

## **FUTURE LAND USE ELEMENT DATA, INVENTORY, AND ANALYSIS**

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Pursuant to the requirements of Chapter 163.177(6)(f), F.S., and Rule 9J-5.006(1) & (2), F.A.C., this section presents an inventory and analysis of land use data for Marathon.

### **Existing Land Use Data Requirements** (§9J-5.006(1), F.A.C.)

The purpose of the Future Land Use Element is to designate future land use patterns as reflected in the goals, objectives and policies of the local government Plan elements. This section includes a Land Use Map Series illustrating the existing land uses and natural systems characterizing Marathon. Population estimates and projections are also presented. This data provides baseline conditions for decisions regarding future land use patterns that are depicted on the Future Land Use Map Series.

### **Land Use and Natural Resources Map Series** (§9J-5.006(1)(a, b, d, e), F.A.C.)

Pursuant to §9J-5.006(1)(a-b), F.A.C., The Land Use Map Series, denotes land use and conservation resources within and adjacent to Marathon as follows:

- Map 1: City Limits
- Map 2: Existing Land Use (Zoning)
  - Map 2.1: Existing Land Use East of Marathon (MM 60 – 71)
  - Map 2.2: Existing Land Use South of Marathon (Key Colony Beach)
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- Map 3: Soils
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- Map 14: Pedestrian and Bicycle Pathways
- Map 15: Hurricane Evacuation Routes
- Map 16: Roadway Level of Service
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Map 18: Future Transit Facilities

Map 19: Protected Species

The City has no identifiable commercially valuable minerals, active mining operations, or agricultural land uses. One active aquaculture/mariculture operation exists on Grassy Key. There are no existing or planned public potable water wells or wellhead protection areas. There are no designated dredge spoil sites. A more in-depth discussion of natural resources is found in the Conservation and Coastal Element.

**Existing Land Use**  
(§9J-5.006(1)(c), F.A.C.)

**Existing Land Use Inventory.** *Map 2: Existing Land Use (Zoning)*, inventories existing land uses within the City, using current parcel data acquired from the Monroe County Property Appraiser and from information provided by the City Planning Staff who mapped the physical land uses for each parcel of land in the City.

**Land Use Profile.** *Table 1-1: Existing Land Use Profile* tabulates land use data for the year 2000 for the City as depicted on *Map 2: Existing Land Use (Zoning)*. The table includes a measure of the density and intensity for land use activities within the City, expressed as the ranges defined within the Land Development Regulations.

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PC Code	Description	Area (Square Feet)	Area (Acres)	Units	Building Size (Square Feet)	Density (DU/Acre)	FAR (SF/SF)
<b>Single-Family</b>							
01	Single-Family	28,616,961	657.0	2,332	n/a	3.5	n/a
<b>Mobile Homes</b>							
02	Mobile Homes	2,920,737	67.1	501	n/a	7.5	n/a
<b>Multi-Family</b>							
03	Multi-family (10 units or more)	649,260	14.9	5	n/a	0.3	n/a
04	Condominium	3,977,718	91.3	1268	n/a	13.9	n/a
05	Timeshare	490,939	11.3	6	n/a	0.5	n/a
08	Multi-family (less than 10 units)	8,752,444	200.9	481	n/a	2.4	n/a
	<b>Subtotal</b>	<b>13,870,362</b>	<b>318.4</b>	<b>1,760</b>	<b>n/a</b>	<b>5.5</b>	<b>n/a</b>
<b>General Commercial</b>							
11	Stores, One Story	1,102,215	25.3	n/a	228,050	n/a	0.2069
12	Mixed Use - Residential / Commercial	1,735,231	39.8	n/a	291,578	n/a	0.1680
13	Department Store	444,312	10.2	n/a	91,738	n/a	0.2065
14	Supermarket	4,951	0.1	n/a	1,704	n/a	0.3441
16	Community Shopping Center	938,120	21.5	n/a	385,075	n/a	0.4105
17	Office Building, One Story	795,035	18.3	n/a	85,322	n/a	0.1073
18	Office Building, Multi Story	124,145	2.8	n/a	34,848	n/a	0.2807
19	Professional Services Building	112,907	2.6	n/a	16,405	n/a	0.1453
21	Restaurant or Cafeteria	511,287	11.7	n/a	61,342	n/a	0.1200
22	Fast Food Drive Thru Restaurant	230,581	5.3	n/a	10,882	n/a	0.0472
23	Financial Institution	516,968	11.9	n/a	49,047	n/a	0.0949
25	Repair Shop (Not Automotive)	153,915	3.5	n/a	28,148	n/a	0.1829
26	Gas Station / Convenience Store	306,193	7.0	n/a	28,076	n/a	0.0917
27	Marinas	2,496,192	57.3	n/a	215,307	n/a	0.0863
29	Wholesale Outlet	285,051	6.5	n/a	42,067	n/a	0.1476
30	Florist or Greenhouse			n/a		n/a	0.1043

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		6,771	0.2		706		
33	Nightclub or Lounge or Bar	28,428	0.7	n/a	15,255	n/a	0.5366
	<b>Subtotal</b>	<b>9,792,301</b>	<b>225</b>	<b>n/a</b>	<b>1,585,550</b>	<b>n/a</b>	<b>0.1619</b>
<b>Commercial Fishing</b>							
44	Packing Plant, Seafood Etc.	156,212	3.6	n/a	14,291	n/a	0.0915
<b>Tourist Commercial</b>							
36	MH Parks, Pri. Camping, Rec. Parks	4,958,469.8	113.8	n/a	98,156	n/a	0.0198
39	Hotel or Motel	4,339,251	99.6	n/a	514,790	n/a	0.1186
	<b>Subtotal</b>	<b>9,297,721</b>	<b>213.4</b>	<b>n/a</b>	<b>612,946</b>	<b>n/a</b>	<b>0.0659</b>
<b>Industrial</b>							
41	Light Manufacturing	59,281	1.4	n/a	16,993	n/a	0.2867
42	Heavy Industrial	81,602	1.9	n/a	4,186	n/a	0.0513
43	Lumber Yard	35,252	0.8	n/a	10,500	n/a	0.2979
46	Other Food Processing	210,238	4.8	n/a	19,929	n/a	0.0948
47	Gravel Pit	1,961,060	45.0	n/a	3,200	n/a	0.0016
48	Warehousing	430,982	9.9	n/a	117,353	n/a	0.2723
49	Open Storage	70,841	1.6	n/a	2,412	n/a	0.0340
	<b>Subtotal</b>	<b>2,849,257</b>	<b>65</b>	<b>n/a</b>	<b>174,573</b>	<b>n/a</b>	<b>0.0613</b>
<b>Education</b>							
72	Private School or College / Research Center	78,392	1.8	n/a	13,941	n/a	0.1778
84	Public College	371,928	8.5	n/a	-	n/a	0.0000
83	Public School	1,936,589	44.5	n/a	226,274	n/a	0.1168
	<b>Subtotal</b>	<b>2,386,908</b>	<b>54.8</b>	<b>n/a</b>	<b>240,215</b>	<b>n/a</b>	<b>0.1006</b>
<b>Institutional</b>							
71	Church	1,159,277	26.6	n/a	107,605	n/a	0.0928
73	Private Hospital	322,857	7.4	n/a	28,826	n/a	0.0893
74	Nursing Home	155,142	3.6	n/a	22,434	n/a	0.1446
76	Mortuarie or Cemetery	14,821	0.3	n/a	4,560	n/a	0.3077
77	Club or Lodge	3,609,006	82.9	n/a	91,828	n/a	0.0254
85	Public Hospital	212,463	4.9	n/a	62,467	n/a	0.2940

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	<b>Subtotal</b>	<b>5,473,568</b>	<b>125.7</b>	<b>n/a</b>	<b>317,720</b>	<b>n/a</b>	<b>0.0580</b>
<b>Public Buildings/Grounds/Facilities</b>							
86	County (other than PC List)	18,152,665	416.7	n/a	350,256	n/a	0.0193
87	State (other than PC List)	26,310,450	604.0	n/a	75,943	n/a	0.0029
88	Federal (other than PC List)	6,118,458	140.5	n/a	6,314	n/a	0.0010
89	Municipal (other than PC List)	6,582,639	151.1	n/a	19,893	n/a	0.0030
91	Utilities	1,682,785	38.6	n/a	67,984	n/a	0.0404
94	Right of Way	4,960,710	113.9	n/a	n/a	n/a	n/a
	<b>Subtotal</b>	<b>63,807,707</b>	<b>1,464.8</b>	<b>n/a</b>	<b>520,390</b>	<b>n/a</b>	<b>0.0082</b>
<b>Military</b>							
81	Military	243,588	5.6	n/a	14,465	n/a	0.0594
<b>Recreation</b>							
38	Golf Course	2,523,868	57.9	n/a	n/a	n/a	n/a
92	Private Park	1,020	0.0	n/a	n/a	n/a	n/a
	<b>Subtotal</b>	<b>2,524,888</b>	<b>58</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
<b>Conservation</b>							
82	US Mainland Forest, Parks, Rec Area	1,663,142	38.2	n/a	2,784	n/a	0.0017
99	Nature Conservancy, FI Keys Land Trust	3,917,739	89.9	n/a	10,282	n/a	0.0026
	<b>Subtotal</b>	<b>5,580,881</b>	<b>941.8</b>		<b>13,066</b>		<b>0.0003</b>
<b>Vacant</b>							
00	Vacant Residential	57,413,345	1,318.0	n/a	n/a	n/a	n/a
10	Vacant Commercial	8,913,931	204.6	n/a	n/a	n/a	n/a
70	Vacant Institutional	126,956	2.9	n/a	n/a	n/a	n/a
	<b>Subtotal</b>	<b>66,454,232</b>	<b>1,525.6</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
	<b>TOTAL</b>	<b>213,975,322</b>	<b>4,912.2</b>				
<b>Submerged</b>							
95	Submerged Land	35,444,852	813.7	n/a	n/a	n/a	n/a
	<b>TOTAL</b>	<b>249,420,173</b>	<b>5,725.9</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>

**Land Use Pattern Within Marathon.** Following is a description of the general pattern of existing land uses within the City.

***Residential Land Use.*** Residential land uses, including single-family detached homes, duplexes, mobile homes, multi-family apartments, and mixed-use residential areas are found throughout the City. As indicated in Table 1-1 above, residential land use accounts for 51.91% of all land in the City. Single family detached homes are the predominant residential type within the City, and account for 72% of the residential land use category. Multi-family residential development, including apartments and condominiums, occupy the second largest residential land area accounting for 15.6% of the developed residential land. Mobile homes represent approximately 6% of developed residential land within the City.

***Commercial Land Use.*** Commercial land uses can broadly be defined as those uses associated with the buying and selling of goods and services. Commercial uses utilize 14.42% of land in the City and are found primarily along U.S. Highway 1. The commercial uses are predominantly located on Key Vaca, however, smaller concentrated sites are found on the other Islands of the City. The Tourism/ Recreation subcategory is the largest subcategory accounting for 4.43% of the City's land, and combined with the subcategory of Hotel/Motel at 1.95% of the land, accounts for 60% of the commercial uses. Tourist accommodations and services, and marine-related businesses are the predominant commercial use in the City.

***Public & Semi-Public Land Uses.*** The Public/Semi-Public classification accounts for 27.30% of all land in the City. On the basis of land area, this is the largest use category found within the City and includes Government, Educational, Institutional, and Utilities/Transportation.

1. **Education.** The City is home to two public and two private schools. Marathon Middle / High School, grades 7–12, and the Stanley Switlick Elementary School, Pre-K through grade 6. Public educational facilities account for 0.71% of the City's land area. The City is also home to Island Christian School and Marathon Lutheran School, both private schools.
2. **Government.** Being centrally located in the Florida Keys, the City is home to a variety of Federal, State, County, and Municipal facilities and service centers. The City maintains Sombrero Beach Park, Coco Plum Beach Park, Jessie Hobbs Park, Rotary Children's Park, the Skate Park, the City Community Park and City Marina, the Aviation Boulevard boat ramp, and the 33<sup>rd</sup> Street boat ramp. The Florida DOT maintains a boat ramp and the Florida Keys Overseas Heritage Trail State Park along U.S. Highway 1. The State maintains the Curry Hammock State Park and the Blue Heron Hammock Preserve. The Crane Point Hammock Nature Preserve and Educational facility, a private non-profit facility, is also included in this use subcategory. Of significance is the size of several parcels in this subcategory: the Crane Point Hammock Nature Preserve and Educational facility is 64.62 acres, the Blue Heron Hammock Preserve is 55.66 acres and the Curry Hammock State Park facility is 518.47 acres. This subcategory accounts for 19.47% of the City's land area.

3. **Institutional.** The Institutional land uses in the City accounts for 1.03% of all land within the City.
4. **Utilities/Transportation.** Utilities and transportation account for 5.94% of all land within the City.

**Industrial Lands.** Industrial lands uses account for 1.31% of land uses in the City. Industrial uses include, cement, rock and gravel operations, light manufacturing, and storage areas, and heavy industrial uses. The industrial uses are concentrated at the east end of the Marathon Airport.

**Other Land Uses.** The Airstrip, Off Shore Islands, Submerged Lands and Private Park/Conservancy subcategories fall within this classification and account for 5% of all land within the City.

**Vacant Lands.** Vacant parcels are scattered throughout the City and comprise 37.78% of the total land area within the City. Vacant residential lands account for the largest portion at 33.88%. Vacant lands are discussed in more detail later in this element.

#### **Land Use Adjacent to the City** (§9J-5.006(f)(1), F.A.C.)

The City is comprised of numerous islands accessed by U.S. Highway 1. The City runs from Mile Marker (MM) 60 at the east end of Grassy Key up to but not including the 7-Mile bridge at MM 47 at the west end of Knights Key. The City Charter also recognizes all adjacent offshore Islands. Maps 2.1, 2.2, and 2.3, illustrate the land uses on the islands adjoining the City in unincorporated Monroe County and the City of Key Colony Beach.

**City of Key Colony Beach.** The City of Key Colony Beach is a 285 acre incorporated city located on Fat Deer Key. According to the *City of Key Colony Beach Draft 1990 Master Plan*, approximately 138 acres, or 48 percent of the city consists of residential uses; 11 acres, or 4 percent, of commercial and resort uses; 26 acres, or 9 percent, of recreational and other public uses; the balance of the land area is classified as conservation lands and street. Approximately 21 percent of the land within Key Colony Beach is vacant, mostly platted residential lots. The generalized land use category of single-family residential development for Key Colony Beach as shown on *Map 2.2: Existing Land Use South of Marathon (Key Colony Beach)* is consistent with the developed land areas in the City immediately adjacent to the City of Key Colony Beach, with general commercial, tourist-oriented commercial and residential development along US 1.

**Monroe County.** The islands of Conch Key and Duck Key are located to the north of the city limits, which is part of unincorporated Monroe County. These islands comprise approximately 51 acres and have a total population of approximately 443 people. Hawk's Cay Resort is a significant use of Duck Key. The Seven Mile Bridge connects Marathon to the Lower Keys to the south, which are also unincorporated areas of Monroe County. The uses on these keys are primarily recreational, which includes Bahia Honda State Park.

## POPULATION ESTIMATES AND PROJECTIONS

(§9J-5-5.006(1)(g), F.A.C.)

**Existing (2000) Population.** The total Marathon population for 2000 is 10,255, up from 8,857 people in 1990. The Monroe County population for 2000 is 79,589, up from 78,024 people in 1990. In 1990, Marathon made up 11.4% of Monroe County's total population. This percentage increased to nearly 13% in 2000.

### *Demographic Profile.*

*Sex.* The male population slightly outnumbers the female population in Marathon and Monroe County, as illustrated in Table 1-2.

**TABLE 1-2:  
Population by Sex, 2000**

Sex	Marathon		Monroe County	
	Number of People	Percent	Number of People	Percent
Male	5,386	52.5%	42,379	53.2%
Female	4,869	47.5%	37,210	46.8%
<b>Total</b>	<b>10,255</b>	<b>100.00%</b>	<b>79,589</b>	<b>100.00%</b>

Source: U.S. Census Bureau, 2000

*Race and Ethnicity.* The composition of Marathon and Monroe County's population by race is shown in Table 1-3. White alone comprises of 91% of the Marathon population and 90.7% of Monroe County population.

**TABLE 1-3:  
Population by Race, 2000**

Sex	Marathon		Monroe County	
	Number of People	Percent	Number of People	Percent
White alone	9,341	91.0%	72,151	90.7%
Black or African American alone	477	4.7%	3,795	4.8%
American Indian and Alaska Native alone	37	0.4%	301	0.4%
Asian alone	49	0.5%	657	0.8%
Native Hawaiian and Other Pacific Islander alone	4	0.0%	35	0.0%
Some other race alone	205	2.0%	1,232	1.5%



**TABLE 1-3:  
Population by Race, 2000**

Sex	Marathon		Monroe County	
	Number of People	Percent	Number of People	Percent
Two or more races	142	1.4%	1,418	1.8%
<b>Total</b>	<b>10,255</b>	<b>100.00%</b>	<b>79,589</b>	<b>100.00%</b>

Source: U.S. Census Bureau, 2000

In Marathon, approximately 20% of the population is of Hispanic origin, as shown in Table 1-4. This is slightly higher than Monroe County, where approximately 16% percent of the population is of Hispanic origin.

**TABLE 1-4:  
Hispanic or Latino Population, 2000**

Sex	Marathon		Monroe County	
	Number of People	Percent	Number of People	Percent
Hispanic or Latino	2,095	20.4%	12,553	15.8%
Non Hispanic or Latino	8,160	79.6%	67,036	84.2%
<b>Total</b>	<b>10,255</b>	<b>100.00%</b>	<b>79,589</b>	<b>100.00%</b>

Source: U.S. Census Bureau, 2000

*Age.* The working age population (25 to 64 years of age) accounts for approximately 61 percent of total population in Marathon and 62 percent in Monroe County as illustrated in Table 1-5.

**TABLE 1-5:  
Population by Age, 2000**

Age	Marathon		Monroe County	
	Number of People	Percent	Number of People	Percent
Under 5 years	418	4.1%	3462	4.3%
5-17 years	1352	13.2%	10143	12.7%
18 to 24 years	629	6.1%	4,999	6.3%
25 to 34 years	1,200	11.7%	10,260	12.9%
35 to 44 years	1,735	16.9%	14,493	18.2%
45 to 54 years	1,913	18.7%	14,647	18.4%
55 to 64 years	1,366	13.3%	9,937	12.5%
65 to 74 years	976	9.5%	6,779	8.5%

**TABLE 1-5:  
Population by Age, 2000**

Age	Marathon		Monroe County	
	Number of People	Percent	Number of People	Percent
75 to 84 years	539	5.3%	3,893	4.9%
85 years and over	127	1.2%	976	1.2%
<b>Total</b>	<b>10,255</b>	<b>100.00%</b>	<b>79,589</b>	<b>100.00%</b>

Source: U.S. Census Bureau, 2000

**Population Projections.** Typically, the rate of population growth is the primary determinant of land use requirements, housing supply and demand, and public facility needs and services. However, in the Florida Keys, residential growth has been managed in accordance with Monroe County Rate of Growth Ordinance (ROGO) since July 1992, which limits the number of residential units that can be constructed annually to ensure maintenance of adequate hurricane evacuation clearance times.

Current and projected population estimates have been divided into two sub-groups: permanent residents and seasonal visitors. According to definitions established by the University of Florida Bureau of Economic and Business Research (BEBR), a permanent residence is one's "usual residence, or the place one lives and sleeps most of the time." Seasonal visitors represent persons who reside in the City for less than six months a year. The level of demand for public facilities and land use consumption may vary between the two sub-groups due to different periods of residency and associated activities. *Table 1-6: Summary of Population Estimates and Projections*, presents the population in 2000 as reported in the 2000 Census, and the future population projections to 2020.

**TABLE 1-6:  
Summary of Population Estimates and Projections**

Population	2000	2020	Change
Permanent Residents	10,255	10,941	686
Seasonal Visitors	4,931	5,386	455
<b>Peak Population (sum of permanent and seasonal totals)</b>	<b>15,186</b>	<b>16,327</b>	<b>1,141</b>

Source: U.S. Census Bureau, 2000

#### **Permanent Resident Profile of Population Projections.**

**Methodology.** Currently, under the Rate of Growth Ordinance, the City is allocated 30 residential units per each ROGO allocation year by the State of Florida. Although, based on the recommendations of Florida Keys Carrying Capacity Study implementation team, the existing allocation system under the ROGO may be replaced by a new Administrative Rule that considers ‘carrying capacity’ factors when determining revised allocations, it seems unlikely that the annual allocation will significantly change when these factors are considered. Therefore, population projections for the City are determined based on the current rate of growth allocations for residential units.

According to US Census Bureau Data, the total number of housing units in 2000 was 6,791. At an annual increase of 30 housing units per year, by the year 2020, the City will have added 600 units ( $30 \times 20 = 600$ ) for a projected total of 7,391 housing units in 2020.

**Calculating the Projected Permanent Resident Population.** The methodology used to project the permanent resident population is explained below. Table 1-7 summarizes the estimates and projections.

- Step 1: Determine the number of new housing units added to the City each year (30). Multiply this figure by 5 years between benchmark years ( $5 \times 30 = 150$ ).
- Step 2: Add 150 new housing units to the previous benchmark year to obtain the total for the next benchmark year. Determine occupied units by multiplying total units by 67.59%.
- Step 3: Multiply the number of occupied housing units by the projected household size (2.19 as determined by 2000 Census) to obtain the projected population of the City.

**TABLE 1-7:  
Population Estimates and Projections, 2000 - 2020**

Year	Total Units	Occupied Units	Persons Per Occupied Unit	Population
2000	6,791	4,597	2.19	10,067
2005	6,941	4,692	2.19	10,275
2010	7,091	4,793	2.19	10,496
2015	7,241	4,895	2.19	10,720
2020	7,391	4,996	2.19	10,941

Source: Year 2000 baseline data obtained from the US Census Bureau

**Seasonal Visitor Population Estimate and Projections.** The following calculations for the 2000 seasonal population projections were conducted separate from the permanent resident population projections due to the different methodology employed for each.

- A. Seasonal Visitor Population Estimate.** Seasonal visitors are defined as transient persons residing in the City less than six months per year. Seasonal households are attracted to Marathon during the winter months due to the warm, dry climate. Additionally, seasonal visitors include persons staying overnight in Marathon at hotels and motels, or with friends and relatives. The formula used to calculate the 2000 seasonal population is:

$$(\# \text{ transient units}) \times (\text{occupancy rate}) \times (\# \text{ of persons per party}) = \\ \# \text{ overnight tourists lodging at hotel/motel accommodations.}$$

Given 2,829 transient units in 2000, an average visitor party size of 2.92 persons, and an average annual occupancy rate of 59.70% (Monroe County Tourist Development Council), the seasonal population for 2000 was 4,931 persons (2,829 X 0.597 X 2.92).

- B. Seasonal Visitor Population Projection.** As shown in Table 1-8, the total 2020 seasonal visitor population projection is projected to be 5,386 persons. The seasonal population projection assumes a slight increase in transient units.

**TABLE 1-8:**  
Seasonal Visitor Population Projections, 2000 - 2020

Year	Units	Occupancy Rate	Person/Unit	Population
2000	2,829	59.7%	2.92	4,931
2005	2,829	59.7%	2.92	4,931
2010	2,913	59.7%	2.92	5,078
2015	3,000	59.7%	2.92	5,229
2020	3,090	59.7%	2.92	5,386

Source: Monroe County Tourist Development Council, 2002

### Land Use Analysis (§9J-5.006(2), F.A.C.)

Pursuant to requirements of §9J-5.006(2)(a-e), F.A.C., this section includes an analysis of: 1) the character and magnitude of existing vacant or undeveloped lands; 2) availability of public facilities and services; 3) soils, topography, and commercial minerals; 4) a description of natural and historic resources; 5) future land use needs by use category and their densities and intensities; and 6) redevelopment needs. The need to manage growth within the City and within the carrying capacity of the Florida Keys is evidenced by the limited availability of land and potable water, along with the desire to protect the quality of life, the sensitive environmental resources and maintain a strong and stable economy. The City is just one of six local governments within the Keys.

### Analysis of Undeveloped Lands (§9J-5.006(2)(b), F.A.C.)

Pursuant to §9J-5.006(2)(b), F.A.C., this section provides an inventory of undeveloped lands within the City. In the following section, undeveloped land in the City is inventoried and analyzed to determine if sufficient developable land is available to accommodate the future projected growth in the City. The analysis concludes that adequate land is available to accommodate the projected number of dwelling units and associated population to 2020.

*Map 6: Vacant Lands Inventory*, utilizes the Monroe County Property Appraiser's parcel data (2000) and a physical inventory to identify and describe all undeveloped lands within the City. This data was mapped and quantitative analysis was conducted using a geographical information system (GIS). This data indicates there is a total of 2,172 parcels and 2,367 acres of vacant land. *Table 1-9: Analysis of Vacant Land* tabulates the vacant land data by future land use classification, as also depicted on *Map 6.1: Vacant Lands by Future Land Use*.

**TABLE 1-9:**  
**Vacant Land by Future Land Use**

#### Vacant Land Under Proposed FLUM

FLUM	Acres	% of Total
Conservation	1851.12	79.7%
Industrial	2.08	0.1%
Mixed Use Commercial	89.90	3.9%
Public	26.00	1.1%
Recreation	35.72	1.5%
Residential High	51.35	2.2%
Residential Medium	184.76	8.0%
Residential Low	82.60	3.6%
<b>TOTAL</b>	<b>2323.54</b>	<b>100.0%</b>

Source: City of Marathon GIS, 2005

**Lot Size.** Development potential for a vacant parcel is affected by its acreage. The vacant land analysis reveals that an overwhelming majority of vacant lots are less than one acre in size. While nearly 94% of all vacant lots and parcels are less than one acre in size, less than 3.0% exceeds five acres. The largest undeveloped area in the City is the 856.70 acres of Boot Key under single ownership. *Table 1-10: Vacant Lands by Parcel Size* summarizes this data.

**TABLE 1-10:  
Vacant Lands By Parcel Size**

<b>Acreage Range</b>	<b>Number of Parcels</b>	<b>Percent of Total</b>
Less than one acre	2,040	93.92%
One to 4.9 acres	77	3.55%
5 to 20.0 acres	36	1.66%
Greater than 20.0 acres	19	0.87%
<b>Total</b>	<b>2,172</b>	<b>100%</b>

Source: City of Marathon GIS, 2004

**Vegetation.** Development potential for a parcel is also affected by its vegetation. Almost half of the vacant parcels are on disturbed lots, which are ideal for development. However, a significant number do contain wetlands, making development difficult without mitigation. When examining the total acreage of vacant parcels, 73.1% is comprised of wetlands. Table 1-11 provides a further analysis of the vacant land in Marathon by vegetation type, as also depicted on *Map 6.2: Vacant Lands by Vegetation Type*.

**TABLE 1-11:  
Vacant Land by Vegetation**

<b>Vegetation</b>	<b>Number of Parcels</b>	<b>Percent of Total Vacant Parcels</b>	<b>Acres</b>	<b>Percent of Total Vacant Acreage</b>
Native	302	13.8%	327.5	13.8%
Disturbed	993	45.3%	298.8	12.6%
Wetlands	829	37.8%	1735.2	73.1%
Water	68	3.1%	13.6	0.6%
<b>Total</b>	<b>2,192*</b>	<b>100.0%</b>	<b>2,375.1*</b>	<b>100.0%</b>

\*Greater number of parcels and acreage due to inclusion of "Water" category

Source: City of Marathon GIS, 2004

**Contiguous Vacant Lots.** Lots can be combined into larger single parcels where they share common boundaries. Potential for combining contiguous lots increases when common ownership exists.

**Summary of Vacant Lot Analysis.** In summary, the City's 2,172 vacant parcels represent 2,367 acres. Over 45% of all vacant parcels are Disturbed upland habitat, while nearly 14% of all vacant parcels are classified as Native, requiring some form of constraint to development. The Wetland category, nearly 38% of all vacant parcels, includes those parcels falling within the Buttonwood and Salt Marsh habitat. Only the wetland parcels that are rated as moderate or low quality disturbed Salt Marsh habitat are available for development with mitigation. Therefore a small percentage of the parcels within the Wetland category may be available for development.

GIS data indicates that the average size of the vacant, buildable parcel is 1.09 acres. Based on the evaluation of vacant lands, sufficient sites remain to accommodate the growth recommendations proposed in this element.

**Availability of Public Facilities and Services to Service Undeveloped Lands**  
(§9J-5.006(2)(a), F.A.C.)

Pursuant to §9J-5.006(2)(a), F.A.C., this section describes existing public facilities and services within the City. The Transportation Element and Public Facilities Element of the Plan provide detailed analysis of transportation, wastewater management, potable water and surface water management systems, and solid waste collection and disposal, including available capacity and the ability of these facilities to service existing and future development.

**Transportation.** Monroe County assesses the performance of its public facilities annually. The most current is detailed in the *2003 Monroe County Public Facilities Capacity Assessment*. Table 1-12 illustrates travel performance information for US 1 segments in the City.

**TABLE 1-12:**  
**Existing (2003) Traffic Performance US 1 in Marathon**

Segment (Key)	Beginning Mile Marker	Ending Mile Marker	Speed Limit (Mph)	Median Speed (Mph)	2003 LOS
Marathon	47.0	54.0	45/35	38.2	A
Grassy	54.0	60.5	45/55	50.9	C

Source: 2003 Arterial and Travel Time/ Delay Study, URS Inc.

Pursuant to the US 1 LOS Task Force methodology, the level of service on US 1 within the City is LOS A for the interrupted flow facility. This indicates that US 1 is currently operating above the acceptable level of service standard of LOS C.

*Reserve Capacity.* The difference between the segment travel speeds and the LOS C standard is known as the reserve speed. Reserve speed is converted into an estimated reserve capacity of additional traffic volumes and corresponding additional development. If the travel speed falls below the LOS C standard, additional trips equivalent to five percent (5%) of LOS C capacity are allowed to accommodate a limited amount of land development, until traffic speeds are measured again or until remedial actions are implemented. Available capacity for US 1 in the City is summarized in Table 1-13, as determined from the *1999 US 1 Arterial Travel Time and Delay Study*.

**TABLE 1-13:**  
**US 1 Level of Service and Reserve Capacity**

Segment	1999 Level of Service	1998 Maximum Reserve Volume	1999 Maximum Reserve Volume	Reserve Speed (MPH)
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**TABLE 1-13:**  
**US 1 Level of Service and Reserve Capacity**

Segment	1999 Level of Service	1998 Maximum Reserve Volume	1999 Maximum Reserve Volume	Reserve Speed (MPH)
Marathon MM 47.0 to 54.0	A	18,876	18,598	15.4
Grassy MM 54.0 to 60.5	C	2,527	841	0.8

Source: US 1 Arterial Travel Time and Delay Study, 1999

The City, defined between MM 47.0 and MM 60.5, currently operates at LOS A with 15.4 miles per hour of reserve speed available and LOS C with 0.8 miles per hour of reserve speed available before the respective segments will operate below the adopted LOS C. This translates into a reserve volume of 18,598 vehicles and 841 vehicles, respectively.

If the overall LOS for US 1 is below the adopted LOS C, all growth in the Florida Keys will be required to cease. Should the roadway segment operate below the adopted LOS, policy options exist for the City to re-allocate available trips from one roadway segment to another, change the LOS to D for certain segments or reduce speed limits on segments with deficiencies, according to Task force documentation. These actions require policy statements in the Plan and should be coordinated with FDOT via the US 1 Level of Service Task Force and an annual workshop. While presently US 1 through Marathon is operating at an acceptable LOS, future conditions may dictate the need for actions besides roadway widening. Transportation System Management (TSM) strategies and enhancing transportation alternatives will provide additional tools to ensure that US 1's level of service and consequently, the roadway reserve capacity, will be maintained to accommodate future proposed development.

*Traffic Performance on Collector Roadways.* According to the 2003 Monroe County Public Facilities Capacity Assessment, all collector and local roads in the City operated at or above the adopted standard of LOS D in 1999.

**Educational Facilities.** The City of Marathon has two schools within its boundaries that are part of the Monroe County School System. Stanley Switlik Elementary (PK-6) is on 12.03 acres, 9.43 of which are developed. The property is zoned Suburban Commercial (SC). The Monroe County Comprehensive Plan noted that the School Board had arranged with the Department of Transportation to transfer land holdings of 3.6 acres of adjacent land zoned Suburban Commercial (SC). The School Board also purchased 1.5 acres of adjacent land zoned Suburban Commercial (SC) earlier that year. Expanding the existing school facilities into the two parcels of land flanking the current site will accommodate the land requirements for Stanley Switlik Elementary. These parcels already have structures on them, which may be removed prior to the construction of new and expanded facilities for the school.



Marathon High & Middle School (7-12), is on 14.12 acres, all of which are developed, and is zoned Suburban Residential (SR). There are approximately 21 acres of vacant land zoned Native Area (NA) adjacent to the school site. However, the developmental capability of this land is unlikely due to environmental considerations.

**Recreation Level of Service.** Based upon the current population and existing recreation acreage in the City, recreation lands equal a minimum of 20.73 acres per 1,000 residents. If the City adopts the level of service (4.42 acres per 1,000 residents) as the standard reflective of a desired quality of life, adequate capacity exists to support the estimated additional residential development. Additional recreation lands will not be needed to support new residential development.

**Potable Water Level of Service.** Available potable water is critical to maintaining the public health and safety within the Florida Keys. The potable water system must take into consideration available capacity to serve existing and future residents and businesses, as well as water volumes and system design (pressure) for fire protection purposes. Potable water is provided to the City by the Florida Keys Aqueduct Authority. Monroe County monitors annually the demand and system capacity for potable water.

**Non-Residential Development.** The *Future Land Use Map* generally assigns existing land uses a compatible future land use designation. The Existing land use table identifies 10.6% of the land area as commercial; the *Future Land Use Map* identifies 12.74%.

**Development Potential by Soil Types/Topography**  
(§9J-5.006(2)(b)(2,3))

*Map 3: Soils*, delineates the distribution of soil types within The City. The City contains no commercially valuable minerals or agricultural land uses. Table 1-14 describes the soil types found in the City as described in the Soil Survey of Monroe County, published by the Natural Resources Conservation Service, United States Department of Agriculture.

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**TABLE 1-14:**  
**Description of Soil Types**

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Soil Type	Description
Pennekamp Gravelly Muck, 0 –2 % slope	This soil is on tropical hardwood hammocks in the upland in the Upper Keys and, within the City, is found only on the north east tip of Grassy Key. About 10% of the surface of this soil is covered with stones that are dominantly 10 to 20 inches in diameter. Elevations are dominantly 5 to 15 feet above sea level.
Matecumbe Muck, occasionally flooded	This soil is on tropical hardwood hammocks in the upland throughout the Keys. Individual areas are subject to flooding from hurricanes and other tropical storms. Elevations are less than 15 feet above sea level.

**TABLE 1-14:  
Description of Soil Types**

Soil Type	Description
Rock Outcrop – Tavernier Complex, tidal	This is found on mangrove swamps throughout the Keys. Individual areas are subject to daily flooding by tides. Elevations are less than 2 feet above mean sea level.
Islamorada Muck, tidal	This soil is dominantly on the Upper Keys in mangrove swamps. Individual areas are subject to daily flooding by tides. Elevations are dominantly at or below sea level.
Key Largo Muck, Tidal	This soil is dominantly on the Upper Keys but can occur throughout the Keys. It is in mangrove swamps. Individual areas are subject to daily flooding by tides. Elevations are dominantly at or below sea level.
Udorthents-Urban Land Complex	This is the predominant soil within areas of the City and consists of crushed limestone placed over the surface of the original wet, marl soils to make the land suitable for urban development. Elevations vary depending on the thickness of the fill material, but they are dominantly 2 to 10 feet above sea level.
Rock Outcrop – Cudjoe Complex, tidal	This soil is on mangrove swamps throughout the Keys. Individual areas are frequently flooded by tides. Elevations are 0 to 1 foot above sea level.
Lignumvitae Marl, tidal	This soil is dominantly on the middle and lower keys in mangrove swamps. Individual areas are frequently flooded by tides. Elevations are dominantly at sea level.
Cudjoe Marl, tidal	This soil is dominantly on the Lower Keys in mangrove swamps. Individual areas are frequently flooded by tides. Elevations are 0 to 1 foot above sea level.
Bahiahonda Fine Sand, 0 to 3% slope	This soil is on coastal strands and tropical hammocks in the uplands. Individual areas are subject to rare flooding from hurricanes and other tropical storms.
Key West Marl, tidal	This soil is dominantly on the Lower Keys in mangrove swamps. Individual areas are frequently flooded by tides. Elevations are 0 to 1 foot above sea level. This is predominantly what occurs on Boot Key.

Source: Natural Resources Conservation Service, United States Department of Agriculture.

**Natural Resources**  
**(§ 9J-5006(2)(b)(4))**

The locations and attributes of natural resources within Marathon, including wetlands, vegetative and aquatic habitats, are detailed in the Coastal and Conservation Elements of the Plan. *Map 4: Habitat Types*, identifies Vegetative Communities and Wetlands and delineates the location of environmentally sensitive lands within the City.

**Historic Resources**  
**(§9J-5.006(2)(b)(5))**

The Florida Master Site File, maintained by the Florida Department of State, Bureau of Historic Preservation is the database where known, recorded, archaeological or historic sites and structures are held as a public record. A review of the Florida Master Site File shows that there are nine recorded sites within the City limits. Theses sites are shown in Table 1-15 following.

**TABLE 1-15:  
Archaeological and Historic Resources**

Site ID	Township/Range/Section	Type
MO00009	66S/32E/1	AR
MO00010	66S/32E/12	AR
MO01265A	66S/32E/2	AR
MO01265B	66S/32E/12	SS
MO01300	66S/32E/11	AR
MO01483	66S/32E/8	SS
MO02089	66S/32E/2	AR
MO02091	66S/33E/35	AR
MO3433	66S/34E/19	AR

Note: AR = Archaeological site, SS = Historic site

Source: Florida Master Site File, 2002

### **Redevelopment Issues** (§9J-5.006(2)(d)(1,2))

Redevelopment, rather than new development, will be the primary focus of the City's future activities. Major issues confronting redevelopment and infill in the City include:

1. Redevelop pedestrian oriented business centers and revitalize the local economy to achieve a competitive economic climate for the local economy;
2. Redevelop tourist facilities, including hotels, restaurants, and retail shops to accommodate existing tourist markets and enhance the image of the City as a destination for families interested in sport fishing, diving, boating, and promote the ambiance of an island culture with a remarkable ecosystem;
3. Maintain compatibility among single family structures;
4. Maintain infrastructure levels of service;
5. Preserve open space and natural resources; and
6. Avoid displacement of very low, low, and moderate-income families and generate affordable housing opportunities.

<b>TABLE 1-16: Existing Licensed Hotel and Motel Facilities</b>			
Facility	Address	Number of Units	License Number
Anchor Inn	7931 Overseas Highway	7	MOT5400576
Anckardin Inc	18 Man O War Drive	4	MOT5401476
Banana Bay Resort And Marina	4590 Overseas Hwy	65	MOT5400344
Blackfin Resort Motel & Marina	4650 Overseas Hwy	40	MOT5401480
Blue Waters Resort	2222 Overseas Hwy	20	MOT5400551
Bonefish Bay Motel	12565 Overseas Hwy	20	MOT5400266
Boot Key Marina	1000 15 St	31	MOT5401745
Buccaneer Resort Hotel	2600 Overseas Hwy	82	5401128H
Coconut Cay Resort & Marina	7196 Overseas Hwy	40	MOT5400073
Coconut Cay Resort & Marina	7200 Aviation Blvd	25	MOT5402836
Coral Lagoon Resort And Marina	12399 Overseas Hwy	18	MOT5400751
Cyrstal Bay Resort	4900 Overseas Hwy	30	MOT5400215
Faro Blanco Marine Resort	1996 Overseas Hwy	32	MOT5400085
Flamingo Inn	59299 Overseas Hwy	11	MOT5401005
Grassy Key Beach Resort	58182 Overseas Hwy	10	MOT5402716
Gulf View Motel	58743 Overseas Hwy	9	MOT5400557
Hidden Harbor	2396 Overseas Hwy	21	MOT5400273
Holiday Inn	13201 Overseas Hwy	134	HOT5400603
Jo Jo's Mojo Of FI Keys	59720 Overseas Hwy	4	MOT5402847
Jolly Rodger Park Motel Units	59275 Overseas Hwy	12	MOT5401439
Kingsail Resort Motel	7050 Overseas Hwy	40	MOT5400617
Knights Key Inn	40 Kyle Way West	9	MOT5402499
Lions Lair At Grassy Key	58950 Overseas Hwy	5	5402314H
Pelican Motel	59151 Overseas Hwy	9	MOT5400010
Rainbow Bend Resorts	57784 Overseas Hwy	23	MOT5400734
Ramada Inn	13351 Overseas Hwy	80	HOT5400884

Ranch House Motel	7251 Overseas Hwy	9	MOT540033 4
Royal Hawaiian Botel	12020 Overseas Hwy	8	MOT540001 9
Sandpiper Motel	2443 Overseas Hwy	8	MOT540041 4
Sea Dell Motel	5000 Overseas Hwy	21	MOT540038 8
Sea Shell Beach Resort	57612 Overseas Hwy	10	MOT540056 5
Seacove Motel & Marina	12685 Overseas Hwy	18	MOT540063 7
Seascape	1075 75 St Ocean	10	MOT540015 5
Seaward Motel	8700 Overseas Hwy	16	MOT540123 8
Siesta Motel	7425 Overseas Hwy	7	MOT540070 3
Sombero Resort	19 Sombrero Blvd	51	MOT540057 2
Sundance Village Of Fl Key	2146 Overseas Hwy	10	MOT540055 6
Tropical Cottages	243 61 Street Gulf	11	MOT540258 6
Vaca Cut Botel	11733 2 Ave Ocean	8	MOT540040 0
Valhalla Beach Resort	56243 Ocean Dr	8	MOT540034 1
Yardarm Motel (The)	6200 Overseas Hwy	6	MOT540270 2
Yellowtail Inn	58162 Overseas Hwy	11	MOT540293 9
Total Number of Rooms		993	

**TABLE 1-16 17:  
Previous Future Land Use Profile**

<b>FLUM</b>	<b>Acres</b>	<b>% of Total Acres</b>	<b>Parcels</b>	<b>% of Total Parcels</b>
Airport	188.80	3.9%	3	0.0%
Conservation	1966.32	40.6%	869	13.3%
<i>Agriculture</i>	13.71	0.3%	2	0.0%
<i>Conservation</i>	563.27	11.6%	21	0.3%
<i>Island</i>	32.05	0.7%	11	0.2%
<i>Residential Conservation</i>	1357.29	28.1%	835	12.8%
Industrial	26.86	0.6%	47	0.7%
Mixed Use Commercial	611.74	12.6%	784	12.0%
Mixed Use Commercial Fishing	59.13	1.2%	147	2.3%
Public	321.37	6.6%	160	2.4%
<i>Education</i>	12.82	0.3%	8	0.1%
<i>Institutional</i>	143.20	3.0%	104	1.6%
<i>Public Building</i>	17.60	0.4%	13	0.2%
<i>Public Facilities</i>	147.75	3.1%	35	0.5%
Recreation	173.10	3.6%	16	0.2%
Residential High	267.12	5.5%	821	12.6%
Residential Medium	753.46	15.6%	3172	48.6%
Residential Low	469.66	9.7%	514	7.9%

**Analysis of Land Area Required to Accommodate Future Population**  
(§9J-5.006(2)(c)(1,2))

This section provides an analysis of future land use, based on the previous undeveloped land analysis within this element and considering natural constraints to future development as described in the Coastal Management and Conservation Elements. Undeveloped lands are delineated on *Map: 6: Vacant Lands Inventory* and described in the vacant land analysis within this element.

The *Future Land Use Map* illustrates the proposed future allocation of land use within the City, including the density and intensity of these uses. This land use pattern maintains and reinforces the generally low intensity land development pattern that characterizes the City and reaffirms the State of Florida's Principles for Guiding Development in the Florida Keys.

### Future Land Use Designations

Policy 1-3.6.3 describes the future land use designations for the City. *Table 1-16: Future Land Use Profile*, tabulates future land use data.

Source: City of Marathon GIS, 2005

<b>TABLE 1- 18: Future Land Use Profile</b>				
<b>FLUM</b>	<b>Acres</b>	<b>% of Total</b>	<b>Number of Parcels</b>	<b>% of Total</b>
Airport	192.3	4.0%	4	0.1%
Conservation	2257.5	47.5%	1061	16.3%
Industrial	39.0	0.8%	49	0.8%
Mixed Use Commercial	575.2	12.1%	850	13.1%
Public	232.7	4.9%	48	0.7%
Recreation	217.1	4.6%	48	0.7%
Residential High	264.4	5.6%	635	9.8%
Residential Medium	846.9	17.8%	3543	54.4%
Residential Low	130.7	2.7%	271	4.2%
<b>Total</b>	<b>4755.8</b>	<b>100.0%</b>	<b>6509</b>	<b>100.0%</b>

Source: City of Marathon GIS, 2005

### Managed Growth Approach

The Plan serves as the foremost regulatory legislation used by the City, new development shall be managed throughout the planning period of the Plan. With a primary focus on the revitalization of existing business centers and promoting the availability of housing for employees as an economic issue for the City and the businesses community, all future development must reflect the City's character, implement the City's vision and the Plan growth management goals, objectives and policies. Growth shall be managed to assure that adequate public facilities and services are provided according to the City's adopted level of service standards, the public's ability to fund infrastructure capacity improvements, and the ability to minimize adverse impacts that public facilities place on natural resources.

Non-profit activities that clearly serve the public (such as schools, city and county administrative and life safety and maintenance services, buildings used for the management of national and local natural resources, etc.) should be exempt from any limitation placed on growth, provided that they do not adversely impact levels of service or hurricane evacuation times.

To achieve quality of life and reflect carrying capacity constraints, the following growth management activities are recommended for implementation by the City:

- Direct Development/Redevelopment to infill of scarified sites
- Promoting workforce housing located close to business centers
- Promote in-fill of platted, scarified lots for new residential units
- Promote redevelopment of substandard housing
- Establish Concurrency Management



- Establish a Program to Retire Development Rights, including a Land Acquisition Program
- Establish a Transfer of Development Rights (TDR) Program

**Concurrency Management.** Based on Florida's concurrency management requirements, capacity must be available to meet the public facilities needs generated by any, and all future growth and development. Growth can be managed to assure that adequate public facilities and services including transportation, potable water, surface water management, wastewater, and recreational facilities are provided according to the City's adopted level of service standards, the public's ability to fund infrastructure capacity improvements, and such facilities can be managed in a manner that protects natural resources from development impacts.

**Retirement of Development Rights and Land Acquisition Program and Tracking System.** The City should establish a comprehensive program to retire development within the City and a land acquisition program to protect indigenous environmental resources and promote equitable treatment of private property rights. Potential acquisition lands should be evaluated according to environmental quality as well as potential development impacts that will adversely affect the ecosystem and burden the City's infrastructure capacities.

A capital investment program for acquisition of environmentally sensitive lands and reduction of development rights should be prepared. The program should include a tracking system for continued monitoring and evaluation.

**Transfer of Development Rights (TDR) Program.** The current TDR program in place within the City allows the relocation of development from specified sender sites to receiver sites. To encourage and facilitate redevelopment, in-fill and new development within existing business centers and within the least environmentally sensitive areas this program should continue, be analyzed and expanded. Landowners within areas designated as sender sites shall be able to sell their density rights to landowners of within areas identified by the City as receiver sites, based on criteria to be defined in the Land Development Regulations.