

Integrating Hazard Mitigation into Comprehensive Planning

Monroe County Profile

Florida Department of Community Affairs

Executive Summary

The experiences of the 2004 and 2005 hurricane seasons epitomize the importance of better integrating hazard mitigation activities into local comprehensive planning. In the fall of 2004, residents all over the state experienced significant damages from Charley, Frances, Jeanne, and Ivan as a result of winds, tornadoes, surge, and/or flooding. But these were not the only times we have experienced natural disasters, nor will they 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 Monroe 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 Monroe 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 Monroe 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.

MONROE COUNTY GENERAL RECOMMENDATIONS

- The County can create goals and objectives in the LMS that encompass all of the ongoing existing hazard mitigation efforts as well as any additional goals and objectives that aim to enhance hazard mitigation in the County. Currently, the LMS encompasses many dimensions of governance that protect the community against natural disasters, but the goals are general and only provide a limited hazard mitigation strategy. The depth of the LMS proves that hazard mitigation in Monroe County is complicated and multi-dimensional. Enhancing the goals and objectives in the LMS can help conceptualize a hazard mitigation strategy for the County and provide insight on how to improve

mitigation efforts. DCA's *Protecting Florida's Communities* guidebook can be used as a starting point to provide a basic policy framework for the LMS goals and objectives.

- The County could include a Comprehensive Plan policy that supports the ongoing efforts to train public officials in mitigation related topics including disaster preparedness and ways to mitigate hazards prior to development and redevelopment. Section 7.1 *County Government Structure* of the LMS indicates that it is convention in Monroe County to incorporate hazard mitigation practices into permitting, site plan review, building inspection duties as well as many other dimensions of governance. Creating a policy that supports the training of County employees can help ensure hazard mitigation remains at the forefront of government operations. The policy could also support the use of updated information to expand hazard mitigation practices and strategies.
- The County can create a Comprehensive Plan policy that specifies how it will meet shelter demand, possibly through an intergovernmental agreement. The County can also create a policy that aims to meet shelter demand based on the projections found in the State Shelter Plan. The County can include a section in the LMS listing all locations and capacity of existing emergency shelters available for Monroe residents as well as an analysis of how future shelter capacity will be met, be it through future shelter site location, facility expansion, or intergovernmental agreements. Including this type of analysis in the LMS can act as a catalyst in carrying out the Comprehensive Plan policies.
- The County can update existing Comprehensive Plan policies that protect natural resources to include hazard mitigation as a benefit. Monroe County has many existing policies that mitigate the impacts of hazards through preservation and development regulations. However, hazard mitigation has not been identified as a benefit of these efforts. Current growth management techniques such as land conservation, buffering, and the clustering of development to protect and conserve natural resources also provide the major benefit of protecting development from natural disasters. The County could update some of these policies in the Comprehensive Plan and emphasize the benefits of hazard mitigation.
- The LMS can promote a program aimed at analyzing historic structures in regards to structural weaknesses, rank the structural mitigation projects in priority order in the LMS, and tie in sources of funding to achieve these proactive mitigative actions. As the LMS describes, Monroe County is rich with historical sites and structures. Section 2.7.2 of the LMS states several structures have already been mitigated using HMGP funds. Expanding these efforts by analyzing additional structures and taking action prior to disaster events can help protect the County's rich historical heritage.

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1. County Overview

Geography and Jurisdictions

Monroe County is located on the southwestern most point of mainland Florida. Also, the County has jurisdiction throughout the Florida Keys, a long chain of islands that extend from the southeastern tip of the Florida peninsula to the Dry Tortugas. It covers a total of 997 square miles with an average population density of 79.8 people per square mile (U.S. Census, 2000).



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

Population and Demographics

Official 2004 population estimates for all jurisdictions within Monroe 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 Monroe County is 81,236 people (University of Florida, Bureau of Economic and Business Research, 2004). The most populated city in Monroe County is Key West with an estimated population of 25,478 residents. Approximately 45.1% of the countywide population lives in the unincorporated portion of the County. Between 1990 and 2000, Monroe County as a whole had a growth rate of 2.0%, which was far less than the statewide growth rate of 23.5% in those 10 years.

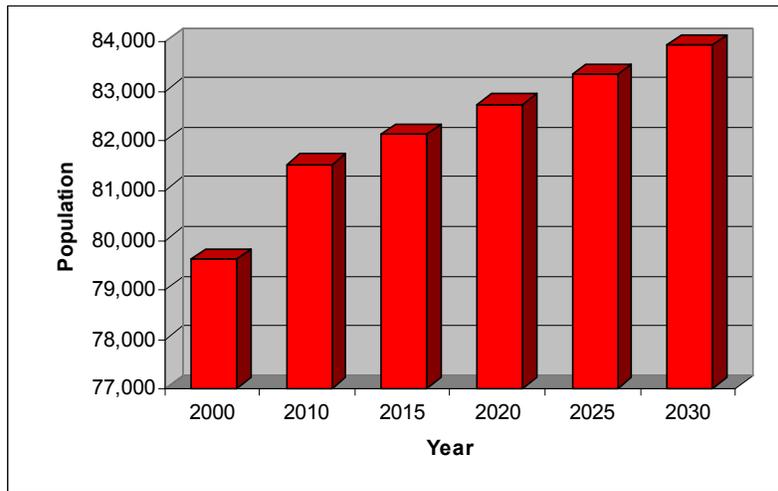
Table 1.1 Population Estimates by Jurisdiction

Jurisdiction	Population, Census 2000	Population Estimate, 2004	% Change, 2000-2004	% of Total Population (2004)
Unincorporated	36,036	36,606	1.6%	45.1%
Islamorada	6,846	6,993	2.1%	8.6%
Key Colony Beach	788	836	6.1%	1.0%
Key West	25,478	26,215	2.9%	32.3%
Layton	186	195	4.8%	0.2%
Marathon	10,255	10,391	1.3%	12.8%
Countywide Total	79,589	81,236	2.1%	100.0%

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

According to the University of Florida, Bureau of Economic and Business Research (2004), Monroe County’s population is projected to grow slowly for the next 25 years, reaching 83,900 people by the year 2030. **Figure 1.1** illustrates medium population projections for Monroe County based on 2004 calculations.

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



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

Of particular concern within Monroe 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, 14.6% of Monroe County residents are listed as 65 years old or over, 22.0% are listed as having a disability, 10.2% are listed as below poverty, and 21.4% 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 storms, tornadoes and waterspouts, rainfall / freshwater flooding, drought, wildfire, hurricanes and tropical storms, landslides / sinkholes, levee failure flooding, and winter storms. Of the risks, the LMS rates the County’s vulnerability to hurricanes/tropical storms and flooding as high, tornados and wildfire as moderate, and drought as low. The other natural hazards were not prioritized and are considered minimal threats. (Monroe County, 2005)

Hurricanes and coastal storms are particularly threatening to Monroe County since storm surge can easily overcome the 4-7 feet of elevation of the islands. Flood Insurance Rate Maps show nearly the entire county could be impacted by coastal flooding. Also, freshwater flooding is a concern since slow stormwater runoff can accumulate on roads and near structures. Analysis in the LMS includes TAOS projections that suggest all parcels will receive some kind of damage from a direct hit of a Category 1 storm, totaling nearly 50% of improved value. A direct hit from a Category 5 storm is projected to cause damages near 100% of improved value. Simply stated, the model projects that a direct hit from any hurricane would devastate Monroe County. (Monroe County, 2005)

In 1998 Hurricane Georges, a Category 2 storm, destroyed 173 housing units and caused nearly \$300 million in property damages in Monroe County. Later that year, Tropical Storm Mitch caused nearly \$11 million in damages and destroyed another 43 housing units. The LMS also includes accounts of F1 and F2 tornadoes in the Keys, as well as several small fires. (Monroe County, 2005)

Hazards Analysis

The following analysis looks at four major hazard types: hurricanes and tropical storms (specifically surge), flooding, sinkholes, and wildfire. All of the information in this section, except the evacuation and shelter estimates, was obtained through the online Mapping for Emergency Management, Parallel Hazard Information System (MEMPHIS). MEMPHIS was designed to provide a variety of hazard related data in support of the Florida Local Mitigation Strategy DMA2K revision project. It was created by Kinetic Analysis Corporation under contract with the Florida Department of Community Affairs (FDCA). Estimated exposure values were determined using the Category 3 Maxima Scenario for storm surge, the Federal Emergency Management Agency's (FEMA's) designated 100-year flood zones (A, AE, V, VE, AO, 100 IC, IN, AH), and levels of concern 5 through 9 for wildfire, and high through adjacent risk zones for sinkholes. Storm surge exposure data are a subset of flood exposure, therefore the storm surge results are also included in the flood results. For more details on a particular hazard or an explanation of the MEMPHIS methodology, consult the MEMPHIS Web site (<http://lmsmaps.methaz.org/lmsmaps/index.html>) or your countywide LMS.

Existing Population at Risk

Table 2.1 presents the estimated countywide population at risk from hazards, as well as a breakdown of the sensitive needs populations at risk. The first column in the table summarizes the residents of Monroe County that live within FEMA Flood Insurance Rate Map zones that signify special flood hazard areas. According to these maps, 75.8% of the population, or 60,323 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. In Monroe County, sinkholes are a minor risk with only 1.6% of the population within a sinkhole prone area. Wildfire is also a low priority for the County, with 11.3% of the population living in medium- to high-risk wildfire zones. Of great concern to the County is 57,074 people at risk from surge due to a Category 3 hurricane. Local emergency management officials likely would recommend that all residents at risk from surge evacuate. **Table 2.1** shows that 24,461 of the residents in a surge zone are disabled, perhaps requiring governmental assistance in evacuating.

Table 2.1 Estimated Number of Persons at Risk from Selected Hazards

Population	Flood	Sinkhole (high-adjacent risk)	Wildfire (medium-high risk)	Surge
Minority	6,450	89	752	5,862
Over 65	11,019	216	1,486	10,377
Disabled	26,147	565	5,145	24,461
Poverty	7,288	205	1,046	7,155
Language Isolated	5,807	63	82	5,759
Single Parent	3,612	120	485	3,460
Countywide Total	60,323	1,258	8,996	57,074

Source: Florida Department of Community Affairs, 2005a.

Evacuation and Shelters

As discussed in the previous sections, population growth in Monroe County has been slow, and this trend is projected to continue. Still, as the population increases in the future, the demand for shelter space outside of the County and the length of time it takes to evacuate the County is only going to increase from already critical levels. Currently, evacuation clearance times for Monroe

County are estimated to be 36 hours for Category 3, 4, and 5 hurricanes, as shown in **Table 2.2**. These data were derived from 11 regional Hurricane Evacuation Studies that have been produced by FEMA, the U.S. Army Corps of Engineers, and Florida Regional Planning Councils. The study dates range from 1995 to 2004 and are updated on a rotating basis. According to Rule 9J-5, counties must maintain or reduce hurricane evacuation times. Some experts have suggested that most counties should try to achieve 12 hours or less clearance time for a Category 3 hurricane, while Monroe’s unique circumstances are given more leeway and a 24 hour clearance time is recommended. 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. Monroe County is unable to meet this recommendation now and even with slow continued growth and the limited road network of the region, it will be difficult to reduce this evacuation time. Additionally, storm events requiring evacuation typically impact larger areas, often forcing multiple counties to issue evacuation orders and placing a greater number of evacuees on the major roadways, further hindering evacuation progress. Thus, it is important to not only consider evacuation times for Monroe County, but also for other counties in the region as shown in **Table 2.2**. Monroe County must be concerned with all of the other counties’ clearance times in the region since if those times increase it could further slow evacuation out of the Keys as the routes become more backed up.

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

County	Hurricane Category				
	1	2	3	4	5
Broward	10.75	10.75	13.75	13.75	13.75
Miami-Dade	14	17.5	17.5	17.5	17.5
Monroe	18	18	36	36	36
Palm Beach	10.25	10.25	15.25	15.25	15.25

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. Currently, the State Shelter Plan reports that there is space for 700 people in the County’s shelters, and there are 3,494 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 3,543 people in need of space (FDCA, 2004). Emergency Shelters in the Keys are necessary as a last resort for those who cannot safely evacuate the islands in time.

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 Monroe County by structure type that are at risk from each of the four hazards being analyzed.

Flooding presents a large risk to property in the County, with 96,749 structures within a flood zone. Approximately one third of those structures are single-family homes. There are also 28,578 mobile homes within the zone, many of which are older structures built prior to regulations that prohibited manufactured housing in the Keys. According to the latest National Flood Insurance Program Repetitive Loss Properties list, there are 157 homes in unincorporated Monroe County that have had flood damage multiple times and received insurance payments but

have not remedied the recurring problem. **Table 2.3** also shows 42,369 structures within the surge zone, with 49.9% of those structures being single-family homes. Single-family homes are also at risk from wildfire, with 41.9% of the total 11,945 structures at risk being that structure type. Only 409 structures within the County are at risk from sinkholes.

Table 2.3 Estimated Number of Structures at Risk from Selected Hazards

Structure Type	Flood	Sinkhole (high-adjacent risk)	Wildfire (medium-high risk)	Surge
Single-Family Homes	34,074	285	5,006	20,658
Mobile Homes	28,578	14	3,117	5,234
Multi-Family Homes	19,869	63	2,531	11,599
Commercial	10,380	44	1,119	3,716
Agriculture	3,223	3	171	1
Gov./Institutional	625	0	1	1,161
Total	96,749	409	11,945	42,369

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, wildfire, sinkholes and surge according to MEMPHIS estimates. This section demonstrates the County’s vulnerabilities to these hazards spatially and in relation to existing and future land uses. The following maps and tabulations of existing land use within hazard areas are based on the 2004 Monroe County Property Appraiser’s Office / Florida Department of Revenue data, and the 1995 Florida Department of Environmental Protection and the South Florida Water Management District shapefiles. Maps and tabulations of future land uses in hazard areas were developed using the Monroe County future land use map obtained September 2002. There are no potential sinkhole areas within the unincorporated portion of the County, therefore sinkhole tabulations are not shown in **Tables 2.4 and 2.5**.

In **Attachment A**, four maps show the existing and future land uses within the coastal hazard zone (Category 1 storm surge zone) and the hurricane vulnerability zone (Category 1 evacuation zone). All of the Keys are within the coastal hazard zone (CHZ) and hurricane vulnerability zone (HVZ). The mainland portion of Monroe County does not have a designated HVZ or CHZ because it falls within the Everglades National Park. Nearly half of the area in the chain of islands is currently used for parks, conservation and golf courses, as seen in **Table 2.4**. Much of the acreage in the CHZ/HVZ is in government and institutional use, 18.1%, or is vacant, 17.7%. **Table 2.5** shows that of the 11,411 currently undeveloped acres in the county, 3,267 acres are designated for low, medium, and high future residential uses. Additionally, 52% of the undeveloped acres are allocated for residential conservation use. Any future development in Monroe County will coincide with an increase in the number of people and the amount of property at risk from coastal hazards. The mainland portion of Monroe County does not have a designated HVZ or CHZ since it falls within the Everglades National Park.

In **Attachment B**, two maps present the existing and future land uses within a 100-year flood zone. Because of its low elevation, nearly the entire county is susceptible to flooding, including the mainland portion. Like with the CHZ/HVZ, 48.2% is currently used for parks, conservation, and golf courses (**Table 2.4**). There also are 11,991 flood-prone acres that are currently vacant. Of these, 54.9% are designated for future residential conservation use. **Table 2.5** also shows that 26.3% of currently vacant land is allocated for future low, medium, and high density residential uses. Again, any development within any of the hazard zones is likely to increase the number of people and the amount of property at risk.

In **Attachment C**, maps present the land uses associated with high-risk wildfire zones. There is a concentration of wildfire risk areas in the Lower Keys and there are numerous scattered wildfire areas on the mainland portion of the County. The County contains 2,866 acres of wildfire susceptible areas, as shown in **Table 2.4** and **2.5**. Of those acres, 55% are currently in conservation areas or parks. Another 18% is used for government and institutional uses and 15.6% is undeveloped. Of the 449 acres currently undeveloped, 257 acres are allocated for future residential use suggesting an increase of development in the area. This leaves opportunity for the County to take mitigative actions before development occurs to make sure that future development is not vulnerable to wildfires.

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

Existing Land Use Category		Coastal Hazard Zone	Hurricane Vulnerability Zone	Flood Zones	Wildfire Susceptible Areas
Attractions, Stadiums, Lodging	Acres	834.6	832.0	801.4	0.7
	%	1.3	1.3	1.2	0.0
Places of Worship	Acres	147.1	152.5	131.3	5.3
	%	0.2	0.2	0.2	0.2
Commercial	Acres	1,031.7	1,042.0	911.3	22.3
	%	1.6	1.6	1.4	0.8
Government, Institutional, Hospitals, Education	Acres	11,652.8	11,616.4	12,544.9	516.8
	%	18.1	18.1	19.0	18.0
Industrial	Acres	484.2	488.7	497.6	8.5
	%	0.8	0.8	0.8	0.3
Parks, Conservation Areas, Golf Courses	Acres	31,090.0	30,923.7	31,904.8	1,575.4
	%	48.2	48.2	48.2	55.0
Residential Group Quarters, Nursing Homes	Acres	12.9	11.8	10.3	0.0
	%	0.0	0.0	0.0	0.0
Residential Multi-Family	Acres	1,289.9	1,269.8	1,205.6	27.6
	%	2.0	2.0	1.8	1.0
Residential Mobile Home, or Commercial Parking Lot	Acres	517.4	519.2	485.1	11.1
	%	0.8	0.8	0.7	0.4
Residential Other	Acres	9.4	11.4	3.8	2.0
	%	0.0	0.0	0.0	0.1
Residential Single-Family	Acres	4,686.7	4,703.6	4,509.2	231.6
	%	7.3	7.3	6.8	8.1
Submerged Lands (Water Bodies)	Acres	469.9	376.5	542.6	0.7
	%	0.7	0.6	0.8	0.0
Transportation, Communication, Rights-Of-Way	Acres	586.5	595.0	436.9	11.4
	%	0.9	0.9	0.7	0.4
Utility Plants and Lines, Solid Waste Disposal	Acres	213.8	212.0	214.0	4.5
	%	0.3	0.3	0.3	0.2
Vacant	Acres	11,410.5	11,385.7	11,991.2	448.5
	%	17.7	17.8	18.1	15.6
Total Acres	Acres	64,437.4	64,140.3	66,190.0	2,866.4
	%	100.0	100.0	100.0	100.0

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

Future Land Use Category		Coastal Hazard Zone		Hurricane Vulnerability Zone		Flood Zones		Wildfire Susceptible Areas	
		Total	Undev.	Total	Undev.	Total	Undev.	Total	Undev.
Agriculture	Acres	21.0	6.2	19.4	5.3	20.5	7.1	0.4	0.0
	%	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Airport District	Acres	252.8	15.8	254.6	16.7	252.4	17.4	0.0	0.0
	%	0.4	0.1	0.4	0.1	0.4	0.1	0.0	0.0
Conservation	Acres	25,139.1	635.4	25,099.5	635.4	26,066.1	708.5	1,178.6	21.0
	%	39.0	5.6	39.1	5.6	39.4	5.9	41.1	4.7
Educational	Acres	115.0	1.6	113.5	1.1	92.3	1.3	0.0	0.0
	%	0.2	0.0	0.2	0.0	0.1	0.0	0.0	0.0
Industrial	Acres	303.9	123.5	301.4	119.5	330.2	131.3	12.3	0.4
	%	0.5	1.1	0.5	1.0	0.5	1.1	0.4	0.1
Institutional	Acres	257.9	89.6	253.9	90.7	259.5	92.1	16.5	0.9
	%	0.4	0.8	0.4	0.8	0.4	0.8	0.6	0.2
Military	Acres	3,446.5	57.1	3,445.8	61.3	3,866.1	68.7	0.0	0.0
	%	5.3	0.5	5.4	0.5	5.8	0.6	0.0	0.0
Mixed Use/Commercial	Acres	2,452.0	548.2	2,454.7	547.7	2,180.0	482.0	63.8	12.0
	%	3.8	4.8	3.8	4.8	3.3	4.0	2.2	2.7
Mixed Use/Commercial Fishing	Acres	243.9	147.8	242.8	144.5	270.9	160.1	11.1	4.7
	%	0.4	1.3	0.4	1.3	0.4	1.3	0.4	1.0
Municipality	Acres	4,518.8	503.4	4,518.8	507.2	4,412.2	519.6	4.2	2.0
	%	7.0	4.4	7.0	4.5	6.7	4.3	0.1	0.4
Public Buildings/Grounds	Acres	74.2	2.9	73.1	1.8	54.8	3.1	0.0	0.0
	%	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Public Facilities	Acres	256.8	16.5	264.4	16.9	253.7	15.6	4.7	0.7
	%	0.4	0.1	0.4	0.1	0.4	0.1	0.2	0.2
Recreational	Acres	1,448.2	57.7	1,446.8	58.4	1,451.1	54.2	10.5	0.4
	%	2.2	0.5	2.3	0.5	2.2	0.5	0.4	0.1
Residential Conservation	Acres	14,991.6	5,938.0	14,764.7	5,910.3	16,163.3	6,583.8	423.6	149.8
	%	23.3	52.0	23.0	51.9	24.4	54.9	14.8	33.4
Residential High Density	Acres	1,214.7	259.7	1,224.3	260.8	1,173.1	263.1	13.2	3.8
	%	1.9	2.3	1.9	2.3	1.8	2.2	0.5	0.8
Residential Low Density	Acres	4,401.5	1,498.1	4,402.0	1,498.5	4,330.4	1,473.1	813.0	164.3
	%	6.8	13.1	6.9	13.2	6.5	12.3	28.4	36.6
Residential Medium Density	Acres	5,299.5	1,509.0	5,260.7	1,509.5	5,013.7	1,410.3	314.6	88.5
	%	8.2	13.2	8.2	13.3	7.6	11.8	11.0	19.7
Total	Acres	64,437.5	11,410.5	64,140.3	11,385.7	66,190.1	11,991.2	2,866.4	448.5
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2.6 presents the total numbers of acres in a hazard zone in Monroe County’s incorporated areas and how many of those acres are currently undeveloped. There are 11,549 acres of incorporated land within both the HVZ and the CHZ. There are currently 2,711 acres of vacant land in these zones. The largest of the municipalities, Islamorada, Key West, and Marathon, constitute 97.3% of incorporated land within the zones while Key Colony Beach and Layton have 313 acres within the zones. Still, all of these municipalities are subject to storm surge and hazards associated with hurricanes. Also, all of the municipalities are within the flood zone, as **Table 2.6** shows. Approximately 23.6% of the land within the flood zone is vacant. No municipality contains a wildfire susceptible area. Only Key West is subject to sinkhole hazards, containing 403 acres of land at risk. The sinkhole hazard in Key West can be seen in the maps in **Attachment D**. Of these acres, only 19.2 acres are vacant. Clearly, hurricanes and flooding pose the greatest threat to the municipalities in Monroe County.

Table 2.6 Total and Vacant Incorporated Acres in Hazard Areas

Jurisdiction		Coastal Hazard Zone		Hurricane Vulnerability Zone		Flood Zones		Wildfire Susceptible Areas		Sinkhole Susceptible Areas	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Islamorada, Village of Islands	Acres	3,534.6	1,054.0	3,534.6	1,054.0	3,295.6	999.2	0.0	0.0	0.0	0.0
	%	100.0	29.8	100.0	29.8	100.0	30.3	0.0	0.0	0.0	0.0
Key Colony Beach	Acres	211.1	45.9	211.1	45.9	257.0	59.5	0.0	0.0	0.0	0.0
	%	100.0	21.8	100.0	21.8	100.0	23.2	0.0	0.0	0.0	0.0
Key West	Acres	3,418.2	138.2	3,418.2	138.2	3,419.7	145.1	0.0	0.0	402.6	19.2
	%	100.0	4.0	100.0	4.0	100.0	4.2	0.0	0.0	100.0	4.8
Layton	Acres	101.7	62.0	101.7	62.0	103.7	63.8	0.0	0.0	0.0	0.0
	%	100.0	61.0	100.0	61.0	100.0	61.5	0.0	0.0	0.0	0.0
Marathon	Acres	4,283.8	1,410.7	4,283.8	1,410.7	4,542.9	1,474.9	0.0	0.0	0.0	0.0
	%	100.0	32.9	100.0	32.9	100.0	32.5	0.0	0.0	0.0	0.0
Total Acres	Acres	11,549.3	2,710.8	11,549.3	2,710.8	11,618.9	2,742.5	0.0	0.0	402.6	19.2
	%	100.0	23.5	100.0	23.5	100.0	23.6	0.0	0.0	100.0	4.8

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 Monroe County LMS (revised in 2005) 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 contains detailed information on the vulnerability of structures, infrastructure, environmental resources and the economy of Monroe County. Appendix A of the LMS lists public and critical facilities including their locations. Section 5.5.1 provides analysis of the vulnerability of housing units, commercial buildings, persons with special needs, institutional buildings, and hotels, while Section 5.5.2 provides an analysis of transportation infrastructure. This section also includes a list of roads that are subject to flooding. The analysis included in the LMS provides comprehensive hazard identification. (Monroe County, 2005)

Guiding Principles

Section 7.3.1 of the LMS lists hazard mitigation policies that are found in the Monroe County Comprehensive Plan and explains how hazard mitigation is incorporated in its goals, objectives and policies. The LMS also includes a short summary of each municipality's comprehensive plan as it relates to hazard mitigation. (Monroe County, 2005)

LMS Goals and Objectives

The LMS Goals and Objectives can be found in **Attachment E**. The following is a summary of how well the LMS has addressed mitigation issues that coincide with planning concerns. The LMS includes seven broad goals. The goals aim to protect the residents of Monroe County, infrastructure, transportation, critical facilities, property, the economy, and the environment. (Monroe County, 2005) The LMS could be greatly enhanced by creating a policy framework that conceptualizes all of the existing hazard mitigation programs and procedures currently in place, as well as drafting goals that continually aim to improve hazard mitigation in the County.

Comprehensive Emergency Management Plan

The Mitigation Annex of the 2003 Monroe County CEMP was reviewed for consistency with the other plans and evaluated in its effectiveness as a tool for planners. The Annex is minimally useful to planners. It narrates the process of how a federally declared major disaster is issued. It briefly states which county official is responsible for safeguarding certain documents and records. The Annex contains a short list of ordinances, structure requirements, design standards, and resolutions that help mitigate the effects of hurricanes on structures. It contains a paragraph explaining that Monroe is the most at-risk county in the country for tropical cyclones. Finally, there is a section describing how hazard mitigation funds will be spent.

Post-Disaster Redevelopment Plan

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

Monroe County and all of its incorporated municipalities participate in the National Flood Insurance Program. In addition, Monroe County participates in the Community Rating System and has a current class of 10. Key Colony Beach, Key West, and Layton also participate in the Community Rating System.

4. Comprehensive Plan Review

The Monroe County Year 2010 Comprehensive Plan (amended 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 F**. The following is a summary of how well the plan addressed the four hazards of this analysis.

Coastal Hazards

There are many policies in the Future Land Use Element and the Conservation and Coastal Management Element of the Monroe County Comprehensive Plan that aim to protect beach and berm resources. Policies indicate the Monroe County Natural Heritage and Park Program as a means to acquire beach and berm areas. Native vegetation on beach and berm areas is also protected while other policies support the removal and eradication of non-native invasive vegetation throughout the county. There are policies that promote the use of beach management plans as a way of analyzing, restoring, and protecting coastal resources. Land Development Regulations (LDR) also include standards that aim to protect beach and berm areas as well as to prevent and restore shoreline erosion.

Protecting natural barriers is a strong hazard mitigation strategy. They receive most of the storm and wave impact during a hurricane event, leaving a diminished wave to travel to the wetlands or mainland. There are policies that discourage development on offshore islands and on federally designated units of the Coastal Barrier Resource System (CBRS). Policies also prohibit public expenditures and investment on CBRS units, in accordance with federal policy.

Permit proposals are evaluated using the Permit Allocation and Point System, which, among other purposes, addresses environmental protection and hazard mitigation issues by limiting and regulating growth and implementing a land acquisition strategy (Florida Department of Community Affairs, 2005).

Evacuation and Sheltering

Since all of the land in Monroe County is designated as a Coastal High Hazard Area (CHHA), well established and maintained evacuation routes and procedures are vitally important during an evacuation event. Additionally, since transportation routes from the Keys to the mainland are limited to County Road 905 A and U.S. Route 1, maintaining evacuation route capacity is vital. There are policies that aim to maintain and improve evacuation clearance times and routes, provide adequate emergency response personnel and equipment, create procedures for the orderly closing of commercial and transient residential establishments, and establish emergency response operations. These policies aim to facilitate a safe evacuation during a storm event.

Other policies aim to maintain evacuation route capacity by managing the amount, density, and intensity of new development through the Permit Allocation and Point System and the Land Development Regulations (LDR). Finally, there are policies that support coordination with numerous local, regional, State, and Federal agencies to facilitate evacuation routes and procedures.

The Comprehensive Plan has many policies that address emergency shelter needs for County residents. Since evacuation of the islands is likely preceding a hurricane, policies promote the identification and procurement of shelters outside Monroe County. These policies also promote cooperation with the Florida Department of Community Affairs, Division of Emergency Management, the South Florida Regional Planning Council, Dade County, and the Red Cross to meet existing and future shelter demand. Additionally, there is a policy that mandates all new public facilities be suitable for emergency public habitation in the event of Category 1 or 2 hurricanes.

Flood Prone Areas

There are many policies that are aimed to protect wetlands and flood-prone areas. Protecting wetlands and native wetland vegetation can conserve valuable environmental resources but also help reduce potential wave impact and shoreline erosion, as well as preserve natural drainage systems. The County employs transfer of development rights, development restrictions, an acquisition program, and park management plans to protect and restore wetlands. Also, the County shows commitment to protecting these resources through policies that support the collection of high quality data used to identify and analyze wetlands in the County. Policies also support involvement in the National Flood Insurance Program and the Community Rating System as well as federal, state and local setback and elevation requirements.

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.

Monroe County has begun this process of integrating hazard mitigation throughout its Plan's elements. The prior section summarized how the major hazards for the County have been for the

most part well-addressed. There is, however, still some disconnection between the LMS objectives and initiatives, and the policies in the Comprehensive Plan. By tightening the connection between these documents, the County will find it easier to implement hazard mitigation, and there will be higher awareness of these issues within more departments of the County government. **Table 5.1** presents options for further integration as well as the basis for these recommendations.

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

Table 5.1 Options for Integrating LMS Hazard Mitigation Principles into Monroe County's Comprehensive Plan (DRAFT)

Strategies & Integration Topics	Current LMS Information, Goals, or Objectives	Current Comprehensive Plan Policies	Options for Further Integration into the Comprehensive Plan	Options for Enhancement of the LMS	Basis For Suggested Options
Strategy 1 - Collaboration, coordination, and education					
a) Is there information sharing &/or involvement in plan development between planners & emergency managers?	City Planners and Emergency Managers participate in the LMS Work Group. Growth Management plays a fundamental role in Monroe County's hazard mitigation strategy and the Department of Emergency Management oversees many aspects of land development and planning.	FLUE P. 101.17.3 Share GIS apps with WMD and agencies. ICE P. 1301.1.6 Monroe County Technical Coordination Committee will meet biannually and consider 5. Public Safety 8. Potable Water 9. Drainage 10. Natural Groundwater Aquifer Recharge 11. Conservation 12. Coastal Management 14. Hurricane Evacuation and Recovery			
b) Do the Comp Plan, LMS, CEMP, & other local and regional plans cross-reference each other & include consistent data on hazardous locations?	All of these documents cross-reference each other.	ICE O. 1301.5 Ensure the Comp Plan is coordinated with the corresponding plans and programs. CIE P. 1401.4.14 Complete a Stormwater Management Master Plan. CCME P. 217.2.7 PDRP guidelines incorporated into Comp Plan. DE O. 1001.3 Complete a comprehensive Stormwater Management Master Plan.			
c) Are hazard mitigation projects addressed in the 5-year schedule of Capital Improvement Projects?					

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<p>d) Are there measures to educate residents, homeowner/pro perty associations, & the business community of ways they can mitigate against hazards?</p>	<p>The LMS lists allocations dedicated to education of the public in Section 7.4 Communications About Hazards.</p>	<p>ICE P. 1301.8.2 Educate public on hurricane awareness and evacuation procedures. CCME P. 216.1.7 Draft and implement a comprehensive program for expanded resident and visitor hurricane awareness and evacuation procedures. ICE P. 1302.1.1 By January 4, 1998, discussions between the Divisions of Public Safety, Community Services, Growth Management, and Public Works shall formalize existing or new coordination mechanisms to avoid conflicts and improve delivery of services to the citizens of Monroe County. Including 3. Hurricane preparedness and response plans;</p>	<p>The County could include a policy that supports the County's existing efforts to train public officials in mitigation related topics to address disaster preparedness and ways to mitigate hazards prior to development and redevelopment.</p>		<p>The LMS includes Section 7.1 County Government Structure indicates that it is convention in Monroe County to incorporate hazard mitigation ideas into permitting, site plan review, building inspection duties. Creating a Comprehensive Plan policy that supports the training of County employees can help ensure hazard mitigation remains at the forefront of government operations as well as provide updated information to expand hazard mitigation knowledge.</p>

Table 5.1 Options for Integrating LMS Hazard Mitigation Principles into Monroe County's Comprehensive Plan (DRAFT)

Strategies & Integration Topics	Current LMS Information, Goals, or Objectives	Current Comprehensive Plan Policies	Options for Further Integration into the Comprehensive Plan	Options for Enhancement of the LMS	Basis For Suggested Options
Strategy 2 - Get out of the way: provide evacuation and sheltering services					
<p>a) Are there measures to provide adequate evacuation clearance time to support current population and population growth?</p>	<p>Maintenance and protection of roads and bridges, including traffic signals and street signs.</p> <p>The LMS states the County uses the Rate of Growth Ordinance or ROGO system to distribute a pre-determined number of allocations for new residential permits based, in part, on evacuation capacity. (Section 2.3 LMS)</p>	<p>FLUE O. 101.2 Reduce hurricane evacuation clearance times.</p> <p>FLUE P. 101.2.9 Coordinate with the FDCA / DEM to have Card Sound Road designated as an alternative hurricane evacuation route.</p> <p>FLUE P. 101.2.10 Limit the number of vehicles on the roads during a hurricane evacuation.</p> <p>FLUE P. 101.2.12 Capital improvements based upon the new hurricane evacuation transportation model.</p> <p>ICE O. 1301.8 Initiate the necessary interlocal coordination mechanisms to improve hurricane evacuation times and assure the provision of an adequate number of shelter facilities for evacuating Monroe County residents.</p> <p>ICE P. 1301.8.7 Coordinate with the U.S. Coast Guard to identify areas of mutual concern during a hurricane evacuation and identify the appropriate coordination mechanisms and procedures.</p> <p>ICE P. 1301.4.9 Coordinate with FDOT to ensure that US 1 roadway capacity improvements are placed on FDOT's five year plan to reduce hurricane evacuation clearance times.</p> <p>CCME G. 216 Provide for hurricane evacuation, shelters and refuges, and communication capabilities to promote safeguarding of the public against the effects of hurricanes and tropical storms.</p> <p>CCME O. 216.1 Reduce hurricane evacuation clearance time.</p> <p>CCME P. 216.1.1 Limit issuance of dev permits in order to maintain hurricane evacuation clearance times.</p> <p>CCME P. 216.1.3 During a hurricane evacuation, designate US 1 and Card Sound Road after Card Sound Road improvements are completed as evacuation routes as directed by the DEM</p> <p>CCME P. 216.1.4 Annually identify and establish staffing and equipment need priorities which are directly related to increasing efficiency during hurricane evacuation, including, but not limited to, communication systems, emergency coordination personnel, public education personnel, and dev review personnel.</p> <p>CCME P. 216.1.5 Continue to reanalyze evacuation studies.</p> <p>CCME P. 216.1.8 As directed by the Department of Emergency Management, implement procedures for the orderly closing and evacuation of hotels, motels,</p>			

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		<p>RV parks, mobile home parks, campgrounds, and state and county parks in accordance with the Monroe County Hurricane Preparedness Evacuation and Shelter Plan.</p> <p>CCME P. 216.1.9 In accordance with the Monroe County Hurricane Preparedness Evacuation and Shelter Plan, special needs populations shall be identified by the Monroe County Department of Emergency Management. implement the procedures contained in the Plan for the safe evacuation of these populations.</p> <p>CCME P. 216.1.11 Require that all new and redeveloped marinas provide a hurricane contingency plan for review and approval before permits can be issued.</p> <p>CCME P. 216.1.13 During a hurricane evacuation, implement the procedures contained in the Monroe County Hurricane Preparedness Evacuation and Shelter Plan for modifying normal bridge openings including coordination with the U. S. Coast Guard and Florida Department of Transportation.</p> <p>CCME P. 216.1.16 Coordinate with the Florida Department of Transportation (FDOT) to maintain hurricane evacuation clearance time at 24 hours,</p> <p>CCME P. 216.1.17 Reduce the number of evacuating vehicles including.</p>			
<p>b) Are there measures to provide adequate shelter space to meet population growth and special needs?</p>		<p>ICE P. 1301.8.5 Identify sufficient approved shelter spaces outside of Monroe County.</p> <p>ICE P. 1301.8.6 Provide sufficient additional approved spaces outside of Monroe County.</p> <p>CCME G. 216 Provide for hurricane evacuation, shelters and refuges, and communication capabilities to promote safeguarding of the public against the effects of hurricanes and tropical storms.</p> <p>CCME O. 216.2 Implement a plan to correct existing and projected shelter deficiencies for Category 1 and 2 storms.</p> <p>CCME P. 216.2.1 Determine the existing level of deficiency in number and location of shelter spaces for Category 1 and 2 storms</p> <p>CCME P. 216.2.2 All new public facility buildings suitable for emergency public habitation as determined by the Red Cross shall be required to meet accepted hurricane shelter standards for Category 1 and 2 hurricanes.</p>	<p>The County can create a Comprehensive Plan policy that specifies how it will meet shelter demand, possibly through an enforceable intergovernmental agreement. The County could also create a policy that aims to meet shelter demand based on the projections found in the State Shelter Plan.</p>	<p>The LMS could include a section listing all locations and capacity of existing evacuation shelters as well as an analysis of how future shelter capacity will be met, be it through shelter site location, facility expansion, or intergovernmental agreements. Currently Comprehensive Plan policies include these fundamental ideas. Including this type of analysis in the LMS can act as a catalyst in carrying out these</p>	<p>Including specific evacuation shelter policies can help ensure shelter demand is met.</p>

Table 5.1 Options for Integrating LMS Hazard Mitigation Principles into Monroe County's Comprehensive Plan (DRAFT)

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		<p>CCME O. 216.3 Develop and implement a plan providing sufficient approved shelter spaces outside Monroe County.</p> <p>CCME P. 216.3.1 Identify sufficient approved shelter spaces outside of Monroe County.</p> <p>CCME P. 216.3.2 Initiate an intergovernmental agreement to provide sufficient approved spaces outside of Monroe County</p> <p>CCME P. 216.3.3 Every 5 years determine the number of Monroe County residents who will require shelter outside of Monroe County during a Category 3 or greater hurricane.</p> <p>CCME P. 216.3.4 Evaluate and confirm the space available at all identified shelters and determine an estimate of shelter deficiencies.</p>		<p>polices.</p>	
Strategy 3 - Make the environment less hazardous: Protect and enhance natural protective features					
<p>a) Are there measures to protect and/or restore natural resources that might in turn decrease the risk from natural hazards?</p>	<p>Preservation and protection of the environment, including natural and historic resources.</p>	<p>Natural Resources</p> <p>FLUE O. 101.4 Regulate future dev and redev to protect the natural resources.</p> <p>FLUE P. 101.12.4 Prior to finalizing plans for existing public facility review must assess impacts on natural resources.</p> <p>FLUE P. 101.6.4 Coordinate with DCA / support enhanced land acquisition efforts in the Keys</p> <p>FLUE P. 101.11.1 Encourage a compact pattern of dev.</p> <p>GOAL 102 Direct growth to suitable land, encourage conservation and protection of ESLs</p> <p>FLUE P. 102.3.1 Reduce the exposure of residents to natural hazards, disturbances to natural vegetation resource areas;</p> <p>FLUE P. 102.5.5 Develop and implement a soil erosion and sedimentation control program</p> <p>FLUE O. 102.4 Monroe County Natural Heritage and Park Program used to acquire lands and open space</p> <p>FLUE P. 102.9.4 Develop a management plan for each Conservation Land Protection Area.</p> <p>FLUE P. 103.2.9 Support the efforts of federal agencies, state agencies, and private non-profit conservation organizations, to acquire land for conservation purposes within North Key Largo.</p> <p>CCME P. 205.2.7 Clearing of native vegetation shall be limited to the immediate dev area.</p>	<p>Encourage the removal of wildfire fuel sources near structures, especially in rural areas, to reduce risk to homes and businesses in the event of a wildfire.</p> <p>Update existing polices that protect natural resources to include hazard mitigation as a benefit.</p>		<p>The County has many existing policies that mitigate the impacts of hazards, however they have not been identified as beneficial in this area. Current growth management techniques such as land conservation, buffering, and the clustering of development to protect and conserve natural resources but also provide the major benefit of protecting development from natural disasters. The County could update these policies in the Comprehensive Plan and emphasize the benefits of hazard mitigation.</p>

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		<p>CCME O. 205.5 Establish a program for acquiring undisturbed native upland habitat.</p> <p>CCME P. 205.5.1 Cooperate with MCDER and MCLA to administer acquisition program.</p> <p>CCME P. 206.1.7 Invasive exotic vegetation shall be removed from the dev site.</p> <p>CCME GOAL 208 Protect, conserve soil and mineral resources.</p> <p>CCME O. 208.1 Develop and implement a soil erosion and sedimentation control program.</p> <p>CCME G. 210 Restore, where practicable, disrupted marine, wetland, beach/berm, and native upland vegetation systems on County-owned public lands.</p> <p>CCME O. 210.1 Initiate a program to restore and maintain disrupted marine, wetland, beach/berm and native upland vegetation systems on Monroe County public lands.</p> <p>CCME P. 210.1.4 A program shall be developed and updated every other year for removing invasive exotic vegetation from existing county-owned lands.</p>			
		<p>CCME G. 215 Limit public expenditures which result in the loss of or adverse impacts to environmental resources in the Coastal Zone.</p> <p>CME O. 215.2 Explore alternatives to public facilities and infrastructure that have neg. impacts on natural resources.</p> <p>CCME P. 215.2.1 Adopt LDRs that minimize adverse impacts of new public facilities on natural resources.</p> <p>PAE P. 501.2.3 Restrict dev construct or airport facilities in ESL .</p> <p>PAE P. 502.2.3 Dev activities to construct or expand port facilities shall be directed away from environmentally sensitive areas.</p> <p>PWE O. 701.8 FCAA shall improve its capacity to provide for fire flows.</p> <p>PWE P. 701.8.1 Continue to upgrade the distribution system toward the goal of providing fire flow capabilities.</p> <p>PWE O. 701.9 Assist in implementing the FCAA's Water Conservation Plan consistent with SFWMD's Water Shortage Plan and Water Conservation Program.</p> <p>PWE P. 701.9.2 During the dev of updated LDRs in accordance with Policy 701.9.1, the Monroe County Growth Management Division and FCAA shall evaluate building codes, utility regulations, landscaping ordinances, and public education programs for</p>			

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		<p>implementation of water conservation measures. DE P. 1001.2.1 Include protection of natural resources in criteria for prioritizing stormwater capital improvements projects. ROS G. 1201 Provide a recreation and open space system to conserve valuable natural resources. ROSE P. 1201.11.3 Park management plans shall be designed so as to avoid and/or mitigate adverse impacts of park use upon sensitive natural resources. ICE P. 1301.7.14 Soil erosion and sedimentation control program.</p>			
		<p>Coastal HazardsFLUE P. 102.2.3 Protect beach/berm resources. FLUE O. 102.3 LDRs which will direct new dev to areas having appropriate topography and soil conditions.FLUE P. 102.7.3 Discourage devs proposed on offshore islands. FLUE O. 102.8 Discourage dev in areas designated as units of the CBRS. FLUE P. 102.8.1 Discourage devs which are proposed in units of CBRS.FLUE P. 102.8.3 Prohibit shoreline hardening structures along shorelines of CBRS units. FLUE P. 103.2.10 Discourage private dev in areas designated as units of the CBRSCCME P. 202.10.2 Develop and adopt best management practices for temporary and permanent erosion and sedimentation control practices.CCME P. 202.10.4 Require use of the adopted best management practices for erosion and sedimentation control.CCME P. 202.10.5 The Stormwater Management Master Plan will address drainage improvements required for these areas to mitigate erosion and sedimentation problems CCME P. 202.10.6 Adopt revisions to the LDRs pertaining to shoreline stabilization CCME P. 202.10.7 Identify shoreline areas on public and private lands where there is evidence of serious shoreline erosion.CCME GOAL 206 Beach/berm resources shall be protected.CCME P. 206.1.3 Permitted uses within the shoreline setback along natural shorelines characterized by beach/berm vegetation shall be limited to docks and walkways. CCME P. 206.1.4 No beach/berm material shall be excavated or removed and no fill shall be deposited on a beach/berm.</p>			

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		<p>CCME P. 206.1.5 Limit clearing of beach/berm vegetation in the area landward of the shoreline setback.</p> <p>CCME P. 206.1.6 Beach/berm areas disturbed during construction shall be immediately restored to stable condition.</p> <p>CCME O. 206.2 Restore and maintain disturbed beach/berm resource areas on public lands.</p> <p>CCME O. 206.3 Prepare annual beach management plans for all publicly owned beaches.</p> <p>CCME O. 206.4 Establish a program for acquiring undisturbed beach/berm resource areas]</p> <p>CCME P. 206.4.1 Cooperate with MCDER and MCLA to administer beach/berm acquisition program.</p> <p>CCME P. 207.8.1 LDRs to include removal of invasive vegetation, and restoration of native vegetation in beach/berm areas.</p> <p>CCME P. 207.8.2 Restore and maintain disturbed beach/berm areas on public lands.</p> <p>CCME P. 210.1.5 A program shall be developed and updated every other year for restoring county-owned beach/berm areas.</p>			

Table 5.1 Options for Integrating LMS Hazard Mitigation Principles into Monroe County's Comprehensive Plan (DRAFT)

Strategies & Integration Topics	Current LMS Information, Goals, or Objectives	Current Comprehensive Plan Policies	Options for Further Integration into the Comprehensive Plan	Options for Enhancement of the LMS	Basis For Suggested Options
		<p>Flood Hazards FLUE P. 101.13.6 Sites with specific vegetation, wetlands, or zoning categories, as listed, are eligible for Transferable Dev Rights (TDRs) and Potential Dev Credits (PDCs) FLUE P. 102.1.1 Protect submerged lands and wetlands. FLUE O. 102.2 Revised LDRs will further protect disturbed wetlands, native upland vegetation and beach/berm areas. FLUE P. 102.2.1 Eliminate the net loss of disturbed wetlands. FLUE P. 103.1.15 Restore disrupted wetland and native upland vegetation systems CCME O. 203.1 Protect its mangrove wetlands. CCME P. 203.1.1 No fill or structures shall be permitted in mangrove. CCME P. 203.1.3 Require minimum vegetated setbacks of fifty (50) feet from wetlands. CCME GOAL 204 Marine and freshwater wetlands shall be protected and enhanced. CCME O. 204.1 Regulate land dev activities in wetland areas. CCME P. 204.1.1 Participate in Identification of Wetlands (ADID) Program. CCME P. 204.1.2 Map freshwater wetlands and disturbed wetlands in the Lower Keys. CCME P. 204.1.3 Generate a new set of wetlands maps. CCME P. 204.1.4 As part of the ADID Program, cooperate with the EPA, ACOE, FGFWFC, SFWMD and FWS to develop a wetlands functional assessment protocol. CCME P. 204.1.5 As part of the ADID Program, Monroe County, EPA, FWS, and FGFWFC will jointly carry out the functional analysis of wetlands. CCME P. 204.1.6 Annually update the wetlands data in the Geographic Information System CCME O. 204.2 Eliminate the loss of undisturbed wetlands and shall eliminate the net loss of disturbed wetlands. CCME P. 204.2.1 Protect submerged lands and wetlands. CCME P. 204.2.2 Restrict development in wetlands. CCME P. 207.1.4 The Open Space Requirement for undisturbed salt marsh and buttonwood wetlands shall be one hundred (100) percent. CCME P. 210.1.1 Priority wetland restoration sites shall be drafted and updated every other year</p>			

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		<p>CCME P. 204.2.3 Restrict development in mangroves or wetlands. CCME P. 204.2.4 Restrict dev activities in wetlands. CCME P. 204.2.6 50 foot setbacks to wetlands. CCME P. 204.2.10 Revise the LDRs to include additional environmental standards to protect wetland habitats. CCME O. 204.3 Initiate a program to restore disturbed marine and freshwater wetlands. CCME P. 204.3.2 A list of publicly-owned priority wetland restoration sites shall be drafted and updated every other year. CCME P. 204.3.3 Work cooperatively with the ACOE, EPA, FWS, DER, DNR, FGFWFC, and others as appropriate, to determine funding sources to support the wetlands restoration program. CCME O. 204.4 Establish a program for acquiring high quality undisturbed salt marsh and buttonwood wetlands. CCME P. 204.4.1 Administer the wetlands acquisition program. ICE P. 1301.6.2 As part of the ADID Program, continue to cooperate with the EPA, (ACOE), (FGFWFC), and (USFWS) to develop a wetlands functional assessment protocol. ICE P. 1301.6.3 As part of the ADID Program, Monroe County, EPA, USFWS, and FGFWFC will jointly carry out the functional analysis of wetlands. ICE P. 1301.6.4 Work cooperatively with the ACOE, EPA, DER, DNR, FGFWFC, and others as appropriate, to determine funding sources to support the wetlands restoration program. ICE P. 1301.6.5 Cooperate with the FGFWFC in its effort to map freshwater wetlands and disturbed wetlands. ICE P. 1301.6.6 Developing and administering the wetlands acquisition program. CCME O. 217.1 Develop and implement a program of hazard mitigation in the CHHA (CHHA) which reduces floodplain alteration and damage or loss due to natural disasters. DE P. 1001.4.1 Protect the functions of natural drainage features that impact the quality of the waters surrounding the Florida Keys. ROSE P. 1201.3.9 Park master plans shall identify areas of disturbed wetlands as potential wetlands mitigation sites. ROSE P. 1201.11.5 Park management plans shall identify areas of disturbed wetlands as potential wetlands mitigation sites.</p>			

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	<p>" the threat of brush and wild land fires is minimal for the majority of Monroe County. The exceptions are the Everglades National Park in mainland Monroe, and on Big Pine and Sugarloaf Keys in the Lower Keys." (LMS. Section 6.5 Wildland Fire)</p>	<p>Wildfire HazardsFLUE P. 102.2.2 Protect native upland vegetation.CCME P. 205.2.10 Invasive exotic vegetation shall be removed from the dev parcel as a condition for issuance of a Certificate of Occupancy. CCME P. 210.1.9 Remove invasive exotic vegetation from acquisition sites. CCME O. 211.2 Continue to assist the FCAA with water conservation efforts,implement the FCAA's Water Conservation Plan, consistent with SFWMD's Water Shortage Plan and Water Consumption Guidelines. CCME P. 217.1.3 Coordinate with the Florida Keys Aqueduct Authority (FCAA) in the continued dev of an Aquifer Storage Recovery System to supply emergency potable water in the event that the transmission lines from the mainland are disrupted during a natural disaster.ROSE P. 1201.3.10 Park master plans shall include provisions for the removal of invasive, exotic vegetation. ROSE P. 1201.3.11 Park master plans shall specify the use of native vegetation for landscaping and for restoration of areas from which invasive, exotic vegetation is removed. ROSE P. 1201.11.6 Park management plans shall include provisions for removal of invasive, exotic vegetation. ROSE P. 1201.11.7 Park management plans shall specify the use of native vegetation for landscaping and for restoration of areas from which invasive, exotic vegetation is removed.</p>			
Strategy 4 - Make structures more resistant to natural hazard forces					
<p>a) Are there measures that support relocating or retrofitting private &/or public structures in hazard areas?</p>		<p>CCME P. 217.2.3 The PDRP shall identify areas particularly susceptible to damage within the CHHA such as the FEMA designated V-zones and repetitive loss areas as defined by FEMA and shall specify procedures for relocating or replacing public infrastructure away from them, where feasible.</p>			

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Strategies & Integration Topics	Current LMS Information, Goals, or Objectives	Current Comprehensive Plan Policies	Options for Further Integration into the Comprehensive Plan	Options for Enhancement of the LMS	Basis For Suggested Options
<p>b) Are there measures to require compliance with or exceed building codes &/or design standards for certain hazard areas?</p>	<p>The LMS includes a discussion of how structures built prior to the enactment of</p>	<p>FLUE O. 101.9 Provide for drainage and stormwater management.FLUE O. 102.1 New dev will comply with env. Standards and design criteria to protect wetlands, vegetation and beach / berm areas.CCME O. 206.1 Revise the LDRs to include revised dev standards pertaining to permitted uses, siting of structures, disturbances, removal of invasive vegetation, and restoration of native vegetation in undisturbed and disturbed beach/berm areas. CCME G. 209 Discourage private land uses on its mainland, offshore islands and undeveloped coastal barriers, and shall protect existing conservation lands from adverse impacts associated with private land uses on adjoining lands. CCME O. 209.3 Take immediate actions to discourage private dev in areas designated as units of the CBRS (CBRS). CCME P. 212.2.1 Establish and strengthen minimum coastal construction setbacks.CCME P. 212.6.4 Shoreline structures shall be designed to protect tidal flushing and circulation patternsCCME P. 217.1.4 Continue its policy of reviewing the current Building Code and, as appropriate, adopting structural standards and site alteration restrictions that meet or exceed the minimum FEMA requirements. The Building Code shall be reviewed and revised at least every five years. The recommendations of the applicable interagency hazard mitigation report shall be considered in revisions to the Code. CCME P. 217.1.5 Continue to participate in the (NFIP) and (CRS) to the maximum extent possible and shall seek to improve its current CRS Class 9 rating.CCME P. 217.1.6 Continue to enforce federal, state and local setback and elevation requirements.</p>	<p>-</p>		

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<p>c) Are there measures to protect cultural resources from natural disasters?</p>	<p>Section 2.7.2 Historic Resources states that some sites have been structurally mitigated through the retrofit of hurricane shutters.</p>	<p>FLUE P. 103.2.11 Require an archaeological/historical review prior to issuing a building permit or dev FLUE G. 104 Recognize, designate, protect, and preserve its historic resources. FLUE P. 104.1.3 Complete a comprehensive historic architectural survey to inventory and document historic architectural resources. FLUE P. 104.2.1 Revise the LDRs to protect local historical, archaeological and cultural resources. FLUE O. 104.3 Adopt and implement measures for the protection and preservation of historic resources.] FLUE P. 104.3.1 Adopt LDRs constituting a Historic Preservation Ordinance to provide protection for historic resources FLUE P. 104.6.3 Encourage and facilitate acquisition of historic sites. FLUE P. 104.6.4 Identify available public and private funding sources for historic preservation activities including restoration. CCME G. 214 Recognize, designate, protect, and preserve its historic resources. CCME O. 214.3 Adopt and implement measures for the protection and preservation of historic resources. CCME O. 214.4 Adopt and implement measures for the protection and preservation of historic resources on public lands. CCME O. 214.6 Coordinate with public agencies and non-profit organizations to protect, preserve and increase awareness of historic resources.</p>		<p>The LMS could promote a program aimed at analyzing historic structures in regards to structural weaknesses, ranks the structural mitigative projects in priority order in the LMS, and ties in sources of funding to achieve these proactive mitigative actions.</p>	<p>As the LMS describes, Monroe County is rich with historical sites and structures. As described in Section 2.7.2 of the LMS, several structures have already been mitigated using HMGP funds. Expanding these efforts by analyzing additional structures and taking mitigative action prior to disaster events may increase the protection of the County's rich historical heritage.</p>
<p>Strategy 5 - Manage the development and redevelopment of land in hazardous areas</p>					
<p>a) Are there measures to limit population densities in high-hazard areas?</p>		<p>FLUE O. 101.11 Direct future growth away from ESL. FLUE O. 101.14 LDRs direct growth away from flood prone areas. FLUE P. 101.14.1 Discourage devs proposed within the CHHA. FLUE P. 101.14.2 Prohibit mobile homes within the CHHA. CCME P. 216.1.15 Consider implementing impact fees to offset the public costs of hazard mitigation, evacuation, reconstruction of public facilities, emergency communications equipment and similar needs. CCME P. 217.2.4 Limit redev in areas within the CHHA particularly susceptible to repeated damage as defined by the PDRP. CCME O. 217.3 Adopt LDRs which direct future growth away from the CHHA</p>			

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		CCME P. 217.3.2 Limit the construction of mobile homes within the CHHA			
b) Are there measures to limit public expenditures that subsidize development in high-hazard areas?		<p>FLUE P. 103.2.4 New public facilities or facility expansion will evaluate the extent of public expenditures in the CHHA and within environmentally sensitive areas.</p> <p>CIE O.1401.2 Public expenditures within the CHHA (CHHA) shall be limited</p> <p>CIE P. 1401.2.1 Adopt LDRs which limit public expenditures in the CHHA.</p> <p>CIE P. 1401.2.2 No public expenditures shall be made for new or expanded facilities in areas designated as units of the CBRS, undisturbed saltmarsh and buttonwood wetlands, or offshore islands.</p> <p>ICE P. 1301.7.12 Discourage or prohibit extension of facilities and services to Coastal Barrier Resource Systems (CBRS) units.</p> <p>CCME O. 215.1 Public expenditures for infrastructure in the Coastal Zone shall be phased.</p> <p>CCME P. 215.2.3 Limit public expenditures new or expanded facilities in areas designated as units of the CBRS, wetlands, or islands.</p> <p>CCME O. 217.4 Public expenditures within the CHHA shall be limited to the restoration or enhancement of natural resources and parklands and limited public facilities.</p> <p>CCME P. 217.4.1 Adopt LDRs which limit public expenditures in the CHHA.</p> <p>CCME P. 217.4.2 No public expenditures shall be made for new or expanded facilities in areas designated as units of the CBRS, undisturbed saltmarsh and buttonwood wetlands.</p>			
c) Are there creative neighborhood design solutions or development regulations that mitigate hazards, such as clustering or transfer of development rights?		<p>FLUE P. 101.13.6 Sites with specific vegetation, wetlands, or zoning categories, as listed, are eligible for Transferable Dev Rights (TDRs) and Potential Dev Credits (PDCs):</p> <p>FLUE P. 102.3.2 Require dev clustering.</p> <p>CCME P. 205.2.3 Establish clustering requirements.</p> <p>CCME P. 206.1.2 Minimum coastal construction setbacks.</p> <p>CCME P. 207.1.5 Clustering requirements shall be revised so as to reduce habitat fragmentation</p>	-		

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Strategies & Integration Topics	Current LMS Information, Goals, or Objectives	Current Comprehensive Plan Policies	Options for Further Integration into the Comprehensive Plan	Options for Enhancement of the LMS	Basis For Suggested Options
<p>d) Are there measures to limit redevelopment in hazard areas and procedures for post-disaster recovery that will lead to a more disaster-resistant community?</p>		<p>FLUE P. 101.8.6 Non-conforming uses rebuilt without increase in density or intensity of use.FLUE P. 101.8.11 Existing manufactured homes which are damaged or destroyed shall meet HUD and floodplain mgt standards.CCME P. 216.1.14 Complete a Post-Disaster Recovery Plan which will include a structured procedure aimed at debris removal preparedness during hurricane evacuation and re-entry. CCME O. 217.2 Develop a PDRP which addresses priorities for immediate recovery and long-term redev including reducing the exposure of human life to natural hazards. CCME P. 217.2.1 As provided by its Hurricane Preparedness Evacuation and Shelter Plan, annually coordinate post-disaster recovery operations to clarify the roles and responsibilities of county departments, state and federal agencies, private and public utilities, and other applicable entities. Deficiencies shall be identified and immediately initiate interlocal agreements or interdepartmental directives as necessary to remedy the existing deficiencies. CCME P. 217.2.2 Develop a PDRP which specifies procedures for implementing programs for immediate repair, replacement, and cleanup, and long-term rebuilding and redev. The plan shall also include procedures for the identification of damaged infrastructure and consideration of alternatives to its repair or replacement in the CHHA. CCME P. 217.2.4 Limit redev in areas within the CHHA particularly susceptible to repeated damage as defined by the PDRP. CCME P. 217.2.5 Identify areas in need of redev and shall draft a redev plan for each area as well as procedures for implementing the program upon damage or loss due to a natural disaster.CCME G. 217 Develop and implement a program of hazard mitigation and post-disaster redev to increase public safety and reduce damages and public expenditures.</p>			

Abbreviations: G= Goal; O= Objective; P=Policy; PDRP= Post-Disaster Redevelopment Plan; HVZ= Hurricane vulnerability zone; CHHA= Coastal High Hazard Area
 CCME= Conservation and Coastal Management Element; FLUE= Future Land Use Element; PWE= Potable Water Element; CIE= Capital Improvements Element; DE= Drainage Element; ICE= Intergovernmental Coordination Element; ROSE= Recreation and Open Space Element; PAE= Ports and Aviation Element.

6. Sources

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Attachment A

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

Attachment B

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

Attachment C

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

Attachment D

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

Attachment E

Monroe County Local Mitigation Strategy Goals and Objectives

- Preservation of sustainability of life, health, safety and welfare.
- Preservation of infrastructure, including power, water, sewer and communications.
- Maintenance and protection of roads and bridges, including traffic signals and street signs.
- Protection of critical facilities, including public schools and public buildings.
- Preservation of property and assets.
- Preservation of economy during and after disaster, including business viability.
- Preservation and protection of the environment, including natural and historic resources.

Attachment F

Monroe County Comprehensive Plan Excerpts Related to Hazard Mitigation

Future Land Use Element

GOAL 101 Monroe County shall manage future growth to enhance the quality of life, ensure the safety of County residents and visitors, and protect valuable natural resources.

Objective 101.2 Monroe County shall reduce hurricane evacuation clearance times to 24 hours by the year 2010.

Policy 101.2.9 Monroe County will coordinate with the Florida Department of Community Affairs' Division of Emergency Management and the County's Director of Emergency Management to have Card Sound Road designated as an alternative hurricane evacuation route by the time the improvements to Card Sound Road are completed in 1998. Monroe County shall divert 40% of evacuating traffic to Card Sound road upon completion of planned roadway improvements by 1998.

Policy 101.2.10 Monroe County shall initiate a program to limit the number of vehicles on the roads during a hurricane evacuation. This program shall include educating the public regarding the need to use some type of mass transit to reduce the number of vehicles used for hurricane evacuation and the need to severely reduce the number of individual vehicles used for evacuation while emphasizing the need to evacuate when an evacuation order is issued. In addition, the County will study the feasibility of vehicle registration for use in evacuating and any other feasible alternatives.

Policy 101.2.12 The County will reconsider its capital improvements based upon the need for additional or different capital improvements identified as a result of the new hurricane evacuation transportation model.

Objective 101.4 Monroe County shall regulate future development and redevelopment to maintain the character of the community and protect the natural resources by providing for the compatible distribution of land uses consistent with the designations shown on the Future Land Use Map. [9J-5.006(3)(b) 3]

Objective 101.5 Monroe County shall implement a Point System which directs future growth in order to:
 1. encourage the redevelopment and renewal of blighted areas [9J-5.006(3)(b)2];
 2. maintain and enhance the character of the community [9J-5.006(3)(b)3];

3. protect natural resources [9J-5.006(3)(b)4];
4. encourage a compact pattern of development [9J-5.006(3)(b)7]; and
5. encourage the development of affordable housing.

Policy 101.6.4 The County will coordinate with DCA to ensure that DCA continues to support enhanced land acquisition efforts in the Keys based on needs identified in this comprehensive plan. This coordination shall ensure continued support of state acquisition efforts under CARL, Preservation 2000 and the Florida Communities Trust programs. The County and the Department will also support appropriate legislative changes which will have the effect of enhancing the Land Authority efforts throughout the County, and the South Florida Water Management District's acquisitions on Big Pine Key. Similarly, cooperation will continue with private acquisition efforts, such as The Nature Conservancy and the Florida Land and Sea Trust.

Policy 101.8.6 Non-conforming uses existing as of September 15, 1986 and located within the Mixed Use/Commercial Fishing category, as indicated on the Future Land Use Map, may be rebuilt if damaged or destroyed, provided that they are rebuilt to the preexisting use, building footprint and configuration without increase in density or intensity of use.

Policy 101.8.11 Existing manufactured homes which are damaged or destroyed so as to require substantial improvement shall be required to meet the most recent HUD standards, and the floodplain management standards set forth by FEMA.

Objective 101.9 Monroe County shall provide for drainage and stormwater management so as to protect real and personal property and to protect and improve water quality. [9J-5.006(3)(b)4]

Objective 101.11 Monroe County shall implement measures to direct future growth away from environmentally sensitive land and towards established development areas served by existing public facilities. [9J-5.006(3)(b)4 and 7]

Policy 101.11.1 By January 4, 1997, Monroe County shall adopt Land Development Regulations which establish a Point System to encourage a compact pattern of development (see Objective 101.5 and supporting policies).

Policy 101.12.4 Upon adoption of the Comprehensive Plan, Monroe County shall require that the following analyses be undertaken prior to finalizing plans for the siting of any new or the significant expansion (greater than 25 percent) of any existing public facility:

1. assessment of needs;
2. evaluation of alternative sites and design alternatives for the selected sites; and

3. assessment of direct and secondary impacts on surrounding land uses and natural resources.

The assessment of impacts on surrounding land uses and natural resources will evaluate the extent to which the proposed public facility involves public expenditures in the coastal high hazard area and within environmentally sensitive areas, including disturbed salt marsh and buttonwood wetlands, undisturbed beach/berm areas, units of the Coastal Barrier Resources System, undisturbed uplands (particularly high quality hammocks and pinelands), habitats of species considered to be threatened or endangered by the state and/or federal governments, offshore islands, and Conservation Land Protection Areas.

Policy 101.13.6

In conjunction with the first annual review of the Point System, parcels within the following habitats and land use districts shall be designated as sender sites for Transferable Development Rights (TDRs) and Potential Development Credits (PDCs):

- Any parcel within these zoning categories:
 - Offshore Island (OS) Sparsely Settled (SS)
 - Mainland Native (MN) Parks and Refuge (PR)
 - Native (NA) Conservation (C)
 - Habitat of the following types which lie within any zoning category:
 - Freshwater wetlands
 - Saltmarsh/Buttonwood wetlands
 - High quality high hammock
 - High quality low hammock
 - Moderate quality high hammock
 - Moderate quality low hammock
 - High quality pinelands
 - Low quality pinelands
 - Beach/berm
 - Palm Hammock
 - Cactus Hammock
 - Disturbed Wetlands

Objective 101.14

By January 4, 1997, Monroe County shall adopt Land Development Regulations which direct future growth away from areas subject to periodic flooding.

Policy 101.14.1

Monroe County shall discourage developments proposed within the Coastal High Hazard Area (CHHA) by methods including, but not limited to, negative points in the Permit Allocation and Point System (see Policy 101.5.4). [9J-5.006(3)(c)1]

Policy 101.14.2

Monroe County shall prohibit the placement of mobile homes within the CHHA except on an approved lot within

an existing mobile home park or subdivision zoned for such use. [9J-5.012(3)(c)3]

Policy 101.17.3 Monroe County shall continue to share data with the Florida Keys Aqueduct Authority, City Electric System, South Florida Water Management District, and other agencies for use in GIS applications.

GOAL 102 Monroe County shall direct future growth to lands which are intrinsically most suitable for development and shall encourage conservation and protection of environmentally sensitive lands. [9J-5.006(3)(a)]

Objective 102.1 Upon adoption of the Comprehensive Plan, Monroe County shall require new development to comply with environmental standards and environmental design criteria which will protect disturbed wetlands, native upland vegetation and beach/berm areas. [9J-5.006(3)(b)1 and 4]

Policy 102.1.1 Upon adoption of the Comprehensive Plan, the County shall utilize the Environmental Standards, found in Section 9.5-336 through 9.5-342 of the Land Development Regulations (hereby incorporated by reference) to protect submerged lands and wetlands. Accordingly, the open space requirement shall be one hundred (100) percent of the following types of wetlands: 1. submerged lands; 2. mangroves; 3. salt ponds; 4. freshwater wetlands and 5. freshwater ponds. Upon adoption of the Comprehensive Plan the County shall further protect its wetlands by requiring a one hundred (100) percent open space requirement for undisturbed salt marsh and buttonwood wetlands and by requiring a 50 foot buffer around freshwater resources. Allocated density (dwelling units per acre) shall be assigned to freshwater wetlands and undisturbed salt marsh and buttonwood wetlands only for use as transferable development rights away from these habitats. Submerged lands, salt ponds, freshwater ponds, and mangroves shall not be assigned any density or intensity. [9J-5.006(3) (c) 1 and 6]

Objective 102.2 Upon adoption of the Comprehensive Plan, Monroe County shall adopt revisions to the Environmental Standards (Section 9.5-335) and Environmental Design Criteria (Section 9.5-345) of the Land Development Regulations. These revisions will require new development to further protect disturbed wetlands, native upland vegetation and beach/berm areas. [9J-5.006(3)(b)1 and 4]

Policy 102.2.1 Monroe County shall adopt revised environmental standards and environmental design criteria as indicated in Conservation and Coastal Management Policy 204.2.6. These revised standards and criteria will eliminate the net loss of disturbed wetlands. Where possible, on-site mitigation shall be required in order to offset any loss of disturbed wetlands by requiring revegetation of an area equal or greater in size than the area proposed for fill. If on-site mitigation is not possible, restoration fees shall be paid pursuant to a wetlands

restoration fund. [9J-5.006(3)(c)1 and 6; also see Policy 204.3.1 and 204.3.4

Policy 102.2.2 Monroe County shall adopt revised environmental standards and environmental design criteria as indicated in policies adopted pursuant to Conservation and Coastal Management Objective 205.2. These revised standards and criteria will protect native upland vegetation and promote restoration of habitat values of native upland communities, including hardwood hammocks and pinelands. [9J-5.006(3)(c)6]

Policy 102.2.3 Monroe County shall adopt revised environmental standards and environmental design criteria as indicated in policies adopted pursuant to Conservation and Coastal Management Objective 206.1. These revised standards and criteria will protect beach/berm resources. They will address permitted uses, siting of structures, disturbances, removal of invasive vegetation, and restoration of native vegetation in beach/berm areas. [9J-5.006(3)(c)1 and 6]

Objective 102.3 By January 4, 1997, Monroe County shall adopt Land Development Regulations which will direct new development to areas having appropriate topography and soil conditions and to where site disturbance and man's activities will have fewer adverse effects on natural vegetation, terrestrial wildlife, natural landforms and marine resources. [9J-5.006(3)(b)1 and 4]

Policy 102.3.1 The Permit Allocation System (see Future Land Use Objectives 101.2 through 101.4 and related policies) shall have the following environmental protection goals:

1. to reduce the exposure of residents to natural hazards;
2. to reduce disturbances to natural vegetation resource areas;
3. to reduce disturbances to terrestrial wildlife resources areas;
4. to reduce impacts of new development on groundwater and nearshore waters;
5. to ensure that the ecological integrity of natural areas is protected when land is developed; and
6. to reduce adverse impacts on endangered and threatened species.

Accordingly, the Point System, which shall be used as the basis for the annual allocation of permits, shall assign negative and/or positive points to development applications based upon:

1. the occurrence of natural resources or natural hazards; and/or
2. proposed utilization of best management practices for wastewater treatment and disposal which will avoid or

mitigate the adverse impacts of development on natural resources, particularly water quality. (See Future Land Use Objective 101.5 and related policies for a list of positive and negative factors to be included in the Permit Allocation System.) [9J-5.006(3)(c)1 and 6]

Policy 102.3.2

Monroe County shall require development clustering so as to avoid impacts on sensitive habitats and to provide for the preservation of all required open space in a contiguous, non-fragmented condition by requiring the following:

1. when a parcel proposed for development contains more than one (1) habitat type, all development shall be clustered on the least sensitive portion(s) of the parcel (as is currently required): and
2. development permitted on the least sensitive portion(s) of a parcel shall be clustered within that portion(s) of the parcel. (See Conservation and Coastal Management Policy 205.2.3). [9J-5.013(2)(c)3]

Objective 102.4

By January 4, 1998, Monroe County shall establish the Monroe County Natural Heritage and Park Program. The purpose of this program shall be to acquire lands and open space in the public interest for conservation and recreation purposes. [9J-5.006(3)(b)4]

Policy 102.5.5

By January 4, 1997, Monroe County shall develop and implement a soil erosion and sedimentation control program. This program shall be designed to reduce pollutant discharges into surface waters due to soil erosion and sedimentation. (See Conservation and Coastal Management Objective 202.10 and related policies.) [9J-5.006(3)(c)4 and 6]

Policy 102.7.2

By January 4, 1997, Monroe County shall adopt Land Development Regulations which will further restrict the activities permitted on offshore islands. These shall include the following:

1. development shall be prohibited on offshore islands (including spoil islands) which have been documented as an established bird rookery or nesting area (see Conservation and Coastal Management Policy 207.1.3.);
2. campgrounds and marinas shall not be permitted on offshore islands;
3. new mining pits shall be prohibited on offshore islands;
4. permitted uses by-right on islands (which are not bird rookeries) shall include detached residential dwellings, camping (for the personal use of the owner of the

property on a temporary basis), beekeeping, accessory uses, and home occupations (subject to a special use permit requiring a public hearing);

5. temporary primitive camping by the owner, in which no land clearing or other alteration of the island occurs, shall be the only use of an offshore island which may occur without necessity of a permit;
6. the use of any motorized vehicles including, but not limited to, trucks, carts, buses, motorcycles, all-terrain vehicles and golf carts shall be prohibited on existing undeveloped offshore islands;
7. planting with native vegetation shall be encouraged whenever possible on spoil islands; and
8. public facilities and services shall not be extended to offshore islands. [9J-5.006(3)(c)6]

Policy 102.7.3 Monroe County shall discourage developments proposed on offshore islands by methods including, but not limited to, negative points in the Permit Allocation and Point System (see Policy 101.5.7). [9J-5.006(3)(c)6]

Objective 102.8 Monroe County shall take actions to discourage private development in areas designated as units of the Coastal Barrier Resources System. [9J-5.006(3)(b)4]

Policy 102.8.1 Monroe County shall discourage developments which are proposed in units of Coastal Barrier Resources System (CBRS) by methods including, but not limited to, negative points in the Permit Allocation and Point System (see Policy 101.5.4). (See Objectives 101.2, 101.3, and 101.5 and related polices) [9J-5.006(3)(c)6]

Policy 102.8.3 By January 4, 1997, shoreline hardening structures, including seawalls, bulkheads, groins, rip-rap, etc., shall not be permitted along shorelines of CBRS units. [9J-5.006(3)(c)6]

Policy 102.9.4 By January 4, 1998, Monroe County, in cooperation with appropriate state and/or federal agencies, shall develop a management plan for each Conservation Land Protection Area. These plans shall identify actions to be taken by Monroe County within the Conservation Land Protection Area in support of the purpose for which each conservation land was acquired. These actions shall include:

1. land management actions for private lands and county-owned lands, particularly as they relate to:
 - a) critical species protection;
 - b) invasive plant removal;

- c) restoration of disturbed wetland and upland habitat;
 - d) pesticide applications;
 - e) prescribed burning; and
 - f) activities which have potential adverse impacts on nearshore water quality.
2. recommendations regarding permitting of shoreline structures, dredging and filling and substrate alteration;
 3. actions to maintain and/or improve public access to state and federal conservation lands;
 4. strategies for working cooperatively with private landowners in support of conservation; and
 5. future intergovernmental coordination with state and/or federal agencies controlling and/or managing the conservation land. [9J-5.006(3)(c)6]

Policy 103.1.15

Monroe County shall restore, where practicable, disrupted wetland and native upland vegetation systems on County-owned public lands on Big Pine Key and No Name Key in order to improve Key deer habitat. (See Conservation and Coastal Management Goal 210 and related objectives and policies.) [9J-5.012(3)(a); 9J-5.013(2)(a)]

Policy 103.2.4

Upon adoption of the Comprehensive Plan, Monroe County shall require that the following analyses be undertaken prior to finalizing plans for the siting of any new public facilities or the significant expansion (greater than 25 percent) of existing public facilities:

1. assessment of needs
2. evaluation of alternative sites and design alternatives for the selected sites; and
3. assessment of impacts on surrounding land uses and natural resources.

The assessment of impacts on surrounding land uses and natural resources will evaluate the extent to which the proposed public facility involves public expenditures in the coastal high hazard area and within environmentally sensitive areas, including disturbed salt marsh and buttonwood wetlands, undisturbed beach/berm areas, units of the Coastal Barrier Resources System, undisturbed uplands (particularly high quality hammocks and pinelands), habitats of species considered to be threatened or endangered by the state and/or federal governments, offshore islands, and Conservation Land Protection Areas. Monroe County shall require that public facilities be developed on the least environmentally sensitive lands and shall prohibit the location of public facilities on North Key

Largo, unless no feasible alternative exists and such facilities are required to protect the public health, safety, or welfare.

Policy 103.2.9 Monroe County shall support, wherever possible, the efforts of federal agencies, state agencies, and private non-profit conservation organizations, to acquire land for conservation purposes within North Key Largo. [9J-5.012(3)(c)1; 9J-5.013(2)(c)5 and 6]

Policy 103.2.10 Monroe County shall take immediate actions to discourage private development in areas designated as units of the Coastal Barrier Resources System. (See Objective 102.8 and related policies.) [9J-5.006(3)(b)4]

Policy 103.2.11 Prior to issuing a building permit or development approval, Monroe County shall require an archaeological/historical review of the proposed development site, performed by a qualified professional familiar with Monroe County. The review will identify the potential development impacts on any resources present, and will recommend mitigation measures, if any.

GOAL 104 Monroe County shall recognize, designate, protect, and preserve its historic resources. [9J-5.006(3)(a)]

Objective 104.1 Monroe County shall establish and maintain a comprehensive inventory of historic and archaeological resources, including buildings, structures, districts, sites, objects, and significant places. [9J-5.006(3)(b)4]

Policy 104.1.1 By January 4, 1998, the Monroe County Growth Management Division shall establish an inventory of all known historic and archaeological resources using information provided by the Florida Master Site File and the Archaeological and Historical Conservancy surveys of the Florida Keys. [9J-5.006(3)(c)8]

Policy 104.1.2 Monroe County Growth Management Division shall update the inventory of historic and archaeological resources on an annual basis as new historic and archaeological resources are identified. [9J-5.006(3)(c)8]

Policy 104.1.3 By January 4, 1998, Monroe County shall complete a comprehensive historic architectural survey to inventory and document historic architectural resources. This survey shall also identify historic housing and define the bounds of any potential historic districts such as those preliminary identified on Conch Key, in Islamorada, and in Marathon. [9J-5.006(3)(c)8]

Policy 104.1.4 By January 4, 1998, the Monroe County Growth Management Division, working with local historic preservation organizations, shall complete and submit Master Site File forms to the State Department of Historic Resources for any historic resources, particularly

architectural resources, which are not currently included in the Florida Master Site File. [9J-5.006(3)(c)8]

Policy 104.2.1

Monroe County shall revise the Land Development Regulations to expand and refine the program and procedures for protection of local historical, archaeological and cultural resources. At a minimum, the Land Development Regulations should be expanded to:

1. establish a Florida Keys Historic Register to which landmarks of local significance are named;
2. establish a review committee and provide for an historic/archaeological review within the development review process;
3. list the criteria and procedure for selecting a review committee;
4. specify the development review procedure;
5. specify designation criteria for sites and structures of historical, architectural, archaeological, and cultural significance;
6. include procedures for designation of local historic districts;
7. describe the consequences of local designation, such as restrictions on archaeological site disturbance, and on demolition or alteration of historic structures;
8. provide procedures for enforcement;
9. specify the penalties and/or mitigation measures for non-compliance;
10. provide for the documentation and protection of sites which are not listed as local landmarks but are discovered through the development process or otherwise discovered; and
11. provide incentives for the preservation and protection of local landmarks.

Objective 104.3

Monroe County shall adopt and implement measures for the protection and preservation of historic resources. [9J-5.006(3)(b)4]

Policy 104.3.1

By January 4, 1997, Monroe County shall adopt Land Development Regulations constituting a Historic Preservation Ordinance to provide protection for historic resources listed on the Florida Keys Historic Register. The adopted LDRs shall:

1. establish a historic/archaeological review board to review development proposals which impact designated historic resources;
2. list the qualifications and selection criteria for review board members;
3. specify the criteria for local designation of historic resources guided by the criteria for designation to the National Register;

4. incorporate the procedure for local designation as specified in Article VIII of the Land Development Regulations (see Policy 104.2.1);
5. specify the restrictions on archaeological sites resulting from local designation. Establish standards to address the siting and design of proposed developments to minimize impacts on archaeological resources, and the proper documentation and recording of the site including retrieving of artifacts;
6. specify the restrictions on the demolition and alteration of historic structures resulting from local designation. Establish standards to evaluate alterations to historic structures which are consistent with the U.S. Department of the Interior's "Standards for Rehabilitation";
7. specify the restrictions on historic districts resulting from local designation. Establish exterior architectural standards to evaluate development proposals within designated historical districts with the intent of encouraging compatibility with the architectural features of historical significance to the particular district;
8. establish a procedure for reviewing development and redevelopment proposals which impact designated resources;
9. specify procedures where development activities uncover unknown archaeological resources;
10. provide procedures for enforcement and consequences of non-compliance;
11. provide incentives such as transfer of development rights, tax credits, tax relief, special property tax assessments, building code waivers, building application fee exemptions, zoning variances, and FEMA exemptions to encourage the conservation and rehabilitation of privately-owned historic resources; and
12. specify permitting and review procedures that reconcile redevelopment of designated historical buildings and sites with their potential non-conforming status. [9J-5.006(3)(c)8]

Policy 104.6.3

Monroe County shall encourage and facilitate acquisition of historic sites suitable for cultural, tourism, recreation or conservation uses by federal, state and local agencies, non-profit historic preservation groups, and non-profit conservation organizations [9J- 5.006(3)(c)8]

Policy 104.6.4 By January 4, 1998, the County shall identify available public and private funding sources for historic preservation activities and submit proposals for the following projects:

1. Perform emergency repairs and tenting for termites for historic structures on Pigeon Key;
2. Perform structural surveys and begin renovations of significant buildings on Pigeon Key; and
3. Develop architectural guidelines for Tavernier once a local historic district is established. [9J-5.006(3)(c)8]

Conservation and Coastal Element

Policy 202.10.1 Monroe County, in consultation with the Soil Conservation Service (SCS) District Conservationist for Dade-Monroe Counties, shall identify the technical assistance available from the SCS for development and implementation of a soil erosion and sedimentation control program for Monroe County. [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

Policy 202.10.2 Monroe County, in coordination with SFWMD, DER, FDOT and SCS, shall develop and adopt best management practices for temporary and permanent erosion and sedimentation control practices for construction and other non-agricultural land disturbing activities in the Florida Keys. [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

Policy 202.10.3 By January 4, 1997, Monroe County shall adopt a Stormwater Management Ordinance which adopts the level of service standards for the quality and quantity of stormwater discharges in this Comprehensive Plan (see Drainage Policy 1101.1.1). Best management practices (BMPs) developed pursuant to Policy 202.10.2 above for temporary and permanent erosion and sedimentation control shall be incorporated by reference into this ordinance and shall be recommended for use to meet water quality criteria of the ordinance. At a minimum, BMPs shall include minimizing alteration of the natural landscape due to paving and elevational changes and the use of retention basins, detention basins, vegetated swales, and/or exfiltration trenches on site, as appropriate.

Policy 202.10.4 Monroe County shall require use of the adopted best management practices for erosion and sedimentation control, where appropriate, as stipulations for land development orders. [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

Policy 202.10.5 Monroe County shall identify erosion and sedimentation problem areas within existing subdivisions and disturbed

or scarified lands. The Stormwater Management Master Plan will address drainage improvements required for these areas to mitigate erosion and sedimentation problems (see Drainage Objective 1001.3 and related policies). [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

Policy 202.10.6 By January 4, 1997, Monroe County shall adopt revisions to the Land Development Regulations pertaining to shoreline stabilization (see Objective 212.6 and related policies.) [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

Policy 202.10.7 Monroe County shall identify shoreline areas on public and private lands where there is evidence of serious shoreline erosion and shall assess options for shoreline stabilization. [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

Objective 203.1 Monroe County shall protect its mangrove wetlands by implementing regulations which will further reduce disturbances to mangroves and which will mitigate the indirect impacts of development upon mangroves. [9J-5.012(3)(b)1; 9J-5.013(2)(b)3 and 4]

Policy 203.1.1 As set forth in the Land Development Regulations (Monroe County BOCC, 1990), the open space requirement for mangroves shall be one hundred (100) percent. No fill or structures shall be permitted in mangrove wetlands except for elevated, pile-supported walkways, docks, piers and utility pilings. [9J-5.012(3)(c)1; 9J-5.013(2)(c)6]

Policy 203.1.3 Monroe County shall require minimum vegetated setbacks of fifty (50) feet to be maintained as an open space buffer for development occurring adjacent to all types of wetlands except for tidally inundated mangrove fringes and as provided for in Policy 204.2.2, 204.2.3 and 204.2.4. If a 50-foot setback results in less than 2,000 square feet of principal structure footprint of reasonable configuration, then the setback may be reduced to allow for 2,000 square feet of principal structure footprint of reasonable configuration, provided that the setback is not reduced to less than twenty-five (25) feet. On properties classified as scarified adjacent to wetlands, the wetland setback may be reduced to twenty five (25) feet, without regard to buildable area, if the entire setback area is planted and maintained in native vegetation with a site-suitable stormwater management plan in accordance with County regulations approved by the County Biologist and placed under conservation easement. "Development" shall include all activities as currently defined in the F.S. 380.05-compliant Land Development Regulations, hereby incorporated by reference. The effectiveness of this policy shall be reviewed during the Evaluation and Appraisal Review (EAR) Process.

Policy 203.3.2 Monroe County shall support the public education program for users of the Florida Keys National Marine Sanctuary as outlined in the Florida Keys National Marine Sanctuary Management Plan (U.S. Dept. of Commerce, NOAA, in preparation). This program shall promote user education related to, among other items, coral reef conservation and navigational safety. [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

GOAL 204 The health and integrity of Monroe County's marine and freshwater wetlands shall be protected and, where possible, enhanced. [9J-5.012(3)(a); 9J-5.013(2)(a)]

Objective 204.1 By January 4, 1998, Monroe County shall develop an information system to be used as the basis for regulating land development activities in wetland areas, to identify potential wetland restoration sites, and to identify high quality wetland sites for possible future acquisition by the County, State and/or private non-profit conservation organizations. [9J-5.012(3)(b)1; 9J-5.013(2)(b)3]

Policy 204.1.1 Monroe County shall participate in the Florida Keys Advance Identification of Wetlands (ADID) Program. This program is designed to facilitate the regulatory process under Section 404 of the Clean Water Act of 1973 by providing comprehensive wetlands mapping and assessment information. The proposed geographic scope of the ADID Program includes the entire Florida Keys, prioritized as follows:

1. privately-owned lands with development potential on the islands connected by US 1;
2. publicly-owned lands on the islands connected by US 1; and
3. offshore islands (which appear in imagery of the islands connected by US 1). As part of the ADID Program, Monroe County shall:
 1. inform and educate the public regarding wetlands protection and the application of information forthcoming from the ADID Program;
 2. retain a consultant to map preliminary ACOE and DER jurisdictional lines;
 3. compile wetlands mapping information on the County's geographic information system;
 4. assist with development of a Florida Keys wetlands functional quality analysis;
 5. assist with the functional assessment of wetlands;
 6. assist with ground-truthing mapped information; and
 7. assist with preparing a draft Technical Support Document. [9J-5.013(2)(c)9]

Policy 204.1.2 Monroe County shall cooperate with the Florida Game and Fresh Water Fish Commission (FGFWFC) in its ongoing effort to map freshwater wetlands and disturbed wetlands in the Lower Keys. [9J-5.013(2)(c)9]

Policy 204.1.3 Monroe County shall use the refined, up-to-date wetlands information made available from the ADID Program and from the FGFWFC to generate a new set of wetlands maps. These wetlands maps shall replace those currently in use by the County. In order to prepare the new wetlands maps, Monroe County shall compile information obtained from the ADID Program and from the FGFWFC in the Geographic Information System (GIS). The new composite map set shall be plotted by the GIS at a scale of 1"=200'. The maps and/or overlays shall show:

1. all undisturbed and disturbed marine and freshwater wetlands by vegetative cover type;
2. advisory ACOE and DER jurisdictional lines mapped as part of the ADID Program; and
3. wetland "suitable/unsuitable" designations with respect to ACOE Section 404 permitted activities mapped as part of the ADID Program (see Policy 204.1.3). [9J- 5.013(2)(c)9]

Policy 204.1.4 As part of the ADID Program, Monroe County shall cooperate with the EPA, ACOE, FGFWFC, SFWMD and FWS to develop a wetlands functional assessment protocol. This assessment protocol shall be tailored for use in the Florida Keys and shall be based upon habitat suitability, water quality, and flood flow alteration functions of marine and freshwater wetlands. [9J-5.013(2)(c)9]

Policy 204.1.5 As part of the ADID Program, Monroe County, EPA, FWS, and FGFWFC will jointly carry out the functional analysis of wetlands. This shall be completed on all wetland vegetative cover areas within improved subdivisions and on selected sites outside improved subdivisions, according to statistically valid selected sample locations for each wetland vegetative cover type. In addition to the functional analysis, the field team shall ground-truth the wetland vegetative cover maps using a differential global positioning system. The wetland vegetative cover boundaries in the GIS shall be revised to reflect results of the ground truthing (see Policy 204.1.1). [9J-5.013(2)(c)9]

Policy 204.1.6 By September 30th of each year, Monroe County shall update the wetlands data in the Geographic Information System to reflect information obtained during wetlands permitting and wetland impact mitigation during the preceding year. [9J-5.013(2)(c)9]

Objective 204.2 Monroe County shall eliminate the loss of undisturbed wetlands and shall eliminate the net loss of disturbed wetlands. [9J-5.012(3)(b)1; 9J-5.013(2)(b)3]

Policy 204.2.1 Upon adoption of the Comprehensive Plan, the County shall utilize the Environmental Standards, found in Section 9.5-336 through 9.5-342 of

the Land Development Regulations (hereby incorporated by reference) to protect submerged lands and wetlands. Accordingly, the open space requirement shall be one hundred (100) percent of the following types of wetlands:

1. submerged lands;
 2. mangroves;
 3. salt ponds;
 4. freshwater wetlands;
 5. freshwater ponds; and
 6. undisturbed saltmarsh and buttonwood wetlands.
- Allocated density (dwelling units per acre) shall be assigned to freshwater wetlands and undisturbed salt marsh and buttonwood wetland only for use as transferable development rights away from these habitats. Submerged lands, salt ponds, freshwater ponds and mangroves shall not be assigned any density or intensity. [9J-5.012(3)(c)1 and 2; 9J- 5.013(2)(c) 6]

Policy 204.2.2

No structures shall be permitted in submerged lands, mangroves, salt ponds, or wetlands, except for elevated, pile-supported walkways, docks, piers and utility pilings. No fill shall be permitted in submerged lands, mangroves, salt ponds, or wetlands except; 1. as specifically allowed by Objective 212.6 and subsequent Policies; 2. to fill a manmade, excavated water body such as a canal or swimming pool if the Director of Environmental Resources determines that such filling will not have a significant adverse impact on marine or wetland communities; or 3. as needed for shoreline stabilization or beach renourishment projects with a valid public purpose that furthers the goals of the Monroe County Comprehensive Plan, as determined by the Directors of Planning and Environmental Resources. All such projects shall require approval by the Florida Department of Environmental Protection and the U.S. Army Corps of Engineers prior to the issuance of a County building permit. [9J-5.012(3)(c)1 and 2; 9J-5.013(2)(c)6]

Policy 204.2.3

No fill or structures shall be permitted in mangroves or wetlands except as allowed by Policy 204.2.2 (as amended) and for bridges extending over mangroves or wetlands that are required to provide automobile or pedestrian access to dwelling units located on upland areas within the same property for which there is no alternative means of access. Such bridges shall be elevated on pilings such that the natural movement of water, including volume, rate and direction of flow shall not be disrupted or altered. Upland areas shall include disturbed wetlands that have been lawfully converted into uplands through filling. (9J-5.012(3)(c)1 and 2; 9J-5.013(2)(c)6)

Policy 204.2.4

Notwithstanding other provisions of this comprehensive plan regarding disturbed wetlands, no development activities shall be allowed in wetlands pending

completion of the ADID program (referenced in Policy 204.1.1 above) or other similar functional assessment of disturbed wetlands in the County. No later than January 4, 1999, the ADID or other similar revised program shall assess the functional value of disturbed wetlands in the County and develop an evaluation index to determine the appropriate level of development for disturbed wetlands. Upon completion and adoption of the functional assessment, it shall be incorporated into the plan, along with a functional definition of disturbed wetlands, by plan amendment.

Policy 204.2.6

Monroe County shall adopt revised environmental standards and environmental design criteria which establish minimum vegetated setbacks of fifty (50) feet to be maintained as an open space buffer for development occurring adjacent to all types of wetlands except for tidally inundated mangrove fringes and as provided for in Policy 204.2.2, 204.2.3, and 204.2.4. If a 50-foot setback results in less than 2,000 square feet of principal structure footprint of reasonable configuration, then the setback may be reduced to allow for 2,000 square feet of principal structure footprint of reasonable configuration, provided that the setback is not reduced to less than twenty-five (25) feet. On properties classified as scarified adjacent to wetlands, the wetland setback may be reduced to twenty-five (25) feet, without regard to buildable area, if the entire setback area is planted and maintained in native vegetation with a site-suitable stormwater management plan in accordance with County regulations approved by the County Biologist and placed under conservation easement. "Development" shall include all activities as currently defined in the F.S. 380.05-compliant Land Development Regulations, hereby incorporated by reference. The effectiveness of this policy shall be reviewed during the Evaluation and Appraisal Review (EAR) Process.

Policy 204.2.10

By January 4, 1998 or upon completion of the functional assessment of wetlands in the ADID program, Monroe County shall revise the land development regulations to include additional environmental standards pertaining to open space ratios, permitted uses, filling, and setbacks as may be deemed appropriate to protect wetland habitats. [9J-5.012(3)(c)1 and 2; 9J-5.013(2)(c)6]

Objective 204.3

By January 4, 1998, Monroe County shall initiate a program to restore disturbed marine and freshwater wetlands. (See Goal 210 and related objectives and policies.) [9J-5.012(3)(b)1; 9J-5.013(2)(b)3]

Policy 204.3.1

The Monroe County Department of Environmental Resources and Department of Marine Resources shall be responsible for developing and administering the wetlands restoration program. [9J-5.012(3)(c)2; 9J-5.013(2)(c)6]

Policy 204.3.2 A list of publicly-owned priority wetland restoration sites shall be drafted and updated every other year. This list shall be developed by Monroe County in consultation with representatives of the ACOE, EPA, FWS, DER, DNR, FGFWFC, and others as appropriate. Priority wetland restoration sites shall be those disturbed wetlands offering the greatest potential increase in functional value after mitigation, as determined in the Florida Keys ADID Program. [9J-5.012(3)(c)2; 9J-5.013(2)(c)6]

Policy 204.3.3 Monroe County shall work cooperatively with the ACOE, EPA, FWS, DER, DNR, FGFWFC, and others as appropriate, to determine funding sources to support the wetlands restoration program. [9J-5.012(3)(c)2; 9J-5.013(2)(c)6]

Objective 204.4 By January 4, 1998, Monroe County shall establish a program for acquiring high quality undisturbed salt marsh and buttonwood wetlands. (See Future Land Use Objective 102.4 and related policies.) [9J-5.012(3)(b)1; 9J-5.013(2)(b)3]

Policy 204.4.1 The Monroe County Department of Environmental Resources, in consultation with the Monroe County Department of Marine Resources, shall work cooperatively with the Monroe County Land Authority in developing and administering the wetlands acquisition program. Acquisition shall be undertaken as part of the Monroe County Natural Heritage and Park Program. [9J-5.012(3)(c)2; 9J-5.013(2)(c)6]

Policy 205.2.3 Clustering requirements shall be revised to require the following:

1. when a parcel proposed for development contains more than one (1) habitat type, development shall be:
 - a) clustered on the least sensitive portion of the parcel, until the maximum allowable density is reached;
 - b) if further development occurs, it shall be clustered on the next least sensitive portion of the parcel, until maximum allowable density is reached, etc.; and
2. development permitted on the least sensitive portion(s) of a parcel shall be clustered within that portion(s) of the parcel. Habitat sensitivity shall be defined by the ranking currently contained in the Land Development Regulations Section 9.5-345(a), hereby incorporated by reference.

Policy 205.2.7 Clearing of native vegetation shall be limited to the immediate development area. The immediate development area shall include the area of approved clearing shown on the approved site plan. The immediate development area shall be fenced throughout the duration of construction. During construction, there shall be no disturbances of the ground surface and vegetation within required open space areas. [9J-5.013(2)(c)3]

Policy 205.2.10 Invasive exotic vegetation shall be removed from the development parcel as a condition for issuance of a Certificate of Occupancy. [9J-5.013(2)(c)3]

Objective 205.4 By January 4, 1998, Monroe County shall implement an ongoing coordination program with the NPS, SFWMD, Collier County and Dade County designed to address existing and potential land management problems in the region which may affect unique vegetative communities on mainland Monroe County. (See Objective 202.16 and related policies). [9J-5.012(3)(b)1 and 2; 9J- 5.013(2)(b)2,3,4,6 and 10]

Objective 205.5 By January 4, 1998, Monroe County, together with private, state, and federal agencies, shall establish a program for acquiring undisturbed native upland habitat. (See Future Land Use Objective 102.4 and related policies). [9J-5.012(3)(b)4; 9J-5.013(2)(c)6]

Policy 205.5.1 The Monroe County Department of Environmental Resources shall work cooperatively with the Monroe County Land Authority in developing and administering the acquisition program. Acquisition shall be undertaken as part of the Monroe County Natural Heritage and Park Program. [9J-5.012(3)(c)2; 9J-5.013(2)(c)6]

GOAL 206 The health and integrity of Monroe County's beach/berm resources shall be protected and, where possible, enhanced. [9J-5.012(3)(a); 9J-5.013(2)(a)]

Objective 206.1 Upon adoption of the Comprehensive Plan, Monroe County shall revise the Land Development Regulations to include revised development standards pertaining to permitted uses, siting of structures, disturbances, removal of invasive vegetation, and restoration of native vegetation in undisturbed and disturbed beach/berm areas. [9J-5.012(3)(b)4]

Policy 206.1.2 Minimum coastal construction setbacks currently in use in Monroe County shall be reviewed in coordination with DNR. Existing setbacks in the Land Development Regulations (Monroe County BOCC, 1990) shall be revised as deemed appropriate based upon findings of this review. (See Objective 212.2 and related policies). [9J-5.012(3)(c)1,2 and 3; 9J-5.013(2)(c)6]

Policy 206.1.3 Permitted uses within the shoreline setback along natural shorelines characterized by beach/berm vegetation shall be limited to docks and walkways. Access shall be restricted to wooden dune walkover structures which, in the absence of a dock, shall terminate at the waterward toe of the dune. All structures shall be elevated on pilings or other supports. [9J-5.012(3)(c)1,2 and 3; 9J-5.013(2)(c)6]

Policy 206.1.4 No beach/berm material shall be excavated or removed and no fill shall be deposited on a beach/berm. [9J-5.012(3)(c)1,2 and 3; 9J-5.013(2)(c)6]

Policy 206.1.5 Clearing of beach/berm vegetation in the area landward of the shoreline setback shall be limited to the minimum clearing required to allow development of a permitted use. Prior to commencement of construction, the immediate area required for construction shall be enclosed with fencing. No vehicular or pedestrian traffic shall be permitted outside the fenced areas for the duration of the construction period. All areas disturbed during construction shall be managed to avoid the introduction and/or establishment of invasive exotic species.[9J-5.012(3)(c)1,2 and 3; 9J-5.013(2)(c)6]

Policy 206.1.6 Beach/berm areas disturbed during construction shall be immediately restored to stable condition. Restoration techniques shall be designed to achieve the maximum stability possible. Native plants shall be used exclusively in re-vegetation. [9J-5.012(3)(c)1,2 and 3; 9J-5.013(2)(c)3 and 6]

Policy 206.1.7 Invasive exotic vegetation shall be removed from the development site as a condition for issuance of a Certificate of Occupancy. [9J-5.012(3)(c)1,2 and 3; 9J-5.013(2)(c)3 and 6]

Policy 206.1.10 Seawalls shall be prohibited on any beach or open water shoreline. [9J-5.012(3)(c)1,2 and 3; 9J-5.013(2)(c)6]

Objective 206.2 By January 4, 1998, Monroe County shall initiate a program to restore and maintain disturbed beach/berm resource areas on public lands. (See Objective 210.1 and related policies.) [9J-5.012(3)(b)4; 9J-5.013(2)(c)6]

Objective 206.3 Beginning in 1998, Monroe County shall prepare annual beach management plans for all publicly owned beaches (see Recreation and Open Space Objective 1201.11 and related policies). These plans shall be prepared by September 30th of each year. They shall be consistent with the current county restoration plan (see Objective 210.1 and related policies). [9J-5.012(3)(b)4; 9J- 5.013(2)(c)6]

Objective 206.4 By January 4, 1998, Monroe County shall establish a program for acquiring undisturbed beach/berm resource areas (see Future Land Use Objective 102.4 and related policies). [9J-5.012(3)(b)4; 9J-5.013(2)(c)6]

Policy 206.4.1 The Monroe County Department of Environmental Resources shall work cooperatively with the Monroe County Land Authority in developing and administering the beach/berm acquisition program. Acquisition shall be undertaken as part of the Monroe County Natural Heritage and Park Program. [9J-5.012(3)(c)2; 9J-5.013(2)(c)6]

Policy 207.1.4 The Open Space Requirement for undisturbed salt marsh and buttonwood wetlands shall be one hundred (100) percent. (See Policy 204.2.1). [9J-5.012(3)(c)1; 9J-5.013(2)(c)5 and 6]

Policy 207.1.5 Clustering requirements shall be revised so as to reduce habitat fragmentation (see Policy 205.2.3). [9J-5.012(3)(c)1; 9J-5.013(2)(c)5 and 6]

Policy 207.8.1 By January 4, 1997, Monroe County shall revise the Land Development Regulations to include revised development standards pertaining to permitted uses, siting of structures, disturbances, removal of invasive vegetation, and restoration of native vegetation in beach/berm areas. (See Objective 206.1 and related policies). [9J-5.012(3)(c)1; 9J-5.013(2)(c)5 and 6]

Policy 207.8.2 By January 4, 1998, Monroe County shall initiate a program to restore and maintain disturbed beach/berm areas on public lands. (See Policies 210.1 through 210.9). [9J-5.012(3)(c)1; 9J-5.013(2)(c)5 and 6]

Policy 207.12.1 By January 4, 1998, Monroe County, in cooperation with the FWS and FGFWFC, shall identify wetland and native upland habitats which are documented habitat for the following:

1. eastern indigo snake (*Drymachron corais couperi*) (sites from No Name Key to Sugarloaf Key, on Big Torch Key, Middle Torch Key, Big Pine Key and Plantation Key);
2. silver rice rat (*Orzomys argentatus*) (sites on Cudjoe, Summerland, Big Torch, Middle Torch, Saddlebunch, Little Pine, Raccoon, Water, and Johnson Keys);
3. Lower Keys marsh rabbit (*Sylvilagus palustris hefneri*) (sites on Sugarloaf, Welles, Annette, Boca Chica, Big Pine and Hopkins Keys);
4. Key Largo wood rat (*Neotoma floridana smalli*) (on Key Largo);
5. Key Largo cotton mouse (*Peromyscus gossypinus allapaticola*) (on Key Largo); and
6. American crocodile (*Crocodylus acutus*). [9J-5.012(3)(c)1; 9J-5.013(2)(c)5 and 6]

Stock Island tree snail (*Orthalicus reses*).

GOAL 208 Monroe County shall protect, conserve and appropriately use its soil and mineral resources. [9J-5.012(3)(a); 9J-5.013(2)(a)]

Objective 208.1 By January 4, 1997, Monroe County shall develop and implement a soil erosion and sedimentation control program. (see Objective 202.10 and related policies). [9J-5.013(2)(b)3]

GOAL 209 Monroe County shall discourage private land uses on its mainland, offshore islands and undeveloped coastal barriers, and shall protect existing conservation lands from adverse impacts associated with private land uses on adjoining lands. [9J-5.012(3)(a); 9J-5.013(2)(a)]

Objective 209.1 Development of the mainland area of Monroe County shall be controlled so as to reduce public expenditures and to preserve the wilderness state

of the area, as defined under the Wilderness Act. (See Future Land Use Objective 102.6 and related policies.) [9J-5.013(3)(b)1]

Objective 209.3 Monroe County shall take immediate actions to discourage private development in areas designated as units of the Coastal Barrier Resources System (CBRS). (See Future Land Use Objective 102.8 and related policies.) [9J-5.012(3)(b)1]

GOAL 210 Monroe County shall restore, where practicable, disrupted marine, wetland, beach/berm, and native upland vegetation systems on County-owned public lands. [9J-5.012(3)(a); 9J-5.013(2)(a)]

Objective 210.1 By January 4, 1998, Monroe County shall initiate a program to restore and maintain disrupted marine, wetland, beach/berm and native upland vegetation systems on Monroe County public lands.

Policy 210.1.1 Priority wetland restoration sites shall be drafted and updated every other year. This list shall be developed by Monroe County in consultation with representatives of the ACOE, EPA, FWS, DER, DNR and FGFWFC. Priority wetland restoration sites shall be those disturbed wetlands having the greatest functional value as determined in the Florida Keys Advance Identification of Wetlands Program. [9J-5.012(3)(c)2; 9J-5.013(2)(c)6]

Policy 210.1.4 A program shall be developed and updated every other year for removing invasive exotic vegetation from existing county-owned lands (exclusive of trade lands owned by the Monroe County Land Authority), including plans for re-vegetation. (See Open Space and Recreation Objective 1201.11 and related policies). [9J-5.012(3)(c)2]

Policy 210.1.5 A program shall be developed and updated every other year for restoring county-owned beach/berm areas. (See Recreation and Open Space Objective 1201.11 and related policies). [9J-5.012(3)(b)4; 9J-5.013(2)(c)6]

Policy 210.1.9 Monroe County shall support the efforts of state and federal agencies and private groups that buy land for conservation purposes to remove invasive exotic vegetation from acquisition sites, including both publicly-owned and privately-owned lands. [9J-5.012(3)(c)2]

GOAL 211 Monroe County shall conserve and protect potable water resources and cooperate with regional efforts to ensure the continued availability of quality potable water.

Objective 211.2 Monroe County shall continue to assist the FCAA with water conservation efforts and to assist in implementing the FCAA's Water Conservation Plan, consistent with SFWMD's Water Shortage Plan and Water Consumption Guidelines, and shall implement measures to further conserve potable water. (See Potable Water Objective 701.9 and related policies). [9J-5.013(2)(b)2]

GOAL 212 Monroe County shall prioritize shoreline land uses and establish criteria for shoreline development in order to preserve and enhance coastal resources and to ensure the continued economic viability of the County. [9J-5.012(3)(a); 9J-5.013(2)(a)]

Policy 212.2.1 Minimum coastal construction setbacks currently in use in Monroe County shall be reviewed in coordination with DNR and FGFWFC. Setbacks shall be identified which will accomplish the following:

1. protect natural shoreline vegetation;
2. protect marine turtle nesting beaches;
3. protect water quality (through assimilative and filtrative uptake of pollutants by protected natural shoreline vegetation);
4. protect structures from the effects of long-term sea level rise;
5. protect beaches and shorelines from erosion; and
6. protect the character and over water views of the community.

Existing setbacks in the Land Development Regulations (Monroe County BOCC, 1990) shall be revised as deemed appropriate based upon findings of this review. The setbacks currently in use shall be the minimum and shall not be relaxed. Existing setbacks in the Land Development Regulations are summarized as follows:

1. twenty (20) feet from the mean high tide line of manmade water bodies and/or lawfully altered shorelines of natural water bodies;
2. fifty (50) feet from natural water bodies with unaltered shorelines or unlawfully altered shorelines, measured from the landward limit of mangroves, if any, and where mangroves do not exist, from the mean high tide line; and
3. fifty (50) feet from any shoreline area which is known to serve as an active nesting or resting area for marine turtles, crocodiles, terns, gulls and other birds. [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

Policy 212.6.4 Shoreline structures shall be designed to protect tidal flushing and circulation patterns. Any project which may produce changes in circulation patterns shall be approved only after sufficient hydrographic information is available to allow an accurate evaluation of the possible impacts of the project. Previously existing manmade alterations shall be evaluated so as to determine whether more hydrological benefits will accrue through their removal as part of the project. [9J-5.012(3)(c)1,2,3 and 8; 9J-5.013(2)(c)1 and 6]

GOAL 214 Monroe County shall recognize, designate, protect, and preserve its historic resources. [9J-5.012(3)(a); 9J-5.013(2)(a)]

- Objective 214.3 Monroe County shall adopt and implement measures for the protection and preservation of historic resources. (See Future Land Use Objective 104.3 and related policies). [9J-5.006(3)(b)4; 9J- 5.012(3)(b)10]
- Objective 214.4 Monroe County shall adopt and implement measures for the protection and preservation of historic resources on public lands. (See Future Land Use Objective 104.4 and related policies). [9J- 5.006(3)(b)4; 9J-5.012(3)(b)10]
- Objective 214.5 Monroe County shall seek to increase public awareness and appreciation of the historic resources and historic preservation activities in the County. (See Future Land Use Objective 104.5 and related policies). [9J-5.006(3)(b)4; 9J-5.012(3)(b)10]
- Objective 214.6 Monroe County shall coordinate with public agencies and non-profit organizations to protect, preserve and increase awareness of historic resources. (See Future Land Use Objective 104.6 and related policies). [9J-5.006(3)(b)4; 9J-5.012(3)(b)10]
- GOAL 215 Monroe County shall provide the necessary services and infrastructure to support existing and new development proposed by the Future Land Use Element while limiting public expenditures which result in the loss of or adverse impacts to environmental resources in the Coastal Zone. [9J-5.012(3)(a); 9J-5.013(2)(a)]
- Objective 215.1 Public expenditures for infrastructure in the Coastal Zone shall be phased in accordance with a capital improvements schedule to maintain the adopted level of service (LOS) standards established in the Comprehensive Plan. [9J-5.012(2)(b)11]
- Objective 215.2 By January 4, 1997, Monroe County shall initiate programs which require exploration of feasible alternatives to funding of public facilities and infrastructure which will result in the loss of or damage to significant coastal or natural resources, including, but not limited to, wilderness areas, wildlife habitats, and natural vegetative communities. [9J-5.012(2)(b)11]
 - Policy 215.2.1** By January 4, 1997, Monroe County shall adopt Land Development Regulations which require consideration of feasible design and siting alternatives for new public facilities and infrastructure proposed within the coastal zone in order to minimize adverse impacts to natural resources. [9J-5.012(3)(c)1]
 - Policy 215.2.3** No public expenditures shall be made for new or expanded facilities in areas designated as units of the Coastal Barrier Resources System, saltmarsh and buttonwood wetlands, or offshore islands not currently accessible by road, with the exception of expenditures for conservation and parklands consistent with natural resource protection, and expenditures necessary for public health and safety. [9J-5.012(3)(c)1]
- GOAL 216 Monroe County shall provide for hurricane evacuation, shelters and refuges, and communication capabilities to promote safeguarding of the

public against the effects of hurricanes and tropical storms. [9J-5.012(3)(a); 9J-5.013(2)(a)]

Objective 216.1 Monroe County shall reduce hurricane evacuation clearance time to 24 hours by the year 2010.[9J-5.012(3)(b)7]

Policy 216.1.1 Within one year of the effective date of this plan, Monroe County shall adopt Land Development Regulations which establish a Permit Allocation System for new residential development. The Permit Allocation System shall limit the number of permits issued for new residential development to be consistent with the Future Land Use Element in order to maintain hurricane evacuation clearance times at a maximum of 24 hours (see Land Use Objective 101.2 and supporting policies). [9J-5.012(3)(c)4]

Policy 216.1.2 By January 4, 1997, Monroe County shall initiate an inter-local agreement with the cities of Key West, Key Colony Beach, and Layton. The agreement shall establish an entity comprised of representatives of the four jurisdictions which shall be responsible for:

1. allocating the relative proportions of future residential development within the four jurisdictions consistent with the Permit Allocation System;
2. establishing a system to monitor future development within the jurisdictions; and
3. mediating disputes between the jurisdictions regarding the allocation of future development. Monroe County shall seek the assistance of the Florida Department of Community Affairs and/or the South Florida Regional Planning Council to ensure execution of the agreement by January 4, 1998 and subsequent compliance. [9J-5.012(3)(c)4]

Policy 216.1.3 During a hurricane evacuation, Monroe County shall designate US 1 and Card Sound Road after Card Sound Road improvements are completed as evacuation routes as directed by the Department of Emergency Management. [9J-5.012(3)(c)4]

Policy 216.1.4 Monroe County shall annually identify and establish staffing and equipment need priorities which are directly related to increasing efficiency during hurricane evacuation, including, but not limited to, communication systems, emergency coordination personnel, public education personnel, and development review personnel. Opportunities for fulfilling the deficiencies with reliable interagency support shall be identified and inter-local agreements initiated. [9J-5.012(3)(c)4]

Policy 216.1.5 As part of the 5-year Comprehensive Plan Evaluation and Appraisal Report process, Monroe County shall, in coordination with the South Florida Regional Planning Council and the municipalities of Key West, Layton, and

Key Colony Beach, re-run updated transportation models of the Southeast Florida Hurricane Evacuation Study in order to reevaluate and adjust such factors as participation rates, visitor population levels, total growth allocations, allocations to sub-areas and municipal jurisdictions and estimates of the effectiveness of programs and policies to reduce the number of evacuating vehicles. No later than six months after the effective date of this comprehensive plan and as part of every Evaluation and Appraisal Report thereafter, Monroe County shall review and reevaluate the key variables on which hurricane clearance times have been calculated, with the highest priority given to conducting surveys necessary to more accurately predict peak seasonal occupancy rates, behavioral response factors and related assumptions. If data becomes available to indicate need for an adjustment of any factor such data shall, within one year of certification of such data, be used to re-run transportation models of the Southeast Florida Hurricane Evacuation Study. New clearance times produced by such additional runs of the Southeast Florida Hurricane Evacuation Study shall be incorporated by plan amendment. [9J-5.012(3)(c)4]

Policy 216.1.7

Monroe County shall seek an inter-local agreement, with one or more appropriate agencies, to draft and implement a comprehensive program for expanded resident and visitor hurricane awareness and evacuation procedures. The program will identify education needs and adequate funding sources to include, at a minimum, staffing requirements, distribution of hurricane public awareness brochures, media coverage, and public announcements in English and Spanish. [9J-5.012(3)(c)4]

Policy 216.1.8

As directed by the Department of Emergency Management, Monroe County shall implement procedures for the orderly closing and evacuation of hotels, motels, RV parks, mobile home parks, campgrounds, and state and county parks in accordance with the Monroe County Hurricane Preparedness Evacuation and Shelter Plan. The County shall require that operators of transient facilities notify guests of the evacuation procedures during check-in throughout the hurricane season. The plan shall be monitored and updated on an annual basis. [9J-5.012(3)(c)4]

Policy 216.1.9

In accordance with the Monroe County Hurricane Preparedness Evacuation and Shelter Plan, special needs populations shall be identified by the Monroe County Department of Emergency Management. Monroe County shall implement the procedures contained in the Plan for the safe evacuation of these populations. [9J-5.012(3)(c)4]

- Policy 216.1.11** By January 4, 1997, Monroe County shall adopt Land Development Regulations which require that all new and redeveloped marinas provide a hurricane contingency plan for review and approval before permits can be issued. [9J-5.012(3)(c)4]
- Policy 216.1.13** During a hurricane evacuation, Monroe County shall implement the procedures contained in the Monroe County Hurricane Preparedness Evacuation and Shelter Plan for modifying normal bridge openings including coordination with the U. S. Coast Guard and Florida Department of Transportation. [9J-5.012(3)(c)4]
- Policy 216.1.14** By January 4, 1998, Monroe County shall complete a Post-Disaster Recovery Plan which will include a structured procedure aimed at debris removal preparedness during hurricane evacuation and re-entry (see Objective 217.2 and related policies). [9J-5.012(3)(c)4]
- Policy 216.1.15** Monroe County shall consider implementing impact fees to offset the public costs of hazard mitigation, evacuation, reconstruction of public facilities, emergency communications equipment and similar needs. [9J-5.012(3)(c)4]
- Policy 216.1.16** Monroe County shall coordinate with the Florida Department of Transportation (FDOT) to ensure that US 1 roadway capacity improvements necessary to maintain hurricane evacuation clearance time at 24 hours, including but not limited to improvements to US 1 between MM 80 and MM 90, are completed. See Traffic Circulation Policy 301.7.3. [9J- 5.012(3)(c)4]
- Policy 216.1.17** By January 4, 1998, Monroe County shall develop programs to reduce the number of evacuating vehicles including, but not limited to programs to encourage ride-sharing and transit usage and, consistent with applicable law, evacuating vehicle registration requirements. [9J-5.012(3)(c)4]
- Policy 216.1.18** Reduced evacuation clearance times which may result from adjustments to evacuation model variables, programs to reduce the number of evacuating vehicles or increased roadway facility capacity, shall not be used to increase development expectations beyond the growth allocations provided herein, except to the extent that a hurricane evacuation clearance time of 24 hours can be maintained. Any necessary reduction in hurricane clearance times shall be accomplished by a plan amendment within 180 days of the reassessment.
- Objective 216.2 By January 4, 1998, Monroe County shall implement a plan to correct existing and projected shelter deficiencies for Category 1 and 2 storms. [9J-5.012(3)(b)7]

Policy 216.2.1 By January 4, 1997, Monroe County shall determine the existing level of deficiency in number and location of shelter spaces for Category 1 and 2 storms according to the projected residential and transient population. Existing buildings shall also be identified that could serve as shelters along with actions needed to bring them up to American Red Cross and Emergency Management specified standards. By January 4, 1998, a plan of action for correcting deficiencies shall be presented for adoption by the BOCC. The plan shall be monitored and updated on an annual basis. [9J-5.012(3)(c)4]

Policy 216.2.2 All new public facility buildings suitable for emergency public habitation as determined by the Red Cross shall be required to meet accepted hurricane shelter standards for Category 1 and 2 hurricanes. By January 4, 1997, Monroe County shall develop a plan for establishing one Category 5 Emergency Operations Center (EOC), at a minimum, in each of the three EOC districts. The plan shall include identification of funding sources and coordination with appropriate agencies for construction to Category 5 standards. [9J- 5.012(3)(c)4]

Policy 216.2.3 By January 4, 1998, Monroe County shall revise the Capital Improvements Program to include the necessary funding for construction of a minimum of one Category 5 EOC in each of the three EOC districts in accordance with Policy 216.2.2. [9J-5.012(3)(c)4]

Objective 216.3 By January 4, 1998, Monroe County shall develop and implement a plan providing sufficient approved shelter spaces outside Monroe County for all county residents who will require shelter from a Category 3 or greater hurricane. [9J-5.012(3)(b)7]

Policy 216.3.1 By January 4, 1997, Monroe County shall coordinate with the Department of Community Affairs' Division of Emergency Management, the South Florida Regional Planning Council, Dade County, the Red Cross and other appropriate agencies to identify sufficient approved shelter spaces outside of Monroe County for all county residents who will require shelter from a Category 3 or greater hurricane. Priority consideration shall be given to expansion of the currently designated shelter at Florida International University in order to consolidate Monroe County shelter spaces in one location. [9J-5.012(3)(c)4]

Policy 216.3.2 Immediately following plan adoption, Monroe County shall initiate an intergovernmental agreement with Dade County and other appropriate agencies (e.g., Board of Regents, American Red Cross) in an attempt to provide sufficient approved spaces outside of Monroe County for all county residents who will seek shelter from a Category 3 or greater hurricane. In particular Monroe County shall request that the Board of Regents identify sufficient shelter spaces based on professionally accepted standards, in the updated campus master plan for

Florida International University to be prepared in 1992-93. [9J- 5.012(3)(c)4]

Policy 216.3.3 Monroe County shall, at least every five years in conjunction with application of the updated transportation model required by Policy 216.1.5, update the results of the Monroe County Behavioral Analysis contained in the Lower Southeast Florida Hurricane Evacuation Study to determine the number of Monroe County residents who will require shelter outside of Monroe County during a Category 3 or greater hurricane . [9J-5.012(3)(c)4]

Policy 216.3.4 By January 4, 1998, Monroe County shall evaluate and confirm the space available at all identified shelters and determine an estimate of shelter deficiencies.

GOAL 217 Monroe County shall develop and implement a program of hazard mitigation and post-disaster redevelopment to increase public safety and reduce damages and public expenditures. [9J-5.012(3)(a); 9J-5.013(2)(a)]

Objective 217.1 Monroe County shall develop and implement a program of hazard mitigation in the Coastal High Hazard Area (CHHA) which reduces floodplain alteration and damage or loss due to natural disasters. [9J-5.012(3)(b)8]

Policy 217.1.1 Monroe County shall define the CHHA as the area subject to inundation by the SLOSH (Sea, Lake and Overland Surges from Hurricanes) associated with a Category 1 storm. The CHHA shall be incorporated into the county Geographic Information System for use in managing future land use. [9J-5.012(3)(c)7]

Policy 217.1.2 Monroe County shall require that all new or replacement sanitary sewage systems in the CHHA meet the following requirements: a) All new or replacement sanitary sewage systems shall be designed and constructed to minimize or eliminate infiltration of floodwaters into the system and discharge from the system into floodwaters. Joints between sewer drain components shall be sealed with caulking, plastic or rubber gaskets, and all manhole covers shall be sealed in a similar manner. b) All new or replacement sanitary sewage systems shall be located and constructed to minimize or eliminate damage to them and contamination from them during flooding. [9J-5.012(3)(c)3]

Policy 217.1.3 Monroe County shall coordinate with the Florida Keys Aqueduct Authority (FKAA) in the continued development of an Aquifer Storage Recovery System to supply emergency potable water in the event that the transmission lines from the mainland are disrupted during a natural disaster (see Potable Water Objective 701.6 and related policies). The FKAA shall continue to provide emergency service during electric power

outages and hurricanes (see Potable Water Objective 701.7 and Policy 701.7.1). Monroe County endorses burying the potable water transmission lines to reduce their exposure to natural disasters where economically feasible. [9J-5.012(3)(c)3]

Policy 217.1.4 Monroe County shall continue its policy of reviewing the current Building Code and, as appropriate, adopting structural standards and site alteration restrictions that meet or exceed the minimum FEMA requirements. The Building Code shall be reviewed and revised at least every five years. The recommendations of the applicable interagency hazard mitigation report shall be considered in revisions to the Code. [9J-5.012(3)(c)3]

Policy 217.1.5 Monroe County shall continue to participate in the National Flood Insurance Program (NFIP) Community Rating System (CRS) to the maximum extent possible and shall seek to improve its current CRS Class 9 rating. [9J-5.012(3)(c)3]

Policy 217.1.6 Monroe County shall continue to enforce federal, state and local setback and elevation requirements to promote the protection and safety of life and property. Revisions to the existing setback requirements contained in the Land Development Regulations shall be considered as a means of reducing property damage caused by storms. [9J-5.012(3)(c)3]

Policy 217.1.7 Monroe County shall consider floodplain management and CHHA issues in making public acquisition decisions. [9J-5.012(3)(c)3]

Objective 217.2 By January 4, 1998, Monroe County shall develop a Post-Disaster Redevelopment Plan which addresses priorities for immediate recovery and long-term redevelopment including reducing the exposure of human life to natural hazards. [9J-5.012(3)(b)8]

Policy 217.2.1 As provided by its Hurricane Preparedness Evacuation and Shelter Plan, Monroe County shall annually coordinate post-disaster recovery operations to clarify the roles and responsibilities of county departments, state and federal agencies, private and public utilities, and other applicable entities. Deficiencies shall be identified and Monroe County shall immediately initiate agreements or interdepartmental directives as necessary to remedy the existing deficiencies. [9J-5.012(3)(c)5]

Policy 217.2.2 By January 4, 1998, Monroe County shall develop a Post-Disaster Redevelopment Plan which specifies procedures for implementing programs for immediate repair, replacement, and cleanup, and long-term rebuilding and redevelopment. The plan shall also include procedures for the identification of damaged infrastructure and consideration of alternatives to its repair or replacement in the CHHA. Monroe County will

review and evaluate policies contained in Post Disaster Redevelopment Planning: Model Plan for Three Florida Scenarios as it prepares its Post Disaster Redevelopment Plan. [9J-5.012(3)(c)5 and 7]

Policy 217.2.3 The Post-Disaster Redevelopment Plan shall identify areas particularly susceptible to damage within the CHHA such as the FEMA designated V-zones and repetitive loss areas as defined by FEMA and shall specify procedures for relocating or replacing public infrastructure away from them, where feasible. [9J-5.012(3)(c)7]

Policy 217.2.4 Monroe County shall limit redevelopment in areas within the CHHA particularly susceptible to repeated damage as defined by the Post-Disaster Redevelopment Plan. [9J-5.012(3)(c)5]

Policy 217.2.5 In accordance with Land Use Element Objective 101.7, Monroe County shall identify areas in need of redevelopment and shall draft a redevelopment plan for each area as well as procedures for implementing the program upon damage or loss due to a natural disaster.[9J-5.012(3)(c)6]

Policy 217.2.6 In no event shall emergency declarations before, during or following hurricane disaster negate the requirements of these policies and goals, or any regulations derived from them except following a public health menace declaration.

Policy 217.2.7 Following completion of the Post-Disaster Redevelopment Plan, guidelines contained therein for development after a natural disaster shall be incorporated within the Comprehensive Plan by plan amendment. Such amendment shall be processed at the next available plan amendment cycle following completion of the redevelopment plan.

Objective 217.3 By January 4, 1997, Monroe County shall adopt Land Development Regulations which direct future growth away from the Coastal High Hazard Area (CHHA). [9J-5.012(3)(b)6]

Policy 217.3.2 Monroe County shall prohibit the construction of mobile homes within the CHHA except on an approved lot within an existing mobile home park or subdivision zoned for such use as of the effective date of this plan. [5.012(3)(c)3]

Objective 217.4 With the following exceptions, public expenditures within the CHHA shall be limited to the restoration or enhancement of natural resources and parklands, expenditures required to serve existing development such as the maintenance or repair of existing infrastructure, and expenditures necessary for public health and safety: 1. public expenditures within the CHHA may be permitted where required to meet adopted level of service standards or to maintain or reduce hurricane evacuation clearance times

and where no feasible alternatives to siting the required facilities within the CHHA exist. 2. public expenditures within the CHHA may be permitted for improvements and expansions to existing public facilities, which improvements or expansions are designed to minimize risk of damage from flooding. [9J-5.012(3)(b)5]

Policy 217.4.1 By January 4, 1997, Monroe County shall adopt Land Development Regulations which limit public expenditures in the CHHA by requiring consideration of feasible siting and design alternatives for public facilities and infrastructure. [9J-5.012(3)(c)3]

Policy 217.4.2 No public expenditures shall be made for new or expanded facilities in areas designated as units of the Coastal Barrier Resources System, undisturbed saltmarsh and buttonwood wetlands, or offshore islands not currently accessible by road, with the exception of expenditures for conservation and parklands consistent with natural resource protection, and expenditures necessary for public health and safety. [9J-5.012(3)(c)1]

GOAL 218 Applicants for permits to construct a major development project in the Florida Keys shall make available to Monroe County adequate information to allow ready determination of the impacts of the proposed development on the natural resources, public facilities and services, and human environment of the Florida Keys. [9J-5.006(3)(a); 9J-5.012(3)(a); 9J-5.013(2)(a)]

Ports and Aviation Element

Policy 501.2.3 Development activities to construct or expand airport or airstrip facilities shall not take place in environmentally sensitive areas unless a viable alternative is not available. Mitigation and restoration shall occur when there is no other alternative than to disturb environmentally sensitive areas. [9J-5.009(3)(c)2 & 3]

Policy 502.2.3 Development activities to construct or expand port facilities shall be directed away from environmentally sensitive areas. [9J-5.009(3)(c)2 & 3]

Potable Water Element

Objective 701.8 FCAA shall improve its capacity to provide for fire flows in the areas outlined in Policy 701.8.1 to ensure the protection of the public health, welfare and safety. [9J-5.011(2)(b)1]

Policy 701.8.1 By the year 2000, the FCAA, in accordance with its Capital Improvements Program, shall continue to upgrade the distribution system toward the goal of providing fire flow capabilities in the following areas:

Proposed Fire Flow Areas:

1. Key West and Stock Island (current fire flow areas)

2. Everywhere on US 1, except non-developable areas
3. Ocean Reef
4. Key Colony Beach
5. Layton
6. Marathon
7. Duck Key
8. Tavernier

Proposed Fire Flow Requirements by Land Use Zone:

1. Suburban Residential 750 GPM
2. Mobile Home, Recreational Vehicle 1,500 GPM
3. Urban Commercial, Suburban Commercial, and Commercial 2,000 GPM

All commercial facilities not along US 1 shall provide "on site" fire abatement, as currently required. In all other areas the FKAA aqueduct system shall not be considered even as a future primary fire abatement source. However, all line upgrades shall be designed and constructed so as to provide approximately 250 GPM to extreme locations. [9J- 5.011(2)(c)1 and 2]

Objective 701.9

Monroe County shall continue to assist the FKAA with water conservation efforts and assist in implementing the FKAA's Water Conservation Plan consistent with SFWMD's Water Shortage Plan and Water Conservation Program. The County shall implement Policies 701.9.1 to further conserve potable water use. [9J-5.011(2)(b)4; 9J-5.013(2)(b)2]

Policy 701.9.2

During the development of updated Land Development Regulations in accordance with Policy 701.9.1, the Monroe County Growth Management Division and FKAA shall evaluate building codes, utility regulations, landscaping ordinances, and public education programs for implementation of water conservation measures. [9J-5.011(2)(c)3; 9J- 5.013(2)(c)4]

Policy 701.10.5

The FKAA shall continue its policy of not providing for water connection services in National Wildlife Refuge areas or hardwood hammock areas within its jurisdiction as specified in FKAA's enabling legislation and the FKAA Policy and Procedure Handbook, Chapter 48-7. [9J-5.011(2)(c)1]

Solid Waste Element

Policy 801.3.13

Monroe County shall consider the environmental sensitivity of land and the location of coastal high hazard areas in the siting of new solid waste facilities. [9J-.011(1)(f)3]

Sanitary Sewer Element

Objective 901.5 Monroe County shall regulate land use and development to conserve potable water, and protect the functions of natural drainage features and groundwater from the impacts of sewer systems. [9J- 5.011(2)(c)4]

Policy 901.5.6 By January 4, 1997, Monroe County shall adopt Land Development Regulations which require that OSDS drain fields be located on the least environmentally sensitive portion of a parcel proposed for development when more than one habitat type is found within the parcel, the criteria for which shall be defined within the adopted Land Development Regulations.

Drainage Element

GOAL 1001 Monroe County shall provide a stormwater management system which protects real and personal properties, and which promotes and protects ground and nearshore water quality.

Policy 1001.2.1 Proposed stormwater capital improvements projects shall be evaluated and ranked according to the following priority level guidelines, with special attention to the position of the project in the Monroe County Seven Year Road Plan:

Level One - Whether the project is needed to protect public health and safety, to fulfill the County's legal commitment to provide facilities and services, to protect sensitive environmental areas from documented or anticipated adverse impacts, or to preserve or achieve full use of existing facilities.

Level Two - Whether the project increases efficiency of use of existing facilities, prevents or reduces future improvement costs, provides service to developed areas lacking full service, or promotes infill development.

Level Three - Whether the project represents a logical extension of facilities and services within a designated service area. [9J-5.011(2)(c)1]

Objective 1001.3 By January 4, 1998, Monroe County, in coordination with SFWMD and DER, shall complete a comprehensive Stormwater Management Master Plan which ensures that stormwater management facilities are developed to attain adopted levels of service for all existing and proposed land uses. [9J-5.011(2)(c)1 and 5] Note: Monroe County recognizes its obligations under the stipulated settlement agreement but practicality of timeframe implementations may require modifications of agreement date premises.

Policy 1001.4.1 Monroe County shall, as necessary, enter into inter-local agreements with Dade, Broward and Collier Counties, and with agencies having regional oversight over drainage issues, such as SFWMD and the ACOE. These agreements shall be designed to: 1. protect the functions

of natural drainage features that impact the quality of the waters surrounding the Florida Keys;

Recreation and Open Space Element

GOAL 1201

Monroe County shall provide a recreation and open space system to conserve valuable natural resources and to provide recreational opportunities adequate to serve the present and future population of Monroe County, including permanent residents and visitors. [9J-5.014(3)(a)]

Policy 1201.2.4

In selecting sites for future activity-based neighborhood and community parks, Monroe County shall give priority to sites which have been previously disturbed or scarified. The County shall avoid acquiring sites for activity-based parks which involve potential disturbances to sensitive natural resources including but not limited to:

1. high quality undisturbed pineland and hammock vegetation;
2. documented habitat of species designated as rare or endangered by the state and federal governments;
3. undisturbed beach/berm; and
4. undisturbed mangrove, salt marsh, buttonwood and freshwater wetlands.

When park sites are acquired which include sensitive natural resources, then the park master plan (see Policy 1201.3.6 and 1201.3.8) and the annual park management plan (see Policy 1201.11.2 and 1201.11.3) shall designate such areas for passive recreation and shall avoid potential adverse impacts of park development and use upon those resources. [9J-5.014(3)(c)2, 3 and 5]

Policy 1201.3.9

Park master plans shall identify areas of disturbed wetlands as potential wetlands mitigation sites. (See Conservation and Coastal Management Objective 204.3 and related policies.) [9J-5.014(3)(c)2 and 5]

Policy 1201.3.10

Park master plans shall include provisions for the removal of invasive, exotic vegetation. [9J-5.014(3)(c)2 and 5]

Policy 1201.3.11

Park master plans shall specify the use of native vegetation for landscaping and for restoration of areas from which invasive, exotic vegetation is removed. [9J-5.014(3)(c)2 and 5]

Policy 1201.11.3

Park management plans shall be designed so as to avoid and/or mitigate adverse impacts of park use upon sensitive natural resources. Such areas include, but are not limited to the following:

1. high quality undisturbed pineland and hammock vegetation;
 2. documented habitat of species designated as rare or endangered by the state and federal governments;
 3. undisturbed beach/berm (particularly turtle nesting beaches); and
 4. undisturbed mangrove, salt marsh, buttonwood and freshwater wetlands.
- Public use shall be directed away from or minimized in such areas through controlled access and limitations on permitted activities. [9J-5.014(3)(c)3 and 5]

- Policy 1201.11.4** For parks which include beaches and shoreline areas, park management plans shall provide for the maintenance and/or improvement of existing levels of beach and shore access. [9J- 5.014(3)(c)3 and 5]
- Policy 1201.11.5** Park management plans shall identify areas of disturbed wetlands as potential wetlands mitigation sites. (See Conservation and Coastal Management Element Policy 204.3.2.) [9J-5.014(3)(c)2 and 5]
- Policy 1201.11.6** Park management plans shall include provisions for removal of invasive, exotic vegetation. (See Conservation and Coastal Management Element Objective 210.1 and policies.) [9J- 5.014(3)(c)2 and 5]
- Policy 1201.11.7** Park management plans shall specify the use of native vegetation for landscaping and for restoration of areas from which invasive, exotic vegetation is removed. [Policy 9J-5.014(3)(c)2 and 5]

Intergovernmental Coordination Element

- Policy 1301.1.6** By January 4, 1997, Monroe County and the City of Key West shall set up and implement, by inter-local agreement, an entity called the Monroe County Technical Coordination Committee. The committee will consist of six officials, three representing the City of Key West and three representing Monroe County, appointed at the discretion of the City Manager and County Administrator. These officials will represent the concerns of the following offices with each government:

1. Community Services
2. Public Works
3. Planning

The Committee will meet at least twice a year with the following agenda, with subsequent summary reports provided to the County Administrator and City Manager:

1. Land Use/Development Impact Review

2. Transportation Management
3. Affordable Housing
4. Public Facilities
5. Public Safety
6. Solid Waste (to include recycling)
7. Recreation and Open Space
8. Potable Water
9. Drainage
10. Natural Groundwater Aquifer Recharge
11. Conservation
12. Coastal Management
13. Permit Allocation
14. Hurricane Evacuation and Recovery
[9J-5.015(3)(c)5 and 9J-5.015.(3)(b)2]

Policy 1301.4.9 Monroe County shall coordinate with the Florida Department of Transportation (FDOT) to ensure that US 1 roadway capacity improvements are placed on FDOT's five year plan to reduce hurricane evacuation clearance times to 24 hours by the year 2010 (see Capital Improvements Policies 1401.1.4 and 1401.1.5). [9J-5.015(3)(b)3]

Objective 1301.5 Ensure that implementation, monitoring, and evaluation of the Monroe County Comprehensive Plan is coordinated with the plans and programs of:

The Land Authority of Monroe County,
 The Monroe County Property Appraiser's Office
 The District School Board of Monroe County
 The Florida Department of Transportation
 The South Florida Regional Planning Council
 The South Florida Water Management District
 The Florida Department of Environmental Regulation
 The Florida Keys Aqueduct Authority
 The City Electric Service,
 The Florida Department of Health and Rehabilitative Services
 The Florida Keys Electric Cooperative
 The Monroe County Sheriff's Department
 Monroe County Housing Authority
 The Key West Port and Transit Authority
 and other providers of health, safety, and educational services not having regulatory authority over the use of land. [9J-5.015(3)(b)1]

Policy 1301.6.2 As part of the ADID Program, Monroe County shall continue to cooperate with the EPA, the U.S. Army Corps of Engineers (ACOE), the Florida Game and Fresh Water Fish Commission (FGFWFC), and the U.S. Fish and Wildlife Service (USFWS) to develop a wetlands functional assessment protocol. This assessment protocol shall be tailored for use in the Florida Keys and shall be based upon habitat suitability, water quality, and flood flow alteration functions of marine and freshwater wetlands.

- Policy 1301.6.3** As part of the ADID Program, Monroe County, EPA, USFWS, and FGFWFC will jointly carry out the functional analysis of wetlands. This shall be completed on all wetland vegetative cover areas within improved subdivisions and on selected sites outside improved subdivisions, according to statistically valid selected sample locations for each wetland vegetative cover type.
- Policy 1301.6.4** Monroe County shall work cooperatively with the ACOE, EPA, DER, DNR, FGFWFC, and others as appropriate, to determine funding sources to support the wetlands restoration program.
- Policy 1301.6.5** Monroe County shall cooperate with the FGFWFC in its effort to map freshwater wetlands and disturbed wetlands.
- Policy 1301.6.6** The Monroe County Department of Environmental Resources, in consultation with the Monroe County Department of Marine Resources, shall work cooperatively with the Monroe County Land Authority in developing and administering the wetlands acquisition program.
- Policy 1301.7.12** By January 4, 1998, Monroe County shall initiate discussions with the FCAA and providers of electricity and telephone service to assess the measures which could be taken to discourage or prohibit extension of facilities and services to Coastal Barrier Resource Systems (CBRS) units. [9J-5.006(3)(c)6]
- Policy 1301.7.14** Monroe County shall, by January 4, 1998, identify the technical assistance available from the U.S. Department of Agriculture, Soil Conservation Service for development and implementation of a soil erosion and sedimentation control program.

Objective 1301.8 By January 4, 1997, Monroe County shall initiate the necessary inter-local coordination mechanisms to improve hurricane evacuation times and assure the provision of an adequate number of shelter facilities for evacuating Monroe County residents.

Policy 1301.8.2 Monroe County shall initiate an inter-local agreement, with the incorporated municipalities and other appropriate agencies including the National Weather Service, to draft and implement a comprehensive program for expanded resident and visitor hurricane awareness and evacuation procedures. The program will identify education needs and adequate funding sources to include, at a minimum, staffing requirements, distribution of hurricane public awareness brochures, media coverage, and public service announcements in English and Spanish.

Policy 1301.8.5 By January 4, 1997, Monroe County shall coordinate with the Department of Community Affairs' Division of Emergency Management, the South Florida Regional Planning Council, and Dade County to identify sufficient approved shelter spaces outside of Monroe County for all county residents who will require shelter from a Category III or greater hurricane. Priority consideration shall be given to expansion of the currently designated shelter at Florida International University in order to consolidate Monroe County shelter spaces in one location.

Policy 1301.8.6 By January 4, 1998, Monroe County shall enter into an inter-local agreement with Dade County and other appropriate agencies (e.g., the Board of Regents) to provide sufficient additional approved spaces outside of Monroe County capable of withstanding Category III or stronger hurricanes and their associated surges for all county residents who will require shelter from a Category III or greater hurricane.

Policy 1301.8.7 By January 4, 1998, Monroe County shall coordinate with the U.S. Coast Guard to identify areas of mutual concern during a hurricane evacuation and identify the appropriate coordination mechanisms and procedures.

Policy 1302.1.1 By January 4, 1998, discussions between the Divisions of Public Safety, Community Services, Growth Management, and Public Works shall formalize existing or new coordination mechanisms to avoid conflicts and improve delivery of services to the citizens of Monroe County. These coordination mechanisms will address the following issues:

1. The development review process, permit allocation process and the concurrency management process;
2. The responsibilities of the Department of Code Enforcement;
3. Hurricane preparedness and response plans;
4. Public safety needs, including law enforcement coordination requirements; and
5. The County's need for a utilities coordination group similar to that which exists in the City of Key West. [9J-5.015(3)(c)3]

Capital Improvements Element

Objective 1401.2 With the following exceptions, public expenditures within the Coastal High Hazard Area (CHHA) shall be limited to the restoration or enhancement of natural resources and parklands, expenditures required to serve existing development such as the maintenance or repair of existing infrastructure, and expenditures necessary for public health and safety:

1. public expenditures within the CHHA may be permitted where required to meet adopted level of service standards or to maintain or reduce hurricane evacuation clearance times and where no feasible alternatives to siting the required facilities within the CHHA exist.
2. public expenditures within the CHHA may be permitted for improvements and expansions to existing public facilities, which improvements or expansions are designed to minimize risk of damage from flooding. [9J-5.016(3)(b)2]

Policy 1401.2.1 By January 4, 1997, Monroe County shall adopt Land Development Regulations which limit public expenditures in the CHHA by requiring consideration of feasible siting and design alternatives for public facilities and infrastructure. [9J-5.016(3)(c)1 and 9]

Policy 1401.2.2 No public expenditures shall be made for new or expanded facilities in areas designated as units of the Coastal Barrier Resources System, undisturbed saltmarsh and buttonwood wetlands, or offshore islands not currently accessible by road, with the exception of expenditures for conservation and parklands consistent with natural resource protection, and expenditures necessary for public health and safety. [9J-5.016(3)(c)1 and 9]

Policy 1401.4.14 By January 4, 1998, Monroe County shall complete a Stormwater Management Master Plan which shall be implemented beginning in Fiscal Year 1999. Prior to implementation of the Master Plan, the County shall adopt a Stormwater Utility or alternative revenue source in order to fund the drainage facility improvements required by the Stormwater Management Master Plan. Note: Monroe County recognizes its obligations under the stipulated settlement agreement but practicality of timeframe implementations may require modification of agreement date premises.