

# **Integrating Hazard Mitigation into Comprehensive Planning**

## **Highlands 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. That 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 Highlands 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 Highlands 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, we present an argument for why hazard mitigation needs to 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 Highlands 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.

### HIGHLANDS COUNTY GENERAL RECOMMENDATIONS

- The Local Mitigation Strategy Working Group does an excellent job of pulling together all local jurisdictions and larger local entities, such as the South Florida Water Management District, utilities, and South Florida Community College. Ensuring emergency management and planning departments are cooperating in the development of the LMS can increase the likelihood of integration with the Comprehensive Plan.
- The County includes maps of hazard locations in its LMS, but it does not address all hazards affecting the County. It omits wildfire hazard areas, which the data in this Profile

show to be the greatest threat to structures in the County. Maps, such as the ones in this Profile, provide useful visual knowledge on the relationship between land uses and hazard zones that can be used for planning mitigation or changes in future land use. If such maps were included in the LMS, the Comprehensive Plan could reference them as a source of data to be used in the EAR process. By using consistent data and showing linkages between the different plans, each plan will be stronger.

- The County can support a program in coordination with the LMS Working Group to educate homeowners of mitigation techniques for protecting their structures, including wind, flood, firewise, and sinkhole mitigation techniques. While regulation can prevent new vulnerabilities to hazards, one of the best ways to mitigate existing vulnerabilities is through education. Also, LMS initiatives can be drafted to implement goals and objectives pertaining to education. In this vein, continued coordination with SFWMD and the Kissimmee River Resource Planning and Management Committee is a good means to increase public awareness of floodplain protection.
- The LMS Goals and Objectives make several references to land use practices and land development regulations, however there are no clear references to the LMS or CEMP in the Comprehensive Plan. LMS objectives which clearly advance hazard mitigation through land use, such as those under Goal 6, can be incorporated into the Future Land Use Element of the Comprehensive Plan. Likewise, the Capital Improvement Element can incorporate LMS initiatives as a means of ensuring that mitigation projects are budgeted and implemented.
- Policy 3.7 of the Future Land Use Element requires that mobile and manufactured home communities provide on-site shelter facilities, however there is no mention of disaster shelters for Highlands County citizens who do not reside in those types of developments. LMS Goal 13 asserts the County's intent to retrofit shelters and bring them up to safe standards. In this case, where a shelter space deficiency exists, the Comprehensive Plan can improve public safety by incorporating the LMS goal and achieving consistency between the plans. Given Highlands County's location in the center of the state, it can become a destination for evacuees from both coasts. Thus, the County should seek out regional cooperation and assistance in the provision of shelter space.
- One of the best ways to reduce damages is to let the natural environment protect you. If natural drainage is not altered and structures are not built in the floodplain, there will not be as much risk of flooding. The LMS can include a goal or objective to protect and restore natural resources, such as wetlands and floodplains, through regulation and acquisition. This would achieve consistency with the extensive policy language in the Comprehensive Plan.
- Highlands County can use incentives or provide assistance in retrofit, relocation, or elevation of threatened structures and/or acquire properties for parks or conservation. The Housing Element includes language that could apply to these efforts, but is explicitly for historic structures. The policy could be expanded to all vulnerable structures in an effort to advance hazard mitigation for the County housing stock.
- The County could protect natural and cultural resources by locating cultural facilities away from hazard areas. Currently, any efforts to mitigate disturbances to cultural resources only address adjacent development pressures. The LMS could assess the vulnerability and risk of historic sites and structures to natural hazards. Also, the County could prioritize drainage projects that will protect historical and cultural structures.
- Redevelopment efforts that occur in the Kissimmee River floodplain come under increased scrutiny from several local and state agencies. However, the Comprehensive

Plan makes no mention of other redevelopment efforts. The County can address redevelopment in hazard areas by only allowing redevelopment after a natural disaster to occur at the density/intensity of the land use designation currently in place. This is considered one of the best management practices from *Protecting Florida's Communities*. (FDCA, 2005b)

- The LMS includes an objective under Goal 6 which directs future public infrastructure investments to be directed away from hazard areas. If incorporated into the Comprehensive Plan, this initiative could add another means, beyond general land use measures, of preventing development in high hazard areas of the County.

### **Wildfire Hazards**

- The County can require management plans for conservation areas that address reduction of wildfire fuels. Forests that are maintained, through controlled burns or other mechanical means, will not become a wildfire risk to the nearby community. This is already cited in the LMS and could be included in the Comprehensive Plan.
- The County can adopt LDRs that limit residential development in high-risk fire areas, such as those adjacent to conservation lands. Limiting development or requiring large enough defensible buffers near conservation areas will assuage some of the liability and practical issues of using prescribed fire as a management practice.
- The County includes xeric uplands in its Conservation Overlay mapping. This vegetative community is adapted to fire and can become a risk if not properly managed. Given the projected growth and location of the population centers, the County can require firewise neighborhood design as a condition of approval for subdivision or PUD in high-risk areas.
- The County can adopt a firewise building code before future development occurs in the wildland-urban interface.

### **Sinkhole Hazards**

- The County can restrict development through overlay zones or preservation districts in high-risk sinkhole areas. These overlays could be applied around the 5 sinkhole susceptible locations, all in the unincorporated county. This land use tool is considered a best management practice from *Protecting Florida's Communities*. (FDCA, 2005b)
- The County can use buffers to prevent development from building too close to an existing sinkhole. Buffers can be beneficial for the sinkhole susceptible areas slated for residential and commercial development in the future, which is the situation northwest of Lake Sebring.
- In karst-sensitive areas, the County can require a geotechnical evaluation be made prior to development approval. In fact, Policy 3.2 of the Natural Resources Element includes soil surveys as an overlay on Conservation map series. This information can be tied to development approval.

As part of this study, a similar analysis to that of the County profile was completed for a statewide sample of 14 Florida municipalities, including Avon Park in Highlands County. The options for integration of hazard mitigation into the City's comprehensive plan are as follows:

**AVON PARK GENERAL RECOMMENDATIONS**

- The City could include policies in its Comprehensive Plan to educate citizens of the hazards of greatest threat to them as homeowners and residents. Information could be distributed which describes how best to protect homes and property from natural disasters, be it floods, wildfire, or high winds caused by tropical storms. There is a policy to negotiate with land owners prior to development in order to mitigate impacts to historically significant sites. This could be expanded to address hazard zones and private ways to mitigate damages.
- The Comprehensive Plan can include a policy to participate in the County's efforts to provide shelter space for citizens. In the event of a large category storm, there is a sizable deficit in Highlands County. By seeking a cooperative agreement with the County, the City could assist in reducing the deficiency.
- Under Policy 4.2, the City commits to the provision of open space within developed areas at the time of development. This initiative is admirable for recreation purposes, but it can lead to a fragmented development pattern that increases the urban/wildland interface, thereby increasing the risk of wildfire. In such a case, the open space provisions could be done in conjunction with other initiatives to mitigate fire hazards, such as landscaping regulations and public education programs that promote defensible space and appropriate clearance of understory vegetation. The greatest structural risk to the City of Avon Park is wildfire. Adding policies to implement firewise design standards and building codes could reduce vulnerability of many residential areas of the community.
- The Avon Park Housing Task Force is noted as a player in efforts to encourage reinvestment in local housing stock. Policy 5.3 could be expanded to direct the reinvestment to include pre-disaster mitigation initiatives, such as retrofitting, relocating, hardening, or elevating at risk housing and private structures.
- One of the simplest means of limiting vulnerability is to reduce exposure. The City could limit densities in the areas of the City deemed to be the most susceptible to hazards, such as lakeshores that experience flooding. This is partially addressed in Policy 7.2, which provides the opportunity to cluster development on less vulnerable areas of the parcel.
- Including post-disaster redevelopment and reconstruction in the Comprehensive Plan can afford the City the opportunity to increase disaster resiliency. Hazard areas can be assessed and those locations deemed to be most vulnerable could be removed from the pool of developable parcels. The City could utilize several tools to remove hazard-prone parcels from future development, including fee-simple acquisition, State grant assistance, or transfer of development rights.

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# 1. County Overview

## Geography and Jurisdictions

Highlands County is an interior county located in South-Central Florida. It covers a total of 1,028 square miles with an average population density of 85.0 people per square mile (U.S. Census Bureau, 2000).

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



## Population and Demographics

Official 2004 population estimates for all jurisdictions within Highlands 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 Highlands County is 92,057 people (University of Florida, Bureau of Economic and Business Research, 2004). The most populated city in Highlands County is Sebring, but 77.7% of the countywide population lives in the unincorporated portion of the County. Between 1990 and 2000, Highlands County as a whole had a growth rate of 27.7%, which was greater than the statewide growth rate of 23.5% in those 10 years.

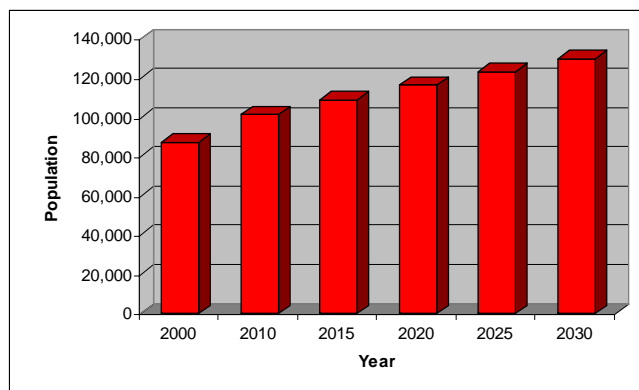
**Table 1.1 Population Estimates by Jurisdiction**

Jurisdiction	Population, Census 2000	Population Estimate, 2004	% Change, 2000-2004	% of Total Population (2004)
UNINCORPORATED	67,489	71,531	6.0%	77.7%
Avon Park	8,542	8,772	2.7%	9.5%
Lake Placid	1,668	1,715	2.8%	1.9%
Sebring	9,667	10,039	3.8%	10.9%
<b>Countywide Total</b>	<b>87,366</b>	<b>92,057</b>	<b>5.4%</b>	<b>100.0%</b>

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

According to the University of Florida, Bureau of Economic and Business Research (2004), Highlands County’s population is projected to grow steadily for the next 25 years, reaching 129,900 people by the year 2030. **Figure 1.1** illustrates medium population projections for Highlands County based on 2004 calculations.

**Figure 1.1 Medium Population Projections for Highlands County, 2010-2030**



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

Of particular concern within Highlands 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, 33.0% of Highlands County residents are listed as 65 years old or over, 26.1% are listed as having a disability, 15.2% are listed as below poverty, and 13.9% live in a home with a primary language other than English.

## 2. Hazard Vulnerability

### Hazards Identification

The following are natural hazards that pose a risk for the County as identified in the County's Local Mitigation Strategy (LMS): severe thunderstorms, tornadoes, hurricanes and tropical storms, floods, wildfires, sinkholes, drought, and frost and freezes. The LMS prioritized these hazards through surveys of the LMS Working Group and specific jurisdictions. That prioritization revealed that the greatest concern focused on lightning damage, tornadoes, high winds, and tropical storms.

The County has experienced few disasters in recent history. The 2004 and 2005 hurricane seasons sent storms across the peninsula, causing wind-related damage and flooding in inland counties which often neglect the threat of coastal storms. In addition to these storms, the county was a part of three Presidential Disasters including Hurricane Floyd, El Nino of 1998, and Tropical Storm Gabrielle. While there are only 4 structures recognized for repetitive losses by the National Flood Insurance Program, several areas of the county are known to experience recurring flood events, including the Avon Park airport and southern parts of the county near Venus.

### Hazards Analysis

The following analysis looks at three major hazard types: 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 under contract with the Florida Department of Community Affairs (FDCA). Estimated exposure values were determined using 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. 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 Highlands County that live within FEMA Flood Insurance Rate Map zones that signify special flood hazard areas. According to these maps, 12.8% of the population, or 11,804 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. Wildfire is by far the hazard of greatest concern to the County, with 67.2% of the population living in medium- to high-risk wildfire zones. Wildfire again raises issues related to special-needs populations, as approximately 46% of those at risk are disabled and/or over 65 years old, thus making a quick evacuation more difficult. Sinkholes are a less severe risk, with only 3.5% of the population within a high to adjacent-risk sinkhole zone.



**Table 2.1 Estimated Number of Persons at Risk from Selected Hazards**

Population	Flood	Sinkhole (high-adjacent risk)	Wildfire (medium-high risk)
Minority	812	536	8,239
Over 65	4,343	879	18,122
Disabled	5,172	1,212	24,213
Poverty	1,064	386	7,907
Language Isolated	40	40	1,040
Single Parent	373	148	2,353
<b>Countywide Total</b>	<b>11,804</b>	<b>3,201</b>	<b>61,874</b>

Source: Florida Department of Community Affairs, 2005a.

*Evacuation and Shelters*

As discussed in the previous sections, population growth in Highlands County has been steady, 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 will increase. Currently, evacuation clearance times for Highlands County are estimated to be 2 hours for any category hurricane, 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. Highlands County is easily able to meet this recommendation, although the growth of the Gulf coastal regions to the west and Orlando metropolitan region to the north could increase the clearance times and fill shelters in years to come. 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 Highlands County, but to take a regional approach and consider the times of surrounding counties 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
Desoto	18	18	18	18	18
Glades	3	3	3	9	9
Hardee	5	5	5	5	5
Hendry	6	6	6	6	6
Highlands	2	2	2	2	2
Polk	13	13	13	13	13

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)

Coupled with evacuation is the need to provide shelters. If adequate space can be provided in safe shelters for Highlands County residents, then this could be a partial solution to the eventual increase in clearance times for evacuation. Currently, the State Shelter Plan reports that there is space for 3,018 people in the County’s shelters, and there are 19,227 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 21,637 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 zones. Residents who are at higher elevation 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 Highlands County by structure type that are at risk from each of the four hazards being analyzed.

**Table 2.3** shows a large risk posed by wildfire. There are 29,008 structures within medium to high-risk wildfire zones. Residential structures make up the vast majority of the at-risk properties. The largest portion of those residences is 18,042 single-family homes.

Flooding also presents a large risk to property in the County, with 23,682 structures within a flood zone. A majority of those structures are residential homes, with more than 8,500 single-family homes as shown in **Table 2.3**. According to the latest National Flood Insurance Program Repetitive Loss Properties database, there are 4 homes in unincorporated Highlands County that have had flood damage multiple times and received insurance payments but have not remedied the recurring problem.

Sinkholes only put 757 structures at risk, with a majority of those 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)
Single-Family Homes	8,551	504	18,042
Mobile Homes	4,744	56	3,405
Multi-Family Homes	2,799	152	2,335
Commercial	2,408	13	1,468
Agriculture	4,196	11	1,391
Gov./Institutional	984	21	2,367
<b>Total</b>	<b>23,682</b>	<b>757</b>	<b>29,008</b>

*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, and wildfire 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 and tabulations of existing land use within hazard areas are based on the 1995 geographic information system (GIS) shapefiles from the Florida Department of Environmental Protection and the Southwest Florida and South Florida Water Management Districts. The data and mapping practices adhere to the Florida Land Use, Cover and Forms Classification System (FLUCCS). Maps and tabulations of future land uses in hazard areas were developed using the Highlands County future land use map obtained July 2002.

In **Attachment A**, two maps present the existing and future land uses within a 100-year flood zone. County floodplains are located to the east and west of the Highway 27 corridor, running parallel from northwest to southeast. The largest concentration is found south of Lake Istokpoga and between it and Lake Okeechobee. The total amount of land in these special flood hazard areas is 265,378 acres for the unincorporated County. As shown in **Table 2.4**, only 0.1% of these acres are currently vacant, however, almost all of the flood-prone land is in parks/ open space and agricultural uses, or it is submerged. **Table 2.5** shows that 57.9% of the undeveloped flood-prone acres are designated for agriculture. Only a very small percentage of the flood zone is designated for development, and only 10.5 acres are allowed high-density residential development.

In **Attachment B**, maps present the land uses associated with high-risk wildfire zones. Acreage located along the Highway 27 corridor experiences the greatest risk to wildfire. These areas are found amongst the three municipalities, between the east and west flood hazard areas. A total of 17% of the land within these wildfire zones is currently vacant, as shown in **Table 2.4**. Of the 9,308 undeveloped acres, 52.2% are slated for agricultural use. However, 19.5% is shown to be designated for a development of regional impact and another 24.6% are residential (**Table 2.5**). If homes are built in these risk areas, Highlands County's vulnerability to wildfire hazards will greatly increase. Additionally, 15.5% of the wildfire susceptible areas already have low-density residential development present, 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 C** includes maps of potential sinkhole areas in the County. There are five localized areas in the northern half of the county at risk from sinkholes. A large portion of the sinkhole hazard area is being used for agriculture, 46.8%, or parks and conservation, 33.7% (**Table 2.4**). There are also 664 acres, or 14.9% of the potential sinkhole area, in low- and medium-density residential use, however. Of the undeveloped land at risk, nearly all (98.2%) is designated for agricultural uses in the future as seen in **Table 2.5**.

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

Existing Land Use Category		Flood Zones	Wildfire Susceptible Areas	Potential Sinkhole Areas
Agriculture	Acres	190,907.2	21,953.3	1,874.8
	%	71.9	40.1	46.8
Commercial	Acres	20.5	104.6	28.1
	%	0.0	0.2	0.7
Government, Institutional, Hospitals, Education	Acres	7.6	21.4	0.0
	%	0.0	0.0	0.0
Industrial	Acres	6.9	2.5	0.0
	%	0.0	0.0	0.0
Parks, Conservation Areas, Golf Courses	Acres	29,375.9	10,577.4	1,352.5
	%	11.1	19.3	33.7
Residential, High-Density	Acres	125.7	90.7	31.7
	%	0.0	0.2	0.8
Residential, Low-Density	Acres	903.5	8,493.4	278.7
	%	0.3	15.5	7.0
Residential, Medium-Density	Acres	544.8	3,656.9	318.1
	%	0.2	6.7	7.9
Residential-MH	Acres	148.0	14.0	0.0
	%	0.1	0.0	0.0
Submerged Lands (Water Bodies)	Acres	42,975.6	331.7	44.4
	%	16.2	0.6	1.1
Transportation, Communication, Rights-of-Way	Acres	12.9	128.4	15.4
	%	0.0	0.2	0.4
Utility Plants and Lines, Solid Waste Disposal	Acres	6.0	43.9	4.5
	%	0.0	0.1	0.1
Vacant	Acres	342.9	9,308.0	59.5
	%	0.1	17.0	1.5
<b>Total Acres</b>	<b>Acres</b>	<b>265,377.5</b>	<b>54,726.2</b>	<b>4,007.7</b>
	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

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

Future Land Use Category		Flood Zones		Wildfire Susceptible Areas		Potential Sinkhole Areas	
		Total	Undev.	Total	Undev.	Total	Undev.
Agriculture	Acres	222,441.8	198.6	30,770.8	4,860.5	1,883.5	58.4
	%	83.8	57.9	56.2	52.2	47.0	98.2
Commercial	Acres	47.0	0.0	229.4	79.8	63.5	0.4
	%	0.0	0.0	0.4	0.9	1.6	0.7
Commercial/Industrial	Acres	34.8	3.8	57.3	17.8	0.0	0.0
	%	0.0	1.1	0.1	0.2	0.0	0.0
Conservation/Management	Acres	35,598.4	1.6	5,832.5	113.5	1,198.9	0.0
	%	13.4	0.5	10.7	1.2	29.9	0.0
Development of Regional Impact	Acres	1,187.3	42.1	4,421.8	1,813.8	39.0	0.2
	%	0.4	12.3	8.1	19.5	1.0	0.3
Educational	Acres	659.4	0.2	509.4	14.7	0.0	0.0
	%	0.2	0.1	0.9	0.2	0.0	0.0
High Density Residential	Acres	400.4	10.5	828.0	227.6	159.4	0.0
	%	0.2	3.1	1.5	2.4	4.0	0.0
Industrial	Acres	140.0	2.9	322.1	54.2	0.0	0.0
	%	0.1	0.8	0.6	0.6	0.0	0.0
Low Density Residential	Acres	506.3	6.2	1,045.5	140.0	49.0	0.0
	%	0.2	1.8	1.9	1.5	1.2	0.0
Medium Density Residential	Acres	1,369.7	73.6	9,553.9	1,923.2	432.7	0.0
	%	0.5	21.5	17.5	20.7	10.8	0.0
No Data	Acres	2,608.3	0.4	661.2	12.9	175.0	0.0
	%	1.0	0.1	1.2	0.1	4.4	0.0
Public	Acres	384.3	2.9	494.2	49.9	6.5	0.4
	%	0.1	0.8	0.9	0.5	0.2	0.7
<b>Total</b>	<b>Acres</b>	<b>265,377.7</b>	<b>342.9</b>	<b>54,726.2</b>	<b>9,308.0</b>	<b>4,007.6</b>	<b>59.5</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>

**Table 2.6** presents the total numbers of acres in a hazard zone in Highlands County's incorporated areas and how many of those acres are currently undeveloped. FEMA FIRM zones have not been mapped for any of the municipalities in Highlands County so flood risk information is currently unavailable. Wildfire is the primary known threat to the incorporated areas of the county. More than one thousand combined acres are at risk and susceptible to wildfire, with a mere 96 acres that remain vacant. This significantly reduces the ability to mitigate wildfire hazards through land use, but site design mitigation activities, such as firewise landscaping techniques, can be incorporated into building practices. The three municipalities in the County are not susceptible to sinkholes.

**Table 2.6 Total and Vacant Incorporated Acres in Hazard Areas**

Jurisdiction		Flood Zones		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant
Avon Park	Acres	NA	NA	425.6	43.2	0.0	0.0
	%	NA	NA	100.0	10.2	0.0	0.0
Lake Placid	Acres	NA	NA	135.1	10.3	0.0	0.0
	%	NA	NA	100.0	7.6	0.0	0.0
Sebring	Acres	NA	NA	473.1	42.6	0.0	0.0
	%	NA	NA	100.0	9.0	0.0	0.0
<b>Total Acres</b>	<b>Acres</b>	<b>NA</b>	<b>NA</b>	<b>1033.7</b>	<b>96.1</b>	<b>0.0</b>	<b>0.0</b>
	<b>%</b>	<b>NA</b>	<b>NA</b>	<b>100.0</b>	<b>9.3</b>	<b>0.0</b>	<b>0.0</b>

NA= FEMA FIRM Zones have not been mapped for incorporated areas in Highlands County.

### 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.

The Highlands County LMS (adopted in 2004) was used as a source of information in developing this profile and was also reviewed for any enhancements that could be made to allow better integration with other plans, particularly the local Comprehensive Plans.

*Hazard Identification and Vulnerability Assessment*

This section of the LMS was briefly reviewed for its ability to provide hazard data that can support comprehensive planning. The LMS addresses vulnerability in a series of attachments to Section 6. The LMS utilized MEMPHIS hazard mapping data, but it failed to correlate this with land uses and population centers, though it does provide jurisdiction boundaries. 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 vulnerability assessment utilizes geographic location and occurrence of the hazard, among other factors, to render a vulnerability score. At-risk structures in each jurisdiction are rated, thereby establishing a priority rating for future mitigation initiatives. Additional categorizations are provided along neighborhood boundaries and within larger local facilities, such as the airport and community college. Also, the estimated extent of impact for each jurisdiction and large entity is included as a broad measure of vulnerability (Attachment D). These assessments focus primarily on critical facilities, their vulnerability, and specific issues to be addressed to correct the vulnerability. Those issues included maintaining access and power supplies during disaster events. The values of structures at risk were provided as another factor to consider in formulating mitigation initiatives (Attachment G-1).

*Guiding Principles*

There is not a section of the Highlands LMS that directly fits the above-described Guiding Principles section. The Highlands LMS (2004) does not list policies from other plans that relate to hazard mitigation, although it does acknowledge modification or enhancement of other community plans is likely the most effective way to increase disaster resistance (Section 7 Mitigation Goals and Plan Implementation, pg. 3)

*LMS Goals and Objectives*

The LMS Goals and Objectives can be found in **Attachment D**. The following is a summary of how well the LMS has addressed mitigation issues that coincide with planning concerns.

Highlands County has many objectives that assert their intent to achieve a more disaster resistant community. Several LMS objectives allude to the necessity of revising, strengthening, and supplementing other documents, such as the Comprehensive Plan and Land Development Regulations, with mitigation initiatives. Referencing other plans and programs in the goals and objectives of the LMS lays a clear foundation for this plan to be integrated with other plans. There is no section in this LMS, however, that lists existing policies or guiding principles from other plans within the County or its municipalities. This component is found in most county's LMSs and is useful in providing the different jurisdictions ideas for enhancing their own plans.

The Highlands County LMS goals are overarching and apply to both the county and jurisdictions alike. The supporting objectives focus primarily on structural and policy-driven initiatives that will improve the ability of the County to withstand hazard events. The County is committed to reaching out to businesses, industry, and the community in an attempt to promote private mitigation efforts. In addition to mitigation, emergency response issues receive attention under Goal 3. The objectives describe the need to designate evacuation routes, retrofit shelters and

emergency services structures, and ensure vehicular access to health care facilities so they can remain open during disasters. Underlying all those functions, the County government will create a Continuity of Operations Plan (COOP) to maintain critical government functions (Section 7, Attachment A, pg. 1).

There are several policies that call for local governments to protect high hazard areas from development. The plan calls for the county and its jurisdictions to participate in the National Flood Insurance Program. Also, new land development codes should be created to address the hazards affecting the community. While the LMS may not be able to regulate land use or development, having these objectives increases the likelihood of the jurisdictions of Highlands County adopting and implementing corresponding policies that are legally enforceable.

The LMS does recognize wildfire as the most severe threat to the built environment. Policies call for an “inventory of existing and future development in the high risk urban/wildland interface” (Section 7, Attachment A, pg. 3). A controlled burn management plan is recommended to mitigate wildfire risks. There are also extensive structural mitigation policies. These include retrofits of governmental and critical facilities, relocations of buildings at-risk from hazards, and bring all shelters up to a safe standard. Also, the County intends to repair transportation facilities to avoid disruptions during hazards.

**Comprehensive Emergency Management Plan**

The Mitigation Annex of the 2003 Highlands County CEMP was reviewed for consistency with the other plans and evaluated in its effectiveness as a tool for planners. The Annex focuses on recovery activities, but it does serve as an excellent source of intergovernmental coordination. The Mitigation Task Force is comprised of officials from the county and each jurisdiction, as well as a few non-governmental organizations. While the Emergency Management director is granted authority to direct recovery activities, it is the Planning section that handles mitigation activities. The CEMP was written prior to adoption of the current LMS, therefore it also contains information that is presently found there.

**Post-Disaster Redevelopment Plan**

A PDRP for Highlands County was not available for review at the time this profile was drafted. If Highlands 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**

Highlands County, Avon Park, and Sebring are all participating communities in the National Flood Insurance Program. In addition, Highlands County participates in the Community Rating System and has a current class of 8.

**4. Comprehensive Plan Review**

Highlands County’s Comprehensive Plan (adopted in 2003) 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 E**. The following is a summary of how well the plan addressed the four hazards of this analysis.



### **Flooding Hazards**

Flooding was addressed in the Comprehensive Plan in multiple policies. There were many policies for protecting or limiting densities in wetlands and floodplains, specifically those associated with the Kissimmee River. In addition to standard 100-year floodplain policies, the plan highlighted numerous tools to be utilized in the protection and/or restoration of wetland areas. These tools included clustering, vegetative buffers, transfer of development rights, and acquisition by various means.

### **Wildfire Hazards**

There were no policies in the Comprehensive Plan that related specifically to wildfire hazards. An objective to conserve fresh water supplies indirectly relates to having sufficient water to put out a wildfire. Also, xeric uplands are included among the ecosystems to be conserved in the County. These habitats are increasingly threatened, but they are also covered with fire-adapted species and experience frequent fire events.

### **Sinkhole Hazards**

No policies were found during this review that explicitly related to sinkholes. There were policies aimed at conserving land for groundwater recharge. This policy contributes to mitigating sinkholes by decreasing the probability of human-induced sinkholes. There was also a policy which called for development to occur on stable soils. And, the conservation map series includes soil surveys for the entire county, a useful tool in identifying stability.

### **Other Hazard Mitigation Policies**

There were several policies that referenced other aspects of hazard mitigation, such as transportation and evacuation clearance, provision of adequate shelter space, and housing improvement initiatives. There is a single mention in the Comprehensive Plan of the CEMP and its shelter assistance program.

## **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.

Highlands 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. In the final draft of this document a table will present options for further integration as well as the basis for the recommendations found in the **Executive Summary**.

NOTE: The recommendations set out in this document 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.

## 6. Municipal Case Study: Avon Park

As part of this study, a similar analysis to that of the County profile was completed for a statewide sample of 14 Florida municipalities, including Avon Park in Highlands County. The results of this analysis are provided in this section.

### Hazards Analysis

The following analysis looks at three hazard types that the City may be vulnerable to: flooding, sinkholes, and wildfire. All of the information in this section was obtained online through MEMPHIS. Flood data is not available for Avon Park since digital FEMA FIRM zones were not available at the time of this analysis.

#### *Existing Population at Risk*

**Table 6.1** presents the population of Avon Park at risk from hazards, as well as a breakdown of the sensitive needs populations at risk. Avon Park is only at risk from wildfires as there are no flood zones currently identified in the city and there are no high-adjacent risk sinkhole areas. According to **Table 6.1**, 72.2% of the population, or 6,331 people, are within medium to high risk zones for wildfire. The majority of those at-risk from wildfire are minority groups, while there are also large contingents of disabled and poverty stricken citizens who find themselves at risk from wildfire.

**Table 6.1 Estimated Numbers of Persons at Risk from Selected Hazards**

Population	Flood	Sinkhole (high-adjacent risk)	Wildfire (medium-high risk)
Minority	NA	0	2,228
Over 65	NA	0	707
Disabled	NA	0	1,708
Poverty	NA	0	1,349
Language Isolated	NA	0	0
Single Parent	NA	0	339
<b>Countywide Total</b>	<b>NA</b>	<b>0</b>	<b>6,331</b>

NA= FEMA FIRM Zones have not been mapped for Avon Park.

Source: Florida Department of Community Affairs, 2005a.

#### *Existing Built Environment*

While the concern for human life is always of greatest 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 6.2** presents estimates of the

number of buildings in Avon Park, by structure type, that are at risk from one hazard being analyzed.

Wildfire is the largest known risk to property in the City, with 2,193 structures located in medium to high risk zones. The majority of these structures are residences, with 1,574 single-family homes located in at-risk areas (**Table 6.2**).

**Table 6.2 Estimated Number of Structures at Risk from Selected Hazards**

Structure Type	Flood	Sinkhole (high-adjacent risk)	Wildfire (medium- high risk)
Single-Family Homes	NA	0	1,574
Mobile Homes	NA	0	94
Multi-Family Homes	NA	0	197
Commercial	NA	0	178
Agriculture	NA	0	96
Gov./Institutional	NA	0	54
<b>Total</b>	<b>NA</b>	<b>0</b>	<b>2,193</b>

NA= FEMA FIRM Zones have not been mapped for Avon Park.

Source: Florida Department of Community Affairs, 2005a.

**Analysis of Current and Future Vulnerability**

Avon Park’s vulnerability to wildfire was analyzed spatially in relation to existing and future land uses within the City. The following maps and tabulations of existing land use within hazard areas are based on the 1995 GIS shapefiles from the Florida Department of Environmental Protection and the Southwest Florida and South Florida Water Management Districts. Maps and tabulations of future land uses in hazard areas were developed using the Avon Park Future Land Use Map obtained April 2005.

In **Attachment B**, maps present the land uses associated with high-risk wildfire zones in Avon Park. The largest single wildfire risk area is centered around the municipal airport on the east side of the city. Additionally, there are numerous smaller susceptible areas scattered throughout the city. According to the data in **Table 6.3**, 31.2% of the land within these wildfire zones is currently vacant and 24.7% is used for medium-density residential. Of the 31 undeveloped acres, 67.3% are shown to be designated for low-density residential uses in the future (**Table 6.2**). Residences located on heavily wooded, large-lots are the most vulnerable to wildfire, thereby increasing the hazards to which city services must respond. If firewise precautions are taken in the building of and landscaping around these homes, wildfire risk can be reduced.

Table 6.3 Total Acres in Hazard Areas by Existing Land Use Category for the City

Existing Land Use Category		Flood Zones	Wildfire Susceptible Areas	Potential Sinkhole Areas
Agriculture	Acres	NA	5.8	0.0
	%	NA	1.8	0.0
Commercial	Acres	NA	4.0	0.0
	%	NA	1.2	0.0
Government, Institutional, Hospitals, Education	Acres	NA	2.2	0.0
	%	NA	0.7	0.0
Industrial	Acres	NA	8.5	0.0
	%	NA	2.6	0.0
Parks, Conservation Areas, Golf Courses	Acres	NA	12.7	0.0
	%	NA	3.8	0.0
Residential High-Density	Acres	NA	0.7	0.0
	%	NA	0.2	0.0
Residential Low-Density	Acres	NA	6.5	0.0
	%	NA	2.0	0.0
Residential Medium-Density	Acres	NA	81.4	0.0
	%	NA	24.7	0.0
Submerged Land (Water Bodies)	Acres	NA	0.4	0.0
	%	NA	0.1	0.0
Transportation, Communication, Rights-of-Way	Acres	NA	176.6	0.0
	%	NA	53.5	0.0
Utility Plants and Lines, Solid Waste Disposal	Acres	NA	0.2	0.0
	%	NA	0.1	0.0
Vacant	Acres	NA	31.2	0.0
	%	NA	9.4	0.0
<b>Total Acres</b>	<b>Acres</b>	<b>NA</b>	<b>330.2</b>	<b>0.0</b>
	<b>%</b>	<b>NA</b>	<b>100.0</b>	<b>0.0</b>

NA= FEMA FIRM Zones have not been mapped for Avon Park.

**Table 6.4 Total and Undeveloped Acres in Hazard Areas by Future Land Use Category for the City**

Future Land Use Category		Flood Zones		Wildfire Susceptible Areas		Potential Sinkhole Areas	
		Total	Undev.	Total	Undev.	Total	Undev.
Highway Commercial	Acres	NA	NA	6.7	0.0	0.0	0.0
	%	NA	NA	2.0	0.0	0.0	0.0
Industrial	Acres	NA	NA	189.7	2.7	0.0	0.0
	%	NA	NA	57.5	8.7	0.0	0.0
Low Density Residential	Acres	NA	NA	105.7	21.0	0.0	0.0
	%	NA	NA	32.0	67.3	0.0	0.0
Medium Density Residential	Acres	NA	NA	4.0	0.0	0.0	0.0
	%	NA	NA	1.2	0.0	0.0	0.0
Public/Institutional	Acres	NA	NA	11.8	7.6	0.0	0.0
	%	NA	NA	3.6	24.4	0.0	0.0
Recreation/Open Space/Parks	Acres	NA	NA	12.3	0.0	0.0	0.0
	%	NA	NA	3.7	0.0	0.0	0.0
<b>Total</b>	<b>Acres</b>	<b>NA</b>	<b>NA</b>	<b>330.2</b>	<b>31.2</b>	<b>0.0</b>	<b>0.0</b>
	<b>%</b>	<b>NA</b>	<b>NA</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>

NA= FEMA FIRM Zones have not been mapped for Avon Park.

### Comprehensive Plan

Avon Park's Comprehensive Plan (revised in 1992) was reviewed in order to see what the City has already done to integrate the Highlands County LMS policies, and hazard mitigation in general, into their planning process. A list of the goals, objectives, and policies currently in the plan that contributes to hazard mitigation is found in **Attachment G**. The following is a summary of how well the plan addressed the three hazards of this analysis.

There are many polices that address hazard mitigation in the Avon Park Comprehensive Plan. Many growth management techniques and development requirements are employed by the City to protect natural resources and provide open space during the development process. These include the use of buffer zones, land donations, incentives, restoration of natural drainage features, cluster developments, and exacting fees.

#### *Flooding Hazards*

There are many policies that protect wetlands, lakes, and the 100-year floodplain. By controlling and restricting development near these features, flooding risk is reduced. Also, by preserving and protecting the natural drainage features of wetlands, the City can also reduce flooding in developed areas. There are policies that require development to adhere to land development regulations that will protect the 100 year floodplain or restore disturbed wetlands.

#### *Sinkhole Hazards*

There are no policies in the Comprehensive Plan that specifically address sinkhole areas. According to this analysis, however, there is no need to include sinkhole policies since there is only a low-risk for such an occurrence.

### *Wildfire Hazards*

There are no policies in the Comprehensive Plan that address wildfire areas, despite the fact this hazard is the greatest threat to the city. There are several policies that support the conservation of water which could reserve water for fire suppression during drought conditions. There are also policies that call for the protection of Longleaf Pine-Turkey Oak and Sand Pine Scrub vegetation communities, both of which are fire adapted and so language in conservation easements or management plans for these preserved areas should include prescribed burning or other fuel management plan.

### **Recommendations**

For the LMS to be effective in the decision-making process of growth management, its objectives and policies must be integrated into all jurisdictions' Comprehensive Plans. 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.

Avon Park has begun the process of integrating hazard mitigation throughout its Plan's elements. The previous section summarized how the major hazards for the City have been for the most part well-addressed. There is, however, still an opportunity to incorporate more of the Citrus LMS objectives into the policies in the Comprehensive Plan. By tightening the connection between these documents, the City will find it easier to implement hazard mitigation, and there will be higher awareness of these issues within the City. In the final draft of this Profile, a table will present options for further integration as well as the basis for the recommendations found in the **Executive Summary**.

NOTE: The recommendations set out in this document 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 jurisdiction. While the profile addresses hurricanes, flooding, and wildfire, during the update of the local Comprehensive Plan, the City should consider other hazards if appropriate, such as tornadoes or erosion.

## 7. Sources

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**Attachment A**

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



**Attachment B**

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

**Attachment C**

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

**Attachment D****Highlands County Local Mitigation Strategy Goals and Objectives**

- 1. Highlands County and the included jurisdictions will have the capability to develop, implement and maintain effective mitigation programs**
  - Appropriate technical skills in mitigation planning will be available within the community
  - Data and information needed for defining hazards, risk areas and vulnerabilities in the communities will be obtained and maintained
  - The capability to effectively utilize available data and information related to mitigation planning and program development will be available, obtained & maintained
  - The effectiveness of mitigation initiatives implemented in the communities will be measured and documented
  - There will be a program to derive “lessons learned” from each significant disaster and hazard event occurring in or near the communities
  
- 2. Highlands County and the included jurisdictions will be encouraged to work toward creating a disaster resistant community by the year 2020**
  - A business continuity (COOP) and recovery program will be considered in the community
  - Local agencies will be asked to establish specific interagency agreements for the development & implementation of mitigation-related projects and programs
  - Local elected governing bodies will promulgate the local hazard mitigation plan and support community mitigation programming
  - Outreach programs to gain participation in mitigation programs by business, industry, institutions and community groups will be developed and implemented
  - The community will be periodically updated regarding local efforts in mitigation planning and programming
  - The community’s public and private sector organizations will be asked to partner to promote hazard mitigation programming throughout the communities
  
- 3. Highlands County and the included jurisdictions will have the capability to initiate and sustain necessary emergency response operations during and after a disaster**
  - Critical facilities and communications systems supporting emergency services operations will be retrofitted to withstand the impacts of disasters.
  - Designated evacuation routes will be monitored to remain open before, during and after disaster events
  - Disaster shelters will be retrofitted to ensure their operability during and after disaster events
  - Emergency services organizations will have the capability to detect emergency situations and promptly initiate emergency response operations
  - Local emergency services facilities will be retrofitted to withstand the structural impacts of disasters
  - Response capabilities will be available to protect visitors, special needs individuals, and the homeless from a disaster’s health and safety impacts
  - Shelters or structures for vehicles and equipment needed for emergency services operation will be retrofitted or relocated to withstand disaster impacts
  - Vehicle access routes to key health care facilities will be protected from blockage as a result of a disaster
  
- 4. The continuity of local government operations will not be significantly disrupted by disaster**
  - Buildings and facilities used for the critical operations of government will be retrofitted to withstand the impacts of disasters

- Community recovery plans will be prepared to guide decision-making and resource allocation by local government in the aftermath of a disaster
- Important local government records and documents will be protected from the impacts of disasters
- Plans and information will be available to assist local government employees in retrofitting their homes to ensure their availability during a disaster
- Plans will be developed, and resources identified, to facilitate reestablishing local government operations after a disaster (COOP)
- Redundant equipment, facilities, and/or supplies will be obtained to facilitate reestablishing local government operations after a disaster

**5. The health, safety and welfare of Highlands County and the included jurisdictions residents and visitors will not be significantly threatened by disasters**

- Adequate systems for notifying the public at risk and providing emergency instruction during a disaster will be available in all jurisdictions
- Effective structural measures will be developed to protect residential areas from the physical impacts of disasters
- Public and private medical and health care facilities in the community will be retrofitted to withstand the impacts of
- Public facilities in the community posing an extra health or safety risk when damaged or disrupted will be made less vulnerable to the impacts of a disaster
- Some residential structures will be removed or relocated from defined hazard areas
- Some residential structures will be retrofitted to withstand the physical impacts of disasters
- Structures, facilities and systems serving visitors to the community will be prepared to meet their immediate health and safety needs
- There will be adequate resources, equipment and supplies to meet victim's health and safety needs after a disaster

**6. The policies and regulations of local governments will support effective hazard mitigation programming throughout Highlands County and the included jurisdictions**

- All reconstruction or rehabilitation of local government facilities will incorporate techniques to minimize the physical or operational vulnerability to disasters
- Land use policies, plans and regulations will discourage or prohibit inappropriate location of structures or infrastructure components in areas of higher risk
- Local government will ensure that hazard mitigation needs and programs are given appropriate emphasis in resource allocation and decision-making
- Local governments private non-profits will protect high hazard natural areas from new or continuing development
- Local governments will establish and enforce building and land development codes that are effective in addressing the hazards threatening the community
- Local jurisdictions will participate fully in the National Flood Insurance Program
- New local government facilities will be located outside of hazard areas and/or will be designed to not be vulnerable to the impacts of such hazards
- Reconstruction and rehabilitation of structures and utilities in the community will incorporate appropriate hazard mitigation techniques
- Regulations will be established and enforced to ensure that public and private property maintenance is consistent with minimizing vulnerabilities to disaster

**7. Residents of Highlands County and the included jurisdictions will be encouraged to have homes, institutions and places of employment that have reduced vulnerability to disasters**

- Economic incentive programs for the general public, businesses and industry to implement structural and non-structural mitigation measures will be established

- Local government will support key employers in the community in the implementation of mitigation measures for their facilities and systems
  - Programs for removal, relocation or retrofitting of vulnerable structures and utilities in hazard areas will be established and implemented
  - The vulnerability to disasters of schools, libraries, museums, and other institutions important to the daily lives of the community will be minimized
- 8. The economic vitality of the Highlands County and the included jurisdictions will be protected against the consequences of a disaster**
- Components of the infrastructure needed by the community's businesses and industries will be protected from the impacts of disaster
  - Local government emergency response and disaster recovery plans will appropriately consider the needs of key employers in the community
  - Local government will encourage community businesses and industries to make their facilities and operations disaster resistant
  - Local government will establish programs, procedures and process to support business resumption activities by impacted local businesses and industry
  - Local government will implement programs to address public perceptions of community condition and functioning in the aftermath of a disaster
  - Local government will strive to diversify the employment base of the community
- 9. The availability and functioning of Highlands County and the included jurisdictions infrastructure will not be significantly disrupted by a disaster**
- Local governments will encourage hazard mitigation programming by private sector organizations owning or operating key community utilities
  - Routine maintenance of the community's infrastructure will be done to minimize the potential for system failure because of or during a disaster
  - Sources of energy normally used by the community will be protected against the impacts of a disaster
  - Transportation facilities and systems serving the community will be constructed and/or retrofitted to minimize the potential for disruption during a disaster
  - Water and sewer services in the community will be protected against failure caused by disasters
- 10. Efforts will be taken to educate residents of Highlands County and the included jurisdictions so they will understand the hazards threatening local areas**
- All interested individuals will be encouraged to participate in hazard mitigation planning and training activities
  - Managers of public facilities will be knowledgeable in hazard mitigation techniques and the components of the community's mitigation plan
  - Public education programs in risk identification and hazard mitigation will be established and implemented
  - Technical training in mitigation planning and programming will be given to appropriate local government employees
  - The owners and operators of businesses and industries in the community will be knowledgeable in appropriate hazard mitigation techniques
  - The public living or working in defined hazard areas will be aware of that fact, understand their vulnerability and know appropriate mitigation techniques
  - The public will have access to information needed to help understand their vulnerability to disasters and effective mitigation techniques
- 11. Highlands County and the included jurisdictions will work to protect public and private lands from the effects of wildfire**
- Identify existing and future development in high risk urban/wildland interface areas
  - Institute controlled burn management of public/private lands to mitigate wildfire

- Make Fire department improvements by addition of specialized equipment and on going training programs
- 12. Highlands County and the included jurisdictions will work to establish and maintain a system that provides for communications and public safety services during and after emergencies**
- Establish a complete inventory and analysis of all communications and service delivery systems
  - Increase local capabilities for notification of imminent threats in a more timely manner, such as reverse 9-1-1 and tornado warning devices
  - Upgrade, create and supplement communications and service delivery systems as needed
- 13. Highlands County and the included jurisdictions will work toward improving disaster shelters in the County**
- Establish a complete inventory and analysis of existing shelters
  - Prepare and maintain a database to address the disaster/emergency needs of citizens with "Special needs"
  - Provide additional hurricane and tornado shelters as needed
  - Upgrade, to a safe standard, all existing shelters
- 14. Highlands County and the included jurisdictions will provide the most effective hazard mitigation programs and practices that are economically feasible**
- Highlands County and the within jurisdictions will develop a Debris Management Plan that includes training and equipment utilization
  - Highlands County and the jurisdictions within will enforce and strengthen regulations to help protect life and property
  - Highlands County and the jurisdictions within will increase search and rescue capabilities, including Community Emergency Response Teams (CERT)
  - Highlands County and the within jurisdictions will rank hazard mitigation based upon significance and frequency
  - Highlands County and the within jurisdictions will require that new development meet existing and new regulations as they are adopted

**Attachment E****Highlands County Comprehensive Plan Excerpts Related to Hazard Mitigation****Future Land Use Element****POLICY 1.1: GENERAL GROWTH MANAGEMENT STRATEGY**

- A. The Future Land Use Element shall be used as a common framework to govern land use decisions by the public sector and to guide the development activities of the private sector. Taken as a whole, Future Land Use Policies are intended to promote balanced growth during the 1998-2010 Planning Period through:
4. Clustering, planned-unit development, and density bonuses as the primary methods to preserve the open space characteristics of rural areas, whenever such lands are proposed for development;
  5. Environmental clearance reviews, clearing-house development review procedures, coordination with other agencies, and land acquisition strategies (including fee purchase, easements, donations and other less than fee mechanisms) as the principal vehicles to protect natural resources; and,
- F. MEASURES TO PROMOTE GROWTH MANAGEMENT (*Amended by Ordinance 96-29; CPA Case # 96-034*) (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): The following measures shall be undertaken by the County to encourage orderly growth during the Planning Period, to promote compatible land use patterns, to maintain separation between urban and agricultural land use activities, and to avoid or minimize impacts to the County's environmental resources:
5. Protection of natural resources against the impacts of development through the establishment of environmental clearance procedures, mitigation procedures, and development standards;
  7. Protection and maintenance of the natural and man-made environment and resources in a manner protective of the water supply.

**POLICY 1.10: RIGHT TO FARM:** The County shall continue to promote right to farm precepts pursuant to Florida Statute 823. Agricultural lands shall be protected from encroachment by urban uses through:

- A. Requirements for open space buffers pursuant to Future Land Use Policy 3.5;
- B. Clustering in rural areas pursuant to Future Land Use Policy 3.3; and,
- C. The ability to transfer development rights from agricultural lands to other lands appropriately situated for new development pursuant to Future Land Use Policies 1.3 and 3.2.

**POLICY 1.12: PUBLIC SCHOOLS** (*Ordinance # 96-29, CPA-95-013, November 26, 1996*) (*Amended by Ord. No. 99-43, December 28, 1999, CPA-99-022LS*): The County shall facilitate the adequate and efficient provision of public schools by:

- A. Encouraging public schools for consideration in appropriate locations for suitable Future Land Use categories. The land use categories in which schools are an

allowable use and the appropriate location criteria to guide the collocation of other public facilities such as community centers, parks and libraries, to the extent possible, adjacent to existing school sites shall include Agriculture (to serve the rural population to the greatest extent possible), Low Density Residential, Medium Density Residential and Public/Quasi-Public Facility categories. Land Development Regulations (LDRs) shall address conditions including, but not limited to the following:

1. Proximity to major overhead high voltage transmission lines;
2. Proximity to major gas transmission lines;
3. Proximity to water and wastewater treatment plants;
4. Proximity to known landfills;
5. Location within one hundred year floodplain unless compensating storage is provided on site;
6. Proximity to high congestion or impact areas such as limited access highway interchanges, active railway crossings, heavy access used by emergency vehicles and traffic arteries or interchanges with four or more lanes in any one direction (including turn lanes);
7. Or any site prohibited by law for use as a public school.

**POLICY 1.13: LOCATIONAL CRITERIA FOR INDUSTRIAL PARKS AND PARKS OF COMMERCE** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): The County shall encourage the location and clustering of major commercial and industrial activities to enhance the comparative advantage of these uses to develop in Highlands County over areas outside the County. Location criteria, subject to site specific circumstances, determined by tested experience within the industry nation-wide shall include:

1. Uniform slope...stable soils...non-flood area. If the environmental problems exist pursuant to NRE Objective 3, the opportunity to mitigate should be available.

**OBJECTIVE 3: LAND DEVELOPMENT REGULATION AND PROJECT REVIEWS**

- D. PROTECT NATURAL RESOURCES, ESTABLISH SETBACK REQUIREMENTS FOR NATURAL FEATURES AND ATTRIBUTES, AND CREATE URBAN LANDSCAPES THROUGH APPROPRIATE ZONING, SUBDIVISION, LANDSCAPE, AND ENGINEERING DESIGN STANDARDS;
- F. ESTABLISH DESIGN CONTROLS AND DEVELOPMENT STANDARDS FOR SIGNAGE, FLOOD PRONE AREAS, INFRASTRUCTURE, PARKING AND LOADING, AND OTHER REQUIRED IMPROVEMENTS TO LAND; AND,

**POLICY 3.3: CLUSTER/PUD DEVELOPMENT/TDRs:**

- A. The County will institute policies and land development regulations and other regulations including clustering, planned unit developments, conservation easements and transfer of development rights to achieve the land protection objectives of the Natural Resource Element and the objective of protecting farmland included in the Future Land Use Element. Cluster PUDs, transfer of development rights, and other procedures will allow higher net densities where deemed appropriate for the protection of agricultural activities, the separation of urban and rural uses, the limitation of urban sprawl, the promotion of well-planned rural development, and the protection of natural resources (such as wetlands or scrub). As a general rule of thumb, PUD developments in the rural areas of the County should cluster density to 50% or less of the PUD project's total site area.



- B. Among the development controls and standards to be considered in the land development regulations and other regulations mentioned in Policy 3.3A. above are:
1. Establishment of an overall master plan development review process to guide project execution through phased development and to assure a project development concept which reflects the area's rural character;
  2. Provisions for transition zones to buffer development clusters within the project, to avoid important natural features, and to serve as greenbelt design thresholds in the translation of rural development to agricultural or natural open space;
  3. Substitution of the project area's gross density yield for a net density yield on proposed buildable site areas, so as to promote greenbelt design concepts and encourage clustered development arrangements;
  4. Transfer of density from an agriculturally zoned property, a wetland, or a protected natural resource area to another site, provided that:
    - a. The total density at the developed site does not exceed the top end of the residential land use range designated for that site;
    - b. Development occurs in accordance with PUD zoning district regulations; and,
    - c. A Transfer of Development Rights Easement in favor of the County is placed over the property from which density was transferred and a Transfer of Development Rights Ledger that shall be kept by the Zoning Supervisor and appropriate notation on the zoning atlas that shall be made by the Zoning Supervisor plus notations on the Future Land Use Map that shall be made by the Planning Supervisor that documents the Transfer of Development Rights and which prohibits re-subdivision of the property until additional development rights are restored to that property through a Plan amendment or through the acquisition of Development Rights transferred from another property.
  6. Possible satisfaction of natural resource mitigation by the dedication of open space or by the provision of easements for open space, habitat, or other conservation purposes.

**POLICY 3.6: FLOOD ELEVATION DESIGN REQUIREMENTS:** Upon adoption, development orders and permits for new development or redevelopment shall be issued for construction in floodplain areas only if the development meets the building elevations identified in the Flood Insurance Rate Maps (FIRM). Prior to the issuance of a final development order, the County shall continue to require 100-year storm event data for a project's proposed finished floor elevations (based on the flood elevations identified on the Flood Insurance Rate Maps). Additionally, the County shall require mitigation of displaced flood waters through project design or through on-site or off-site ponding areas.

**POLICY 3.7: DISASTER SHELTERS** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): The County shall continue to administer and monitor for adjustment to existing land development regulations for disaster shelter, establishing a minimum standard of usable shelter space for each site occupied by a mobile home, a manufactured home (including park models), or a recreational vehicle. The County shall review and recommend appropriate precautionary measures to ensure public safety during hurricanes or other natural emergencies. These measures may include specific new provisions for:

1. Tie downs to stabilized ground anchors;
2. Shut off valves/switches for all lateral connections at each of the aforementioned sites; and,
3. A requirement that shelters be constructed to maintain structural integrity within a 120 mile per hour wind. Any such requirements shall be made to apply to new development and redevelopment.

**POLICY 3.11: FLOOD AND HURRICANE HAZARD USE MITIGATION/PLANNING** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): Within the Planning period the County will continue to update its Comprehensive Emergency Management Plan, which includes shelter assistance assignments.

THE COUNTY SHALL WITHIN THE PLANNING PERIOD, UNDERTAKE MEASURES TO PREVENT LOSS OF ITS CULTURAL RESOURCES. (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*)

**POLICY 7.1: MEASURES TO PROTECT CULTURAL RESOURCES** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): The County shall continue to implement measures within the Planning period, to identify, preserve, and protect cultural resources according to the applicable objectives and policies expressed here and in the Natural Resources Element. The term "Cultural Resources" shall encompass archaeological and historic sites, artifacts, or structures.

**POLICY 7.2: LDRs AND CONSERVATION OVERLAY MAP INFORMATION FOR ARCHAEOLOGICAL AND HISTORICAL RESOURCES** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*):

- A. Within the Planning period, the County shall continue to implement LDRs, pertaining to archaeological sites listed in the Florida Master Site File and mapped on the Archaeological Sensitive Area Map of the Conservation Overlay Map series for the purpose of identifying and protecting significant archaeological finds from any land use activity which has the potential to degrade or destroy such resources.
- D. Within the Planning Period, historic sites and structures will be mapped, as identified through previous surveys; and, land development regulations will be prepared providing private owners directions and incentives to sustain and/or preserve the historic significance attributed to these sites and structures from land use activity having the potential to devalue or destroy such resources.

**OBJECTIVE 8: KISSIMMEE RIVER** THE COUNTY WILL CONTINUE TO COORDINATE WITH THE KISSIMMEE RIVER RESOURCE PLANNING AND MANAGEMENT COMMITTEE AND ANY OTHER GOVERNMENTAL AGENCIES.

**POLICY 8.1: SPECIAL MEASURES FOR KISSIMMEE RIVER FLOOD PLAIN** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): The County shall, within the Plan Period, continue to implement measures for water quality, flood control protection, habitat conservation, and cultural resource protection within the Kissimmee River's 100-year flood plain according to the applicable objectives and policies expressed in this element; the Natural Resources Element; the Infrastructure Element; and, the Intergovernmental Coordination Element.

**POLICY 8.2: CONSISTENCY WITH KISSIMMEE RIVER PLAN** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): The County will ensure that proposed

land use activities within the Kissimmee River's 100-year flood plain are in compliance with the stated goals of the applicable Resource Management Plan prepared pursuant to Chapter 380 F.S.

**OBJECTIVE 9: PROTECT NATURAL RESOURCES CONSERVE, PROTECT, OR PRESERVE NATURAL RESOURCES, AS DEPICTED ON THE CONSERVATION OVERLAY MAP SERIES IN ACCORDANCE WITH COMPREHENSIVE PLAN POLICIES, PARTICULARLY THOSE APPLICABLE POLICIES OF THE NATURAL RESOURCES ELEMENT.**

**POLICY 9.1: MEASURES TO ASSESS IMPACTS ON NATURAL RESOURCES** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*):

- A. The County shall, within the Planning Period, continue to implement the environmental clearance measures of Natural Resource Policies 3.1, 3.2, and 3.3 to ascertain the appropriate level of restriction on land use activities and the adequate level of performance that is necessary to avoid or mitigate impacts to natural resources. Such measures shall be applied through the project or permit review process in accordance with the policy frameworks of this element; the Natural Resources Element; the Infrastructure Element; and, the Intergovernmental Coordination Element. Basic measures for implementing this policy include the following:
1. Environmental clearance procedures to assess development impacts on natural resources in order to determine the kind of protection needed;
  2. Land development regulations and standards which require certain performance whenever natural resources are encountered;
  3. Clearing house procedures to solicit input from jurisdictional agencies prior to the issuance of County development orders or permits; and,
  4. Delineation of natural resources on the Conservation Overlay Map, including continual updates as new information becomes available.

**POLICY 9.4: NRAC TO IDENTIFY FLOODPLAIN PARCELS FOR PUBLIC ACQUISITION:** As part of the mission objectives expressed in Natural Resources Policy 3.18 and 3.19, the Natural Resources Advisory Committee shall recommend to the Board of County Commissioners larger tracts of undeveloped, flood prone lands which should be acquired under the Conservation and Recreation Lands (CARL) and the Save Our Rivers programs of the State. The scope of investigation shall be limited to the Kissimmee River, Arbuckle Creek, Fisheating Creek, Jack Creek, Charlie Bowlegs Creek, and Hickory Branch Creek, including their tributaries and associated freshwater marshes.

**POLICY 9.6: NATURAL RESOURCES OF REGIONAL SIGNIFICANCE, IDENTIFIED AND MAPPED BY THE STATE, ARE TO BE USED AS AN ADJUNCT AND REFERENCE TO THE CONSERVATION OVERLAY MAP SERIES** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): Lands that are recognized by the State ( § 187.201(10)(a), F.S.) and by the Central Florida Regional Planning Council (Regional Goal 1.6 & 1.8) as "Natural Resources of Regional Significance" (NRRS) using data from the Florida Natural Areas Inventory (FNAI), and mapped as "Natural Systems and Planning and Management Areas" (NSPMA), are to be used as an adjunct to the Conservation

Overlay Map Series for planning reference only (§ 186.803, F.S.). These maps are not to be adopted as part of the Future Land Use Map (FLUM) series. All projects reviewed by NRAC, through the EIR process, will be evaluated to determine what general impacts, if any, are made upon these lands identified by the State and the CFRPC. However, environmental clearance for all applicable projects will be predicated on NRE Policy 3.3, and associated land development regulations. The respective state and federal agencies, having vested interest and over-sight on lands identified on the NSPMA maps, will express their approval of any project by virtue of the permits they grant. Pursuant to NRE Policy 3.3 H & I, these permits shall be recognized as part of the environmental clearance process.

**Transportation Element**

**POLICY 2.2: FDOT Plans to Address Environmental Impacts.** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER; Amended by Ord. No. 00-01-23, July 24, 2001, CPA-01-150LS.):* By way of written request to the FDOT beginning July 1, 1999, the County will annually review FDOT’s 5-year work program, pertaining to vehicular circulation, to ensure that planned improvements are constructed to protect the natural environment in Highlands County, and to avoid or minimize any impacts to environmentally sensitive areas.

**POLICY 6.2: Protection of Adjacent Natural Resources.** Within the Planning Period, establish mitigation policies for adverse structural and non-structural impacts from ports, airports and related facilities upon adjacent natural resources and land issues.

**POLICY 6.3: Protection of On-Site Natural Resources.** Within the Planning Period, and to the extent jurisdictional limits permit, the County will enforce the protection and conservation of natural resources within , airports and related facilities, through its land development regulations.

**POLICY 9.6: Evacuation Routes.** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER; Amended by Ord. No. 00-01-23, July 24, 2001, CPA-01-150LS.):* Consistent with Subsection 163.3177 (6)(j) 6. Florida Statutes, and Chapter 3 of the Central Florida Regional Planning Council (CFRPC) Strategic Regional Policy Plan (SRPP), all federal and state interstate and intra-state highways are “regionally significant” and considered appropriate hurricane evacuation routes.

- A. The County will continue to cooperate with the Florida Department of Transportation (FDOT) to effect the safe and orderly evacuation of the Coastal population prior to an impending natural disaster on the following routes within the County:
- C. U.S. 27, from Glades County line to Polk County line;
- D. U.S. 98, from Okeechobee County line to U.S. 27;
- 3. S.R. 64, from Hardee County line to U.S. 27;
- 4. S.R. 66, from Hardee County line to U.S. 27;
- 5. S.R. 70, from Okeechobee County Line to U.S. 27; and
- 6. S.R. 70, from DeSoto County line to U.S. 27.

**POLICY 9.7: Bridges Along the Evacuation Routes.** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER; Amended by Ord. No. 00-01-23, July 24, 2001, CPA-01-150LS.):* Consistent with Policies 3.1.3 and 3.1.4 of the Central Florida Regional Planning Council’s Strategic Regional Policy Plan, the County will,

within the Planning Period, cooperate with the FDOT, as it establishes priorities for:

- A. The repair and replacement of bridges, especially those that restrict the flow of traffic on hurricane evacuation routes; and,
- B. The construction of road drainage projects for regionally significant highways that are designated hurricane evacuation routes and are susceptible to flooding.

**Housing Element**

**POLICY 5.2: HURRICANE SHELTERS REQUIRED** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER):* The County shall continue to enforce its requirement for new mobile home parks and R.V. parks to provide hurricane shelters for their residents.

**OBJECTIVE 7: HISTORIC HOUSING** THE COUNTY SHALL CONTINUE TO IDENTIFY HISTORICALLY SIGNIFICANT HOUSING LOCATED IN THE COUNTY AND OFFER INCENTIVES FOR IMPROVEMENT OF THOSE HOUSES.

**POLICY 7.2: IMPROVEMENT OF HISTORIC HOUSING** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER):* Highlands County will adopt an ordinance by 2002 offering incentives and other means, as allowed on or before April, 2000, the Florida Statutes and approved by the Board of County Commissioners, to improve those properties that are identified as historically significant for those owners wishing to sustain their properties.

**Infrastructure Element**

**OBJECTIVE 10: CONSERVE POTABLE WATER RESOURCES** THE COUNTY SHALL IMPLEMENT PROCEDURES WHICH PROVIDE FOR CONSERVATION OF POTABLE WATER RESOURCES.

**POLICY 10.1: ESTABLISH WATER CONSERVATION PROGRAM** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA- 99-085LS, 99-1ER):*

- A. Within the Planning Period, the County shall establish a program and procedures to address conservation of potable water resources through treated water reuse and other methods.
- B. The County shall consider implementing other water conservation strategies in tandem with Water Management District programs. Such programs may include, but not be limited to, water reuse measures for both urban and agricultural land applications, code requirements for the installation of low-flow restrictors and other water conserving devices in new construction, tertiary treatment methods for publicly operated sewage plants, and promotion of Water Management District programs to conduct voluntary home audits for water leakage.

**POLICY 10.2: COORDINATE AND ENFORCE WATER RESTRICTIONS** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER):*

- A. The County shall continue to coordinate with the South and Southwest Florida Water Management Districts in promoting semi-annual public education programs, campaigns and demonstration projects , preferably prior to the wet and dry seasons, about water conservation techniques.

**POLICY 14.4: INTERAGENCY HAZARD USE MITIGATION REPORT RECOMMENDATIONS** *(Amended by Ord. No.99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER)*: Consistent with 9J-5.006(3)(b)6, F.A.C., coordinate future land uses by encouraging the elimination or reduction of uses that are inconsistent with any interagency hazard mitigation report recommendations that have been filed with the County and are determined to be appropriate. Reviews will be conducted annually to determine response to any reports filed with the County or by the County.

**OBJECTIVE 16: CORRECT DRAINAGE FACILITY DEFICIENCIES** THE COUNTY SHALL IMPLEMENT PROCEDURES WHICH CORRECT EXISTING DRAINAGE FACILITY DEFICIENCIES AND PRESERVE CAPACITY.

**POLICY 16.1: IDENTIFY PRIORITY DRAINAGE PROJECTS IN CIP** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER)*: Within the Planning Period, the County shall continue to prepare a list of drainage improvements for consideration and incorporation into its Capital Improvements Program (CIP). Candidates for this list shall be based upon existing service area impacts and an assessment of operational performance deficiencies determined from the inventory established in INF Policy 15.1. Priority consideration shall be given to those improvements which correct major problems to, or maintain the operating capacities of, existing drainage facilities.

**POLICY 17.3: STUDY HOW STORM EVENTS AFFECT LAKES AND DRAINAGEWAYS** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER)*: Within the Planning Period, the County shall request the Highlands County Soil and Water Conservation District/ NRCS to request the SWFWMD and the SFWMD to conduct a study of the impact of various storm events on the major County lakes and drainage-ways. If the SWFWMD and/or SFWMD are unable to complete the study, the SWCD/NRCS shall determine who will complete the proposed study.

**POLICY 17.4: LDRs BASED ON RESULTS OF POLICY 17.3 STUDY:** Within one year of the above study results, the County shall amend its land development regulations to:

- A. Establish supplementary setback requirements for lakes to avoid flooding of habitable structures; and,
- B. Regulate site modification and construction activities that would reduce the hydraulic efficiency of 10-year/24-hour storm event flow ways, consistent with Water Management District and Florida Department of Environmental Protection requirements.

**OBJECTIVE 19: PROTECT NATURAL DRAINAGE FEATURES** THE COUNTY SHALL COORDINATE ITS DEVELOPMENT REVIEW FUNCTIONS AND ESTABLISH PROCEDURES BY WHICH TO ASSURE PROTECTION OF NATURAL DRAINAGE FEATURES IN ACCORDANCE WITH WATER MANAGEMENT DISTRICT PRACTICES.

**POLICY 19.1: COORDINATE PROTECTION MEASURES WITH WATER MANAGEMENT DISTRICTS** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER)*: The County shall continue to coordinate with SWFWMD and SFWMD in implementing stormwater management measures for new development or redevelopment in order to protect natural drainage features. Areas for which land development regulations have been adopted for local implementation include:

- A. Consideration for development regulations governing building setbacks from water bodies, waterways or channels;

- B. Design standards for paved roadways;
- C. Requirements for pervious parking lot surfaces;
- D. Natural vegetative buffers or swales to protect lakes, wetlands, and riparian features; and,
- E. Special requirements for SWIM waters, as deemed appropriate with SWFWMD or SFWMD plans.

**Natural Resources Element**

**POLICY 1.2: LDRs FOR PROTECTING CULTURAL RESOURCES** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): Within the Planning Period, the County will continue to administer resource protection criteria in its land development regulations which serve to identify and protect historic and prehistoric (cultural) resources. The regulations shall contain, at a minimum, the following provisions:

- 1. Requirements for surveys of sites which are identified by County staff to contain cultural resources per reference to the Conservation Overlay Map series for new development and new agricultural use sites.
- 2. Requirements for a site plan review process for all sites with identified cultural resources.
- 3. As part of permit conditions, requirements that all necessary federal, state, regional, and related County permits are issued prior to commencement of new development or clearing activity on the site.
- 4. Incentives for preservation of cultural resources, such as clustering and density bonuses, to be accomplished through the site plan review process.
- 5. The County shall require an Archaeological Reconnaissance Survey (ARS) for protection of archaeological resources or a Historic Significance Report (HSR) for protection of historic resources, as applicable.

**POLICY 1.3: MAP CULTURAL RESOURCES ON CONSERVATION OVERLAY** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*) : The County will continue to utilize, as part of the Future Land Use Map series, a Conservation Overlay Map which shall generally map cultural resources, and which shall serve to assist in the interpretation and application of resource protection criteria as specified in policies throughout this element. The Map shall be updated as new information becomes available.

**POLICY 1.4: ACQUISITION AS A PROTECTION MEASURE** (*Amended by Ord #00-23, CPA-00-131-LS, DCA 00-1ER, August 22, 2000*): In the event a significant cultural resource site cannot be adequately protected and given public access through incentives within the land development regulations or other means, the County will consider purchasing (including fee purchase, easements, donations, and other less than fee mechanisms) the site.

**POLICY 1.6: HISTORIC PRESERVATION COMMISSION TO REVIEW ARCHAEOLOGICAL RECONNAISSANCE SURVEY AND HISTORIC SIGNIFICANCE SURVEY REPORT:** Prior to issuing a local development order for affected projects, the County shall present either the Archaeological Reconnaissance Survey (ARS) for protection of archaeological resources or a Historic Significance Report (HSR) for protection of historic resources, as applicable to the Historic Preservation Commission, in accordance with Natural Resources Policy 1.2.

**OBJECTIVE 2: CONSERVE SOIL AND MINERAL RESOURCES** THE COUNTY SHALL CONSERVE SOILS AND MINERALS THROUGH CONTINUATION OF EXISTING SOIL CONSERVATION PROGRAMS AND UTILIZE REGULATIONS WHICH PROVIDE FOR THE WISE USE OF THESE RESOURCES.

**POLICY 3.2: MAP RESOURCES ON CONSERVATION OVERLAY:**

- A. Effective immediately, the County shall use the adopted Conservation Overlay Map series contained within the Natural Resources Element as a general indicator for the presence of one or more of the following resources:
1. Xeric uplands;
  2. Wetlands;
  3. Cutthroatgrass seeps;
  4. Historical and archaeological resources;
  5. Wellhead protection zone; and,
  6. Aquifer recharge areas.
- B. The Conservation Overlay Map series contained within the Natural Resource Element consists of the following:
1. Soil Survey of Highlands County (base document - USDA/SCS, Soil Survey of Highlands County, Florida, July 1989);
  2. Conservation Overlay Map (base maps are USGS Quadrangle Maps - United States Geologic Survey);
  3. Map 600 - Highlands County, Florida Wetlands (US Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory);
  4. Archaeological Resource Map
  5. Historic Preservation Resource Map; and,
  6. Wellhead Protection Zone Map

**POLICY 3.10: INCORPORATE CONSERVATION MEASURES INTO LOCAL PLANS** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): The County shall incorporate the protection and conservation measures called for under this Element into all County surface water management plans, public works projects, and infrastructure improvement plans.

**POLICY 3.12: PARKS FOR RESOURCE PRESERVATION** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*)(*Amended by Ordinance #02-03-14, November 26, 2002, CPA-02-174LS*): Where compatible with the goals, objectives, and policies of the Comprehensive Plan and whenever feasible, locate future parks to encompass areas of undisturbed native vegetative communities and environmentally sensitive lands for passive recreational use, such as hiking trails, primitive camping and other conservation based activities, as opposed to active recreational use. Management plans for such parks should be consistent with the protection, preservation, and conservation of those natural resources occurring on the site. Evaluation of the priority for acquisition shall consider the location of sites within the urban development areas in order to preserve natural open-space most at risk for development within the planning period.

**POLICY 3.14: SETBACK FROM ENVIRONMENTALLY SENSITIVE LAND** (*Amended by Ordinance 94-16; CPA Case 94-005*) (*Amended by Ord. No. 99-40, December 28, 1999, CPA-99-010LS, 99-2ER*):



- A. In the absence of State or federal setback requirements for mitigation of development impacts on environmentally sensitive land and except as otherwise provided in this Comprehensive Plan, affected local development orders shall require that dwellings, commercial/industrial buildings, and septic systems be set back the lesser of 50 feet or 40% of the average depth of the site as perpendicularly measured from the mean high water line or the boundary of:
  - 1. An identified wetland (including cutthroatgrass seeps and bayheads);
  - 2. A surface water body;
  - 3. A habitat conservation area;
  - 4. A ranked State CARL site or federal acquisition site; or,
  - 5. Publicly-owned and privately-owned recorded conservation lands.
  
- B. Except as otherwise provided in this Comprehensive Plan, the County shall require that all affected developments satisfy the following conditions of approval whenever construction is proposed in the vicinity of a surface water body or wetland:
  - 1. That construction activities shall not encroach into the setback areas described by paragraph "A" above;
  - 2. That existing topography and vegetation shall be retained within this setback area, if required by State permits or Environmental Impact Report conclusions as they may apply to the development proposal;
  - 3. That whenever clearing or grading of the construction site is proposed, silt screens shall be placed between the construction and the surface water body or wetland;
  - 4. That the setback boundary line be marked and posted prior to the commencement of construction activities at the development site; and,
  - 5. That vegetation within the setback area shall be retained or be reestablished after construction, as appropriate, so as to stabilize soil conditions along the boundary of development, to minimize siltation from eroded soils, and to filter stormwater runoff from the developed area.
  
- C. Except for maintaining existing lots where lake vegetation has been removed, removal of upland vegetation along lake frontages shall be limited to the minimum necessary to achieve reasonable access to the lake.
  
- D. The County shall require these setback areas to be recorded as public or private conservation setback easements on the approved site plan or plat.
  
- E. For the purpose of implementing this policy, the County shall allow:
  - 1. Density attributable to any setback area to be transferred to the buildable portions of the site;
  - 2. Flood control improvements within the setback area which are necessary for the protection of life and property;
  - 3. The right to maintain existing or to construct new hiking and equestrian trails within the setback area;
  - 4. The right to use existing grazing, pasture, and crop lands within the setback area for agricultural purposes;

5. The right-of-way over or to a surface water body, subject to obtaining all required permits from jurisdictional agencies; and,
6. The right to use existing or to construct new docks or boat ramps.

**POLICY 3.17: NATURAL RESOURCE ADVISORY COMMISSION (NRAC)**

- B. NRAC's primary function shall be to provide advice and guidance to staff and the Board of County Commissioners regarding natural resource and environmental issues which affect the implementation and amendment of this Comprehensive Plan, including the following:
1. Methods to identify, inventory, protect, and conserve natural resources;
  2. The acquisition and management of public and private conservation lands;
  3. The use of the County Conservation Trust Fund;
  4. Amendments to the Comprehensive Plan;
  5. Environmental Clearance Reports;
  6. Methods to foster working relationships with other public and private environmental agencies and groups;
  7. Environmental Education;
  8. General oversight of the County's environmental protection and conservation programs;
  9. Protection and conservation of natural resources in the County's urbanization.

**POLICY 3.20: 10- YEAR PRIORITIES FOR ACQUISITION** (Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER) (Amended by Ord #00-23, CPA-00-131-LS, DCA 00-1ER, August 22, 2000): Upon completion of the mission objectives outlined for the Natural Resource Advisory Commission under Policy 3.18, the Board of County Commissioners shall adopt a 10-year target for the acquisition (including fee purchase, easements, donations and other less than fee mechanisms) of natural resource lands pursuant to the priorities expressed in Natural Resources Policy 3.5: Measures for Environmental Conservation. The County shall review progress toward achieving this target during the next Evaluation and Appraisal Report.

**POLICY 3.21: BUFFER PUBLIC CONSERVATION LANDS:** Highlands Hammock State Park, publicly owned conservation lands, and conservation lands being considered for acquisition with public funds, shall be buffered against the encroachment of any urban land uses which would be out of character with their scenic open space qualities or their natural functions. The intent of this policy shall be assured through the application of the growth management policies contained in the Future Land Use Element, and promulgation of new project review authorities to implement the conservation strategies of this element.

**OBJECTIVE 4: PROTECT WETLANDS** PROTECT WETLAND SYSTEMS AND THEIR ECOLOGICAL FUNCTIONS TO ENSURE THEIR LONG TERM, ECONOMIC, ENVIRONMENTAL, AND RECREATIONAL VALUE AND ENCOURAGE RESTORATION OF WETLAND SYSTEMS TO A FUNCTIONAL CONDITION.

**POLICY 4.1: MEASURES TO PROTECT WETLANDS** (Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER) (Amended by Ord #00-23, CPA-00-131-LS, DCA 00-1ER, August 22, 2000): In addition to the provisions of Natural Resource

Policy 3.14, the County shall protect the ecological functions of wetland systems by the following actions:

- (a) Support the restoration of the wetland systems, where feasible.
- (b) Protect the natural functions and hydrology of wetland systems, including cutthroatgrass seeps, by buffering against incompatible land uses and by mitigating development impacts to the system in accordance with applicable natural resource policies.
- (c) Provide clustering and open space buffering protection for the Arbuckle Creek/Lake Istokpoga wetland and floodplain systems and basin.
- (d) Through intergovernmental cooperation with Polk County, promote the designation of the Lake Arbuckle, Arbuckle Creek, and Lake Istokpoga system as "Outstanding Florida Waters".
- (e) Acquire (including fee purchase, easements, donations and other less than fee mechanisms) wetlands systems, including cutthroatgrass seeps
- (f) Do not encourage efforts to channelize natural pristine waterways.

**POLICY 4.3: MAP WETLANDS ON CONSERVATION OVERLAY** (*Amended by Ord #00-23, CPA-00-131-LS, DCA 00-1ER, August 22, 2000*): The County will, within the planning period, continue to administer, as part of the Future Land Use Map series, a Conservation Overlay Map series which shall generally map wetland systems and shall serve to assist in the interpretation and application of resource protection criteria, as specified in policies throughout this element. The maps shall be updated as data are acquired . Wetlands shall be generally identified by location, size and function by means of the Conservation Overlay Map series, and specifically identified and evaluated as to their type, value and condition at the time an Environmental Clearance Report (ECR) is prepared. Pursuant to NRE Policy 3.3, protection measures are to be recommended, if applicable, pursuant to NRE Policy 4.1 and where applicable, shall be so noted and recorded on the Conservation Overlay Map series pertaining to wetlands. In the event specific wetlands are determined critical for preservation and are preserved by means of a permanent easement, and they are designated as an urban use on the FLUM, the FLUM will be amended designating the wetlands as CM: Conservation /Management Lands, and their urban use density or intensity will be disengaged and placed in reserve for future reallocation pursuant to FLU Policy 2.6. This will not apply for lands acquired through state initiatives such as CARL, etc.

- A. Wetlands, will be evaluated by their location size, condition and function through the ECR process in NRE Policy 3.3. The map "**Wetlands Prioritization System**", which abstracts all wetlands from the adopted Conservation Overlay Map series, will identify the critical wetland systems by their location, size and function. The final determination as to the disposition of the wetlands will be found when each applicable property is required to secure Environmental Clearance. The following location criteria and resulting priority are:
  - 1. **Priority A:** Wetlands that are located within existing and proposed ( lands earmarked for public acquisition) Conservation/Management Lands (C.A.R.L. and other public conservation lands).
  - 2. **Priority B:** Wetlands that are part of a wetland system (functioning hydrologically, i.e., perennial streams/creeks that are non-seasonal) that impacts existing and proposed Conservation/Management

3. **Priority C:** Wetlands that are isolated and not related to existing and proposed Conservation /Management Lands, especially those adjacent to native upland systems.

**POLICY 4.4: LDRs FOR WETLAND RESTORATION** The County shall continue to administer land development regulations which encourage restoration of wetland systems.

**POLICY 4.5: LDRs FOR CUTTHROATGRASS SEEPS AND WETLANDS** *(Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER; Amended by Ord #00-01-23, July 24, 2001, CPA-01-150LS.)(Amended by Ordinance #02-03-14, November 26, 2002, CPA-02-174LS):* The County shall continue to administer wetland resource protection criteria in the land development regulations pertaining to cutthroatgrass seeps and wetlands. Final development orders and land clearing permits shall be conditioned upon issuance of a wetlands permit by the Army Corps of Engineers, the Florida Department of Environmental Protection, and/or the South and Southwest Florida Water Management Districts, as applicable. The County shall require such permits to be obtained as a condition of approval for the project's final development order or land clearing permit and shall issue the appropriate Environmental Clearance determination upon issuance of such permit.

**POLICY 8.5: WATER CONSERVATION PROGRAM** *(Amended by Ord. No. 99-40, December 28, 1999, CPA-99-010LS, 99-2ER):* The County will implement a water conservation program, which will be formulated in coordination with the water management districts, and will include, at a minimum:

- (a) Public education components; and,
- (b) Consideration of further water conservation measures, including water reuse, conservation oriented rate structures, and implementation of leak detection systems.
- (c) Consideration of implementing a mobile irrigation laboratory.

**POLICY 8.6: WATER SHORTAGE PLAN** *(Amended by Ord. No. 99-40, December 28, 1999, CPA-99-010LS, 99-2ER):* The County will continue to abide by the Southwest Florida and South Florida Water Management Districts' emergency water shortage plan, based upon receipt of emergency water shortage plans.

**POLICY 9.6: PROTECT THE NATURAL ENVIRONMENT** *(Amended by Ord. No. 99-40, December 28, 1999, CPA-99-010LS, 99-2ER):* The County may monitor the environmental impacts of any legally permitted public, industrial, or agricultural water use in accordance with the goals, objectives, and policies of this Comprehensive Plan, Florida Statutes Chapter 163, and Florida Administrative Code 9J-5 and take appropriate action when necessary. The specific environmental impacts to be monitored include the impacts on wetlands, cutthroatgrass seeps, and xeric uplands and other protected natural resources identified in the Natural Resources Element Objectives 3 and 4.

**OBJECTIVE 11: MEASURES TO PROTECT FLOODPLAINS**

- A. In addition to Future Land Use Objective 8, the County will institute measures to protect the natural functions of floodplains and flood prone areas from the negative impacts of new development and redevelopment, with design emphasis on:
  1. Stormwater quality and quantity outputs;
  2. Maintaining flood-carrying and flood-storage capacities;

3. Flood control improvements for flood prone lands; and,
4. The incorporation of open space to maintain the natural character of riverine systems.

B. These measures are recognized as necessary to maintain the County's eligibility in the National Flood Insurance Program and FEMA standards. For purposes of Objective 11 and policies hereunder, flood prone areas shall be defined as the 100-year storm event boundaries established on the FIRM maps or the calculated 25-year storm event for a specific property, whichever applies.

**POLICY 11.1: IMPLEMENT FLOODPLAIN ORDINANCE AND FEMA:** The County shall continue to regulate construction in the floodplain pursuant to its Floodplain Ordinance and the requirements of the Federal Emergency Flood Management program.

**POLICY 11.3: MEASURES SUPPORTING KISSIMMEE RIVER MANAGEMENT PLAN:** The County shall support objectives of the Kissimmee River Management Plan. Included in its support shall be the implementation of the following land development regulations:

- (a) Development within the River's floodplain at 1 unit per 5 acres (Future Land Use Policy 9.3);
- (b) Flood control is accomplished through floodplain protection policies under Natural Resources Objective 11 and Future Land Use Objective 8;
- (c) Water quality is addressed under the policies of Natural Resources Objectives 2, 3, 7, 8, and 9, Future Land Use Objective 6, and Infrastructure Objectives 2, 6, 7, and 17;
- (d) Water conservation is addressed under Natural Resources Element water conservation policies (8.1-8.7);
- (e) Protection of listed species is accomplished through the policies under Natural Resources Objective 3 relating to species protection and under Objective 4 relating to wetland protection; and,
- (f) Protection of cultural sites is accomplished through the policies under Natural Resources Objective 1 and Future Land Use Objective 7.

**Highlands County Comprehensive Plan; Adopted: January 16, 1991 (Revised November 26, 2002) (Effective February 13, 2003) NRE-23**

**POLICY 11.4: DEVELOPMENT REQUIREMENTS FOR KISSIMMEE FLOOD-PLAIN** New development, redevelopment, or land clearing proposals within the Kissimmee River's 100-year flood-plain shall be required to comply with the following, as they may be applicable:

- (a) The incorporation of flood control mitigation and design specifications into the conditions of approval for a site plan or plat;
- (b) The incorporation of erosion control specifications into grading plans for the site and the application of erosion control techniques during construction or land clearing; and,
- (c) The incorporation of open space buffers, land set-asides and set-backs pursuant to the policies of this Comprehensive Plan.

**POLICY 11.5: MAINTAIN NATURAL DRAINAGE IN FLOODPLAIN:** Effective July 1, 1992, the County shall not issue development orders for new development or redevelopment within flood prone areas whenever grading or excavation is

proposed that will change, impede, or displace the existing drainage pattern of the site or the natural flow functions within the floodplain.

**POLICY 11.7: LOW DENSITY WITHIN KISSIMMEE FLOODPLAIN** (*Amended by Ord. No. 99-40, December 28, 1999, CPA-99-010LS, 99-2ER*): Within the Kissimmee River's 100-year floodplain, all unvested residential development or subdivision shall be according to densities at 1 dwelling unit per 10 gross acres. Clustered development (pursuant to FLU Policy 1.3.E.1.b) or lot configurations which include the provision of agricultural or open space/riparian easements shall be encouraged., determined by findings pertaining to the proportion of existing floodplains and uplands on the parcel. In the event a private property owner wishes to transfer development rights off of a parcel in the Kissimmee flood-plain, this may be granted at the current density in General Agriculture, or 1 dwelling unit per each 5 acres (2 dus per 10 acres of flood-plain.)

**POLICY 11.9: CLEARINGHOUSE PROCEDURES WHEN DEVELOPING IN THE KISSIMMEE RIVER FLOODPLAIN** (*Amended by Ord. No. 99-40, December 28, 1999, CPA-99-010LS, 99-2ER*):

A. In accordance with Future Land Use Policy 8.1, the County shall support restoration of the Kissimmee River floodplain in reviewing new development, redevelopment, and land clearing proposals in accordance with the Floodplain Protection controls of Section Four, Article Five of the Land Development Regulations. Review shall also be coordinated with the adopted plans and programs of the following agencies:

1. The U.S. Army Corps of Engineers;
2. The Florida Department of Environmental Protection and the Kissimmee River Resource Planning and Management Committee;
3. The Florida Department of Community Affairs;
4. The South Florida Water Management District and,
5. The Central Florida Regional Planning Council

**POLICY 11.10: MANDATORY CONNECTION TO PUBLIC UTILITIES; MINIMUM DESIGN ELEVATION** (*Amended by Ord. No. 99-40, December 28, 1999, CPA-99-010LS, 99-2ER*): Effective immediately within the 100-year floodplain, where public utilities are available to support new development or redevelopment, the County shall require connection to these facilities. In addition, all new manhole lids, lift station lids, and pumping station pads shall be installed above the 100-year flood elevation. All new development within the 100-year floodplain, shall be in accordance with applicable Floodplain Protection controls in Section Four, Article Five of the Land Development Regulations.

#### **Recreation and Open Space Element**

**POLICY 4.2: PROJECT OPEN SPACE TO CONTAIN HABITATS** (*Amended by Ord. No. 99-16, Aug. 3, 1999, CPA-99-085LS, 99-1ER*): Within the Planning Period, the County shall continue to implement its land development regulations, wherever possible, that special habitat areas identified in the County's conservation overlay map be treated as open space in any development plan for the parcel containing them.

#### **Intergovernmental Coordination Element**

**POLICY 9.5:** Where mutual benefit is achieved, Highlands County shall actively pursue interactive and functional partnerships with the School Board of Highlands County, the South Florida Community College, and environmental organizations, in order to assist in meeting local environmental education needs.

**Attachment F****Avon Park Comprehensive Plan Excerpts Related to Hazard Mitigation****Future Land Use Element**

Policy 1.11: The **Conservation** designation shall protect natural resources, improve lake quality and improve groundwater quality. There are two categories of Conservation: land within the 100-year floodplain and wetlands. Residential, commercial and industrial land uses are not permissible within conservation areas. Recreational land uses, such as boat docks, are permissible.

Policy 2.2: Public facilities shall be located to maximize efficiency and minimize costs and environmental impact. [9J-5.006(3)(c)2,6]

**Objective 6:**

*By July 1, 1991, Avon Park shall adopt and enforce standards and programs that protect natural and historic resources. [9J-5.006(3)(b)4]*

Policy 6.3: New development shall be constructed so that the natural topographic features are not adversely altered so as to harm the drainage patterns of adjacent properties. [9J-5.006(3)(c)4]

Policy 6.5: Avon Park shall negotiate with land owners prior to the development review process to mitigate disturbances of known historical resources. [9J-5.006(3)(c)8]

Policy 7.2: Avon Park shall require developers and property owners to provide open space and protect natural resources. To assist in the implementation of this policy, Avon Park shall include incentives and techniques such as cluster development in its land development regulations. [9J-5.006(3)(c)4]

**SANITARY SEWER, SOLID WASTE, DRAINAGE, POTABLE WATER AND  
NATURAL GROUNDWATER AQUIFER RECHARGE ELEMENT**

Policy 1.6: All structures shall have a floor elevation at or above the 100-year flood elevation.



**Objective 3:**

*Avon Park shall establish procedures for the conservation of potable water resources.  
[9J-5.011(2)(b)4]*

Policy 3.3: Avon Park shall cooperate with the Southwest Florida Water Management District to develop a Water Shortage Conservation Plan by July 1, 1992.

**Objective 6:**

*Avon Park shall manage the quality and quantity of stormwater runoff. Existing deficiencies in man-made or altered natural drainage facilities shall be corrected. New development shall be required to adequately manage stormwater runoff. The functions of natural drainage features shall be maintained.*

Policy 6.7: Land development regulations shall provide for the protection of natural drainage features.

**Capital Improvements Element**

Policy 1.2: Beginning with Fiscal Year 1991-92, proposed capital improvements projects shall be ranked and evaluated according to the following criteria:

- a. The project protects public health and safety, eliminates public hazards, fulfills the City's legal obligation to provide facilities and services, achieves maximum usage of existing facilities.
- b. The project increases the efficiency of existing facilities, promotes infill development, eliminates existing deficiencies.
- c. The project represents the logical extension of facilities and services consistent with the Future Land Use Element, and is consistent with the plans of State Agencies and the Southwest Florida Water Management District.
- d. Other priority criteria, as established in other elements of this comprehensive plan, shall be incorporated into the annual capital improvements prioritization. [9J-5.005(3)(c)1]

**Recreation Open Space**

- Policy 4.2: By July 1, 1991, Avon Park shall adopt incentives to encourage the provision of open space areas within future developed areas, and/or shall require private developments to provide a fair and adequate share of open space through the use of fees, land donations, clustering of development, or other methods. [9J-5.014(3)(c)(2)]
- Policy 4.3: Identification of sites for natural conservation areas will be identified on the Future Land Use Map, and will be consistent with the Future Land Use Element and the Conservation Element. [9J-5.014(3)(c)(2)]

**Conservation Element**

**GOAL: Conserve, protect and manage the natural resources of the City of Avon Park.**

- Policy 3.4: Natural communities or native vegetative communities that shall be protected by land development regulations include the Longleaf Pine - Turkey Oak Hills natural community and the Sand Pine Scrub vegetative community. The developer of a proposed development site shall survey vegetative or natural communities present on the site. If a proposed development site is determined to contain a Longleaf Pine - Turkey Oaks Hill natural community or a Sand Pine Scrub vegetative community, a natural resource protection plan shall be prepared and be a part of the development application. The natural resource protection plan shall, at a minimum, meet the requirements for the preservation or protection of natural or vegetative communities as specified in Policies 3.5, 3.6 and 3.7 of this Conservation Element.

**Objective 4:**

*By July 1, 1991, Avon Park shall provide measures in its land development regulations that conserve, appropriately use and protect wildlife, wildlife habitats, lakes, and beaches. [9J-5.013(2)(b)(4)]*

- Policy 4.1: Avon Park shall include in its land development regulations measures to ensure that where alteration of wetlands is necessary to allow for the reasonable use of the property, the developer will either restore the disturbed wetlands to their original status or create new wetlands to make up for the loss. [9J-5.013(2)(c)(6)]
- Policy 4.3: Environmentally sensitive lands within the City shall be designated and protected through enforcement of land development regulations, in accordance with the goal and objectives of this element. [9J-5.013(2)(c)(9)]
- Policy 4.4: Avon Park shall conserve, use and protect its lakes and beaches through enforcement of land development regulations, including zoning, site plan review, buffer zone, and stormwater treatment regulations. [9J-5.013(2)(c)(6)]

**Housing Element**

Policy 5.3: Avon Park shall encourage individual homeowners to increase private reinvestment in housing by providing information, technical assistance, and incentives. A comprehensive program determining and implementing these activities shall be prepared by the Avon Park Housing Task Force, approved by City Council, and administered through the City Manager's Office. [91-5.010(3)(c)2]

Policy 6.3: Avon Park shall establish procedures for the protection of locally designated historically significant housing, structures or sites, and shall develop criteria under which a locally designated structure or site may be altered or demolished. At a minimum, an extra-ordinary vote by City Council (5 of 7 votes) shall be required to authorize significant alteration or demolition, subject to established procedures regulating alteration or demolition of any site or structure. for areas of the City not within the Community Redevelopment Area. Within the Community Redevelopment Area, an extra-ordinary vote of the Community Redevelopment Agency Board of Directors shall be required to authorize significant alteration or demolition, subject to established procedures regulation alteration or demolition of any site or structure.