.7	3.3	0.6	10.9	0.1	1.5	2.5	6.2
Total	Acres	115,002.2	5,183.3	221,323.3	23,172.0	207,936.8	7,920.7	4,570.3	211.8	13,235.4	3,375.6
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2.6 presents the total numbers of acres in a hazard zone in Wakulla County’s incorporated areas and how many of those acres are currently undeveloped. Both St. Marks and Sopchoppy are subject to surge or within the Category 1 evacuation zone, however 77% of these acres at risk are not yet developed. It also has the most acres within a flood zone, and only 3.2% of those are currently vacant. St. Marks has the most acres of any of the incorporated areas susceptible to wildfire. St Marks contains the largest portion of land within the floodzone (92.2%) with approximately a third of the land (27.9%) still vacant. By working with the County on drainage projects and structure mitigation, they may be able to decrease the vulnerability in the already developed acres.

Table 2.6 Total and Vacant Incorporated Acres in Hazard Areas

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
Sopchoppy	Acres	667.5	298.1	661.4	295.8	92.1	22.1	2.0	0.0	0.0	0.0
	%	36.7	44.7	36.4	44.7	7.8	24.0	5.7	0.0	0.0	0.0
St. Marks	Acres	1,151.0	370.3	1,153.4	370.1	1,086.6	303.0	33.0	2.0	0.0	0.0
	%	63.3	32.2	63.6	32.1	92.2	27.9	94.3	6.1	0.0	0.0
Total Acres	Acres	1,818.4	668.3	1,814.9	665.9	1,178.6	325.0	35.0	2.0	0.0	0.0
	%	100.0	36.8	100.0	36.7	100.0	27.6	100.0	5.7	0.0	0.0

3. Existing Mitigation Measures

Local Mitigation Strategy

The LMS is an ideal repository for all hazard mitigation analyses, policies, programs, and projects for the County and its municipalities due to its multi-jurisdictional and intergovernmental nature. The LMS identifies hazard mitigation needs in a community and structural or non-structural initiatives that can be employed to reduce community vulnerability. Communities can further reduce their vulnerability to natural hazards by integrating the LMS analyses and mitigation objectives into their Comprehensive Plans.

An LMS prepared pursuant to the State's 1998 guidelines has three substantive components (FDCA, 2005b):

Hazard Identification and Vulnerability Assessment (HIVA). 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 the community is susceptible to. According to FEMA, LMSs 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, 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 monetary 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. The Guiding Principles typically contain 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 Post-Disaster Redevelopment Plans (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 LMS Goals and Objectives will guide the priority of the mitigation initiatives.

Hazard Identification and Vulnerability Assessment

The Wakulla County LMS is not available for review as it has not been completed.

Guiding Principles

The Wakulla County LMS is not available for review as it has not been completed.

LMS Goals and Objectives

The LMS Goals and Objectives can be found in **Attachment E**. The goals and objectives are also summarized in **Section 5** as part of the recommendations analysis. The following is a

summary of how well the LMS has addressed mitigation issues that coincide with planning concerns.

The Wakulla County LMS is not available for review as it has not been completed.

Comprehensive Emergency Management Plan

The Mitigation Annex of the 2002 Wakulla County CEMP was reviewed for consistency with the other plans and evaluated in its effectiveness as a tool for planners. The Annex does a good job of summarizing the responsibilities of hazard mitigation among the different agencies and organizations within the County. It also provides an overview of the LMS process as well as participants. The CEMP lists the Wakulla Sheriff's Office, Division of Emergency Management Director as the LMS Chairperson, with the following entities playing a key role in the mitigation process: the planning commission, the Community Development Department and Board of County Commissioners. The CEMP has a great section on mitigation policy suggestions. It recommended the following broad ideas as ways to mitigate against future impacts through policy: Limit development in highly vulnerable areas through zoning, subdivision regulations and land and property acquisition; Create disincentives for development in highly vulnerable areas through impact fees and restriction of public facilities; Improve building/construction code compliance; Protect natural coastal and wetland environments; Prepare for more efficient recovery and reconstruction; and Adopt or participate in public education programs. All of these broad concepts were followed by detailed descriptions and suggestions. The risk assessment of the CEMP was not reviewed, however, it is suggested that this section be updated on a regular basis to be consistent with the risk assessment of the LMS.

Post-Disaster Redevelopment Plan

A PDRP for Wakulla County was not available for review at the time this profile was drafted. If Wakulla County has a current PDRP, this will be obtained and reviewed for the final version of this document.

National Flood Insurance Program/Community Rating System

Wakulla County, the City of Sopchoppy and the Town of St. Marks are all participating communities in the National Flood Insurance Program. In addition, Wakulla County and St. Marks both participate in the Community Rating System and have a current class of 9.

4. Comprehensive Plan Review

Wakulla County's Comprehensive Plan (adopted in 2001) was reviewed in order to see what the County has already done to integrate their LMS policies, and hazard mitigation in general, into their planning process. A list of the goals, objectives, and policies currently in the plan that contribute to hazard mitigation is found in **Attachment F**. These policies are also presented in **Section 5**. The following is a summary of how well the plan addressed the four hazards of this analysis.

Coastal Hazards

Wakulla County's Comprehensive Plan has many policies considered to be best management practices for mitigating hurricane and coastal surge impacts. There are several policies that limit development in the Coastal High Hazard Area (CHHA) through the restriction of public services and the allowance of cluster development. Transfer of Development Rights is also provided as an option to redirect populations away from the CHHA. Through the Comprehensive Plan, the county also enforces applicable state and FEMA standards regarding the design and construction of structures located in the CHHA. The plan also has a list of programs and activities aimed at

directing population concentrations away from the CHHA, including the redirection of public infrastructure and facilities away from areas exposed to risk, when feasible.

The Comprehensive Plan lists several policies dealing with hurricane evacuation planning. All evacuation routes must be designed to ensure that travelers will remain out of the 100-year floodplain through elevation of roadways. Also, all land use rezoning and amendments to the Future Land Use Map must consider the nature of the proposed amendment and its relationship to hurricane evacuation needs and conditions. Furthermore, land use changes are prohibited in Category 3 Hurricane Vulnerability Zones unless certain requirements are met. The plan also states its intention to prepare a Post Disaster Redevelopment Plan and maintain all evacuation clearance times.

The plan includes provisions for incorporating hurricane evacuation planning into the Capital Improvements Element (CIE), which shows the community's support for the integration of hazard planning into the comprehensive planning process. Policies are included to incorporate the Peacetime Emergency Plan as well as the evacuation analysis into the CIE.. Additionally, priority is given to projects on the Capital Improvements Project List that eliminate an imminent threat to the health or safety of the public.

Flooding Hazards

Flooding was addressed in the Comprehensive Plan in multiple policies. Policies are also included aimed at protecting the function of natural drainage features, limit structures within the floodway and preserve riverbanks and shorelines in the floodway. There is a policy to develop and implement a stream and bank stabilization program to minimize erosion. The plan also contains a policy to revise the Land Development Codes to conform to FEMA standards with respect to the construction of building in the floodplains, design and construction of utilities and the preservation of identified floodways. The plan states that areas subject to repeated damage will be identified and redevelopment in these areas will be limited. As with development within coastal areas, the Comprehensive Plan encourages the use of TDR and cluster development to redirect populations out of the floodway. Furthermore, the plan restricts development that does not conform with NFIP standards as well as the allowance of development that requires storm management permits from the DEP.

Wildfire Hazards

There were no policies in the Comprehensive Plan that related to wildfire hazards. An objective to conserve fresh water supplies indirectly relates to having sufficient water to put out a wildfire.

Sinkhole Hazards

No policies were found during this review that directly related to sinkhole hazards.

5. Recommendations

For the LMS to be effective in the decision-making process of growth management, its objectives and policies must be integrated into the Comprehensive Plan. The Plan is the legal basis for all local land use decisions made. If hazard mitigation is to be accomplished beyond the occasional drainage project, these hazards must be addressed in comprehensive planning, where development can be limited or regulated in high-risk hazard areas just as sensitive environments are routinely protected through growth management policies. Mitigation of hazards is considerably easier and less expensive if done when raw land is being converted into development. Retrofitting structure and public facilities after they have been built is significantly more expensive. However, if older neighborhoods or communities are scheduled to be revitalized

or redeveloped, hazard mitigation needs to be an aspect considered and integrated into the project prior to the time of development approval.

Wakulla County has begun this process of integrating hazard mitigation throughout its Plan's elements. The prior section summarized how the major hazards for the County have been for the most part well-addressed. There is, however, still some disconnection between the LMS objectives and initiatives, and the policies in the Comprehensive Plan. By tightening the connection between these documents, the County will find it easier to implement hazard mitigation, and there will be higher awareness of these issues within more departments of the County government. **Table 5.1** presents options for further integration as well as the basis for these recommendations.

NOTE: The recommendations set out in this section are only suggestions. Through the workshop process and contact with the local governments, the goal of this project is to result in specific recommendations tailored and acceptable to each county. While the profile addresses hurricanes, flooding, wildfire, and sinkholes, the County should consider other hazards, if appropriate, such as tornadoes and soil subsidence, during the update of the local Comprehensive Plan.

General Recommendations

- The County should first complete the update to their Local Mitigation Strategy according to the federal guidelines contained in the Disaster Mitigation Act of 2004. Currently, Wakulla County and its incorporated municipalities (Sopchoppy and St. Marks) does not have a State/FEMA approved DMA2K LMS. The LMS is necessary in order to obtain FEMA funding for mitigation projects through the Hazard Mitigation Grant Program and the Pre-Disaster Mitigation Grant Program. Wakulla County received extensive damages during the recent Hurricane Dennis, and will be eligible for upcoming HMGP funding for this disaster declaration, however without a State/FEMA approved and locally adopted LMS, the county will not be able to receive the funding.
- Upon completion of the LMS, all three jurisdictions must adopt the LMS by resolution in order to be considered participating members, eligible for funding.
- Consult the Mitigation Annex of their CEMP for locally conceived mitigation ideas. This plan contains many mitigation ideas and discusses their political feasibility in Wakulla County.
- Create a policy in both their LMS Comprehensive Plan aimed at business owners to educate them on the risks they face, as well as ways to plan for and mitigate disaster impacts. This is especially important for local business owners in the St. Marks and Panacea area who received extensive damages to their restaurants and shops during Hurricane Dennis. It is important to ensure that this is listed as an initiative on the LMS project list in order to obtain possible funding for this program
- Create a public education outreach program by the way of a policy in both their LMS and Comprehensive Plan aimed at educating local seasonal residents of the risks they face as well as provide ways to plan for mitigate disaster impacts. This is especially important in the Alligator Point area. Alligator Point is a peninsula located along the western coast of the county that is a popular place for seasonal beach homes. As mentioned above, it is important to ensure that this project is listed as an initiative on the LMS project list as well, in order to obtain possible funding for this program
- Revise the Comprehensive Plan with regards to its use of Transfer of Development Rights and special density bonuses to reflect that it may also be used to mitigate the impacts of hazards through the creation of open space and buffers. Currently the plan emphasizes its use for

threatened or endangered species habitat identification and preservation, however this tool could also be used for to mitigate wildfire, flooding and coastal storm impacts.

Coastal Hazards

-- Include an initiative in the LMS to educate homeowners of the construction of safe rooms. As mentioned in the analysis, the County is growing rapidly and shelter capacity deficits already exist. With rapid the influx of people into the community an influx in residential development, can also be expected. It is important to educate homeowners, especially those in the CHHA, of the importance of safe rooms as an alternative to evacuation out of town or to shelters.

-- Include a policy in the Comprehensive Plan to require conservation easements for wetlands, floodplains, beaches, and dune systems. This could be facilitated through a land acquisition program funded through either non-profit or public organizations.

Wildfire Hazards

-- Create a policy in the Comprehensive Plan to update the Land Development Regulations for the County to include wildfire mitigation principles, such as defensible space buffering surrounding development or multiple exits for large development. This could also include provisions for vegetation maintenance and the required removal of exotic vegetation or land cover that could be conducive to wildfire. As mentioned in the analysis, 59.1% of currently undeveloped land located within wildfire susceptible areas is shown to be designated for rural or urban uses in the future. It is important to consider these changes prior to the development of this land.

Flooding Hazards

-- With Wakulla County growing at such a rapid rate (61% population change from 1990-2000), it can be expected that this area will be targeted for large scale developments, similar to other counties in North Florida. The county should create a comprehensive plan policy to update their Land Development Codes with regards to Planned Unit Developments and subdivisions, taking into consideration possible set-backs and buffers in order to mitigate flooding hazards in the community.

-- Create buffer zones around preservation areas such as the St. Marks Wildlife Refuge and the Apalachicola State Forest, as well as other major drainage features, in order to ensure that the flooding of these areas does not impact surrounding developments.

Sinkhole Hazards

-- Create a policy in the Comprehensive Plan to update the Land Development Regulations for the County to include sinkhole mitigation principles, such as the restriction of development through overlay districts or the requirement of geotechnical testing prior to the issuance of building permits. This could also include provisions for cluster development in order to preserve those areas highly susceptible to sinkholes as open space, while allowing surrounding areas to be developed at a higher density. When creating these clustered developments however, buffer zones between the sinkhole prone areas and development should be established. As mentioned in the analysis 84.2% of 3,375 acres of the undeveloped land susceptible to sinkhole hazards, is designated for future use as either rural or urban use, indicating that these provisions should be taken before the development of this vacant land.

6. Sources

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Attachment A

**Maps of the Existing and Future Land Uses within the
Coastal Hazard Zone and the Hurricane Vulnerability Zone**

Attachment B

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

Attachment C

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

Attachment D

**Maps of the Existing and Future Land Uses
within Potential Sinkhole Hazard Areas**

Attachment E

**Wakulla County Local Mitigation Strategy
Goals and Objectives**

Not available at this time.

Attachment F

Wakulla County Comprehensive Plan Excerpts Related to Hazard Mitigation

Future Land Use Element

Policy 1.2.

The Future Land Use Map and the Land Development Codes adopted to implement this Comprehensive Plan shall be based on and be consistent with, the following land use classifications and density standards:

1.2.6. *Urban-2 (Urban Services).*

(3) *Density/Intensity Limitations.*

- (b) Within the coastal high-hazard area, development shall be permitted at densities not to exceed four (4) units per acre in areas where central water and sewer (including package plants) are available, and one unit per acre where not available. This allows for rearrangement of lots and clustering without substantially increasing the overall additional level of development.

1.2.9. *Sustainable Community.*

(3) *Density/Intensity Limitations*

- (b) Within the coastal high-hazard area, residential development shall be permitted at densities not to exceed four (4) units per acre in areas where central water and sewer (including package plants) are available.

Policy 5.6.

Proposals for development shall not be approved by the County if the proposed development is inconsistent with performance standards regulating development within designated conservation land use areas as defined in the Land Development Code.

- (1) Clustering is an approved method of achieving the intent of this policy.
- (2) For upland clustering, additional density may be allowed for preservation of riverine, floodplain, or wetland areas.
- (3) Transfer development rights and special density bonuses for threatened or endangered species habitat identification and preservation may be employed.
- (4) The maximum overall density shall be governed by this Future Land Use Element.

Infrastructure Element

OBJECTIVE 2.3: The County will ensure the protection of the functions of the natural drainage system by requiring all improvements to meet stormwater management standards pursuant to Rule 62-40.432, F.A.C., on Surface Water Protection and Management, affecting preservation of such natural drainage features.

2.3.1. No development will be permitted except in conformance with local regulations meeting standards of the National Flood Insurance Program. No development requiring stormwater management permits from the DEP will be permitted unless such permits have been issued.

OBJECTIVE 2.4: The County will revise its land development regulations to incorporate techniques for conservation of potable water.

2.4.1. New development will be required to identify sources of water for non-potable use so as to preserve potable water for activities requiring water which meets drinking water standards. Large developments (such as DRI's and FQD's) shall include separate irrigation water distribution systems, and shall utilize treated effluent for irrigation purposes where the project also includes a treatment plant capable of providing treated effluent under applicable state standards.

Goals, Objectives and Policies Coastal Management Element

GOAL: TO MANAGE DEVELOPMENT ACTIVITIES WITHIN THE COASTAL AREA SO AS TO PROTECT COASTAL RESOURCES, TO PROTECT HUMAN LIFE, AND TO LIMIT PUBLIC EXPENDITURES IN AREAS SUBJECT TO DESTRUCTION BY NATURAL DISASTERS. THE INTENT OF THE OBJECTIVES AND POLICIES IN THE ELEMENT INCLUDE A MEANS TO ASSESS THE ADEQUACY OF THE PLAN IN REGULATING LAND USES AND DEVELOPMENT AND TO PROVIDE THE COUNTY WITH GUIDANCE IN THE CREATION OF STANDARDS AND GUIDELINES TO MEET IDENTIFIED NEEDS.

Policy 1.6. The County shall include in its planning and design of public infrastructure projects, a review of the impacts by such proposals on coastal wetlands and wildlife habitats, and shall include mitigation at a two to one ratio of identified adverse impacts in project specifications. Structures which constrict or divert the flow of waters in rivers and bays shall not be permitted. The County shall initiate a program of activities to protect living marine resources and maintain estuarine environmental quality by improving water quality. New or substantially modified structures shall not constrict or divert the natural flow of water or floodwater.

- (1) The program of activities to protect living marine resources and estuarine environmental quality may include, but is not limited to the following:
 - (a) Special development conditions such as requiring that post-development runoff from a site shall not exceed peak pre-development runoff rates;
 - (b) Transferable development rights from estuarine areas or areas within the CHHA (Category One Hurricane Hazard Area) to land outside such areas;
 - (c) Additional development review criteria which requires environmental assessment studies to determine long-range effects on marine resources for development proposals within a designated CHHA or adjacent estuarine or marine resource areas.

OBJECTIVE 2: The County shall limit exposure of its citizens to risk from hurricanes by implementing the following policies:

- (A) The County shall revise its land development codes and procedures to establish and enforce development and construction standards, as provided in the following policies.

Policy 2.1. The County shall enforce applicable state and FEMA standards regarding the design and construction of structures located, and mobile homes placed or replaced, within the coastal high-hazard area. In addition, the County will discourage high density growth in the coastal high hazard zone by reviewing the impacts of higher density development on evacuation times and facility capacity.

Policy 2.2. The County shall revise its land development codes to conform to standards of the Federal Emergency Management Agency (FEMA) with respect to the construction of buildings in the floodplains, the design and construction of utilities (including septic tanks and sanitary sewer systems) in floodplains, and the preservation of identified floodways.

Policy 2.3. The County shall require stormwater management systems developed in coastal high hazard areas to allow for evacuation, by techniques such as, but not limited to, locating facilities away from access corridors and by providing road drainage.

Policy 2.5. The County shall continue to coordinate with the adjoining local governments the joint review of surface water runoff patterns to determine if activities in any one (1) jurisdiction will create hazards to adjoining coastal communities.

(B) The County shall, through the following program of activities, direct population concentrations away from the coastal high hazard area and limit public expenditures that subsidize development in the coastal high hazard area, except for restoration or enhancement of natural resources, and or removal of existing deficiencies.

Policy 2.7. As of the adoption of the plan, the County shall initiate a study to direct the planning and design of public infrastructure projects, as they relate to proposed development impacts, the potential for exposure to risks and hurricane evacuation needs. As existing public infrastructure facilities are found to be inadequate or obsolete, prior to replacement, the County will make an analysis of the opportunities and costs for relocating the facility to an area that is less exposed to risk. Where a facility can be replaced or relocated away from the coastal high hazard area, this will be done. improvements to evacuation roadways shall be designed to ensure that travelways will remain above the 100-year flood elevation and that local drainage systems are designed and maintained to prevent the premature closing of evacuation routes.

Policy 2.8. Beginning in December 1992, land use decisions (including rezonings and amendments to the Future Land Use Map) in the coastal high hazard area shall consider the nature of the proposed land use and its relationship to hurricane evacuation needs and conditions, along with its relationship to the economic development needs, the environmental protection needs, and the infrastructure capacity in coastal areas. Land use plan changes in the category 3 vulnerability zone shall not be approved unless: (a) the change is made to reflect existing conditions; (b) the change results in a lower density; or (c) the applicant provides mitigation or makes contributions (i.e., impact fees, etc.) to improve evacuation capacity.

Policy 2.9. Prior to the beginning of hurricane season each year, the County shall provide information through the local media about potential risks and about storm safety and evacuation procedures. All residents in coastal high hazard areas will be urged to evacuate.

Policy 2.10. By 1995, the County shall designate additional shelter capacity for five hundred (500) evacuees.

(C) The County shall ensure that existing hurricane evacuation times shall be maintained and shall prepare and update post disaster redevelopment plans which will reduce risks to life and property, based on the following program of activities, and revise the land development codes accordingly.

Policy 2.11. By 1993, the County shall evaluate and incorporate additional hazard mitigation standards into the Peacetime Emergency Plan and shall evaluate any deficiencies identified in the hurricane evacuation

analysis for incorporation into the Capital Improvements Element and the capital improvements program to prevent property loss, reduce potential risk to life, and reduce evacuation time.

Policy 2.12. The County shall evaluate opportunities for integration of County emergency preparedness procedures into the hurricane evacuation plan, and shall consider incorporating recommendations of inter-agency hazard mitigation reports into County procedures.

Policy 2.13. The County shall continue to coordinate with adjoining local governments a joint review of opportunities and methods for reducing exposure to natural hazards.

Policy 2.14. The County shall continue to actively pursue state and FEMA grants to prepare and update the post-disaster redevelopment plan to identify immediate repair and clean-up actions to Protect health and safety and to identify long term repair and redevelopment activities. These plans will provide criteria for determining the appropriate action (i.e., removal, relocation, and/or modification) of damaged infrastructure and unsafe structures. Areas subject to repeated damage will be identified and redevelopment of these areas will be limited to low investment and low impact activities and to activities which must locate in such areas for operational reasons.

Policy 3.1. The land development codes shall be revised to include provisions for the review of proposals for siting of water dependent and water related uses, including marinas. The regulations shall include, but are not limited to, criteria which address: land use compatibility; availability of upland support services; existing protective status or ownership; hurricane plans; protection of water and estuarine environmental quality, water depth, environmental disruptions and mitigation actions; availability for public use; economic need and feasibility; and, protection of threatened or endangered species. In developing performance standards for shoreline development, no provision shall be more relaxed than would be the case for non-coastal development, except where such relaxed standard is necessary to address the unique nature of shoreline development and/or to implement the goal and objectives in this element.

Conservation Element

Policy 2.1. Riverine floodways shall be specifically identified as Conservation land use designation on the Future Land Use Map, and riverine and coastal floodplains shall be shown on the Future Land Use Map Series. The land development codes shall be revised through grant funded studies to identify the floodways and floodplains and revisions to the land development codes will be

made to implement additional development control requirements. The following standards shall apply within floodway and floodplain areas:

- (1) Floodways—
 - (a) "Floodways" shall mean those portions of the floodplain where, during periods of (25-year/24-hour duration) flood, the water flow in the same general direction of the normal stream or river flow during non-flood periods.
 - (c) No structures shall be permitted within the floodways of rivers and streams except for docks, boathouses and other structures which, due to their purpose, must be located adjacent to water.
 - (d) The existing shoreline or riverbank shall not be graded or destroyed and no existing vegetation shall be removed except as needed to construct boathouses, docks or other structures which, due to their purpose, must be located adjacent to water. Construction of utility transmission lines shall be permitted. This standard shall apply to all areas within the floodway.

- (2) Floodplains (100-year floodplains as identified on the F.E.M.A./F.I.R.M. maps)
 - (a) No structures shall be permitted within the floodway except for docks, boathouses and other structures which, due to their purpose, must be located adjacent to water.

OBJECTIVE 3: The County shall protect the natural functions of the 100-year floodplain to the extent that flood-carrying and flood storage capacity are maintained.

Policy 3.1. The County shall adopt and implement land development codes to control density, setbacks and design of development within the National Flood Insurance Program, Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps (FIRM) issued 1975 as annually amended, which indicate the 100-year floodplain which is sufficient to protect the flood carrying and flood storage capacity as set forth in the objective. In the interim, the County shall review development proposals according to the FEMA standards as previously set forth.

OBJECTIVE 6: The County shall prepare and adopt a Water Management Conservation Plan, which will include retention of groundwater to protect the coastal bays and assure emergency water conservation in the case of ground water contamination and a wastewater reuse plan. Additionally, as grant funded studies indicate, the land development codes shall be revised and expanded to include natural water flows to receiving estuarine bodies and shall include the following measures to regulate the existing and projected allowable water quality and quantity such that no net

quantity increase or quality decrease will be allowed through mandated project review criteria in the amended land development codes.

- Policy 6.1.** The County shall cooperate with the Northwest Florida Water Management District to conduct water conservation programs, including, but not limited to, assistance in the distribution of water conservation information to residents and businesses within the County and evaluation of proposed planned unit developments, DRI's, and FQD's to identify water conservation techniques.
- Policy 7.1.** The County shall develop and implement a stream and bank stabilization program to minimize erosion caused by human activity along the rivers and streams.
- Policy 7.4.** The County will establish boat speed zones where boats are creating significant erosion of shorelines.

Intergovernmental Coordination Element

OBJECTIVE 1: Based on the identification of facility needs and level of service (LOS) standards contained in the other elements of this plan, the County shall develop and annually review and revise a program of capital improvements designed to meet existing deficiencies, to meet the needs for future growth, to provide for replacement of obsolete or wont-out facilities, and to limit public expenditures in Coastal High Hazard Areas (CHHA).

Capital Improvements Element

- Policy 1.3.** The following criteria shall be used in evaluating the necessity for different projects (ranging from those which are most critical to those which are least critical) as part of the process of establishing priorities for use of limited resources:
 - (1) Projects which eliminate an imminent threat to the health or safety of the public;
 - (2) Projects which are necessary to comply with a mandate of law or of a court of competent jurisdiction;
 - (3) Projects which are necessary to preserve or protect the County's investment in existing infrastructure through the maintenance, replacement, or renewal of existing facilities;
 - (4) Projects which remove existing infrastructure deficiencies;
 - (5) Projects which are part of a comprehensive expansion of all necessary services to provide for new growth consistent with this plan; and
 - (6) Individual projects which have the effect of accommodating growth in one area, but which area is not adequately served by all other necessary facilities.