RESIDENTIAL FUTURE LAND USE PLANNING IN SOUTH FLORIDA: REGIONAL ANALYSIS OF NINE COUNTIES

By

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Dedicated to my parents

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LIST OF ABBREVIATIONS

DCA	Department of Community Affairs
DRI	Development of Regional Impact
FAC	Florida Administrative Codes
FLU	Future Land Use
FLUE	Future Land Use Element
FLUM	Future Land Use Map
FS	Florida Statutes
GMA	Growth Management Act (of State of Florida, 1985)
IPPD	Intergovernmental Policy and Planning Division (of SFWMD)
SFWMD	South Florida Water Management District
SJRWMD	Saint Johns River Water Management District
SRPP	Sprawl Reduction Planning Policy
SWFWMD	Southwest Florida Water Management District
TDR	Transfer of Development Rights
USGS	United States Geologic Survey

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Future Land Use Maps (FLUMs) are a manifestation of a community's vision for the future development of an area, and are mandated by Florida Statutes, Chapter 163.3177. The FLUMs for over 85 cities and 15 counties from among the 154 local governments within the South Florida Water Management District (SFWMD) were initially assembled and compiled to understand cumulative regional vision and to allow the District to coordinate with local governments and enhance their ability to integrate land use and water resource planning. Subsequently, these aggregated FLUMs were used to study future land use planning, specifically residential future land use planning, in South Florida. The FLUMs were standardized to the SFWMD Generalized Future Land Use Categories methodology, which facilitates comparisons across political boundaries. This information was used to identify large-scale trends in future land use that span municipal boundaries. These areas may benefit from future policy and planning assistance and can help focus the utilization of limited resources.

Nine counties in particular are used to illustrate a trend in FLUMs toward over-allocation of residential future land use. Six of the nine counties have enough data to be investigated further. Using data from each local government FLUM within a county, a

population projection is extrapolated using a full buildout scenario of the current FLUM. Mixed use and residential future land use categories populations are projected by multiplying land use density maximums (from local comprehensive plans) by acreage covered for each category, using people per dwelling unit as determined by the U.S. Census Bureau. This is important because most population projections do not derive from, or account for, future land use. These FLUM population projections are then compared to the University of Florida Bureau of Economic and Business Research (BEBR) population projections for each county. BEBR population projections are a state accepted standard that local governments may be used to develop their future land use demand. This gives some measure of the validity of these FLUMs in relation to accepted population projections. It is particularly interesting because most of these local governments initially used the BEBR population projections to determine their future land use demand, from which they created their FLUMs.

Summaries of aggregated acreage, population projections, and compiled FLUMs are provided for each county, and are further separated by local government future land use categories. The trend toward over-allocation of residential future land use is apparent, when full buildout condition is projected. All but one county studied exceeded 125% over-allocation of residential future land use. In their adopted, approved FLUM, each county, with its cities included, could accommodate more residential population than BEBR projects them to have, even when using the highest BEBR projections. This does not indicate that local residential future land use planning has occurred in a manner consistent with state-accepted population projections, according to the Growth Management Act of 1985 and subsequent, related legislation.

CHAPTER 1
INTRODUCTION

The Question

South Florida has experienced lots of growth, both before and after growth management legislation was passed by the state in 1985. South Florida (especially Miami-Dade and Broward Counties) is the result of what amounts to an unregulated, development land-grab: endless subdivisions, vast mono-cultures of single land uses, and fully built-out municipalities exist where there could have been coherent, intelligently planned communities. In part, this is why the State of Florida enacted growth management laws, designed to give citizens, and not just profit-driven developers, a say in the future of their community.

The state of Florida, seeing the incremental development by accretion, decided that a more cohesive planning process was necessary to preserve the quality of life of residents. The state legislature issued and amended several growth management laws that mandated comprehensive plans, and future land use maps, among other devices, to direct future development in a community-approved vision. However, local governments are generally more concerned with local development, and increasing the local tax base to grow the community, with little regard for neighboring communities or the regional impact of their incremental growth (Anthony 2004). This research seeks to understand if state-mandated comprehensive planning processes are “effective devices for producing plans and policies at the local level that accomplish the goals of higher-level governments”? (Deyle and Smith, 1998, p.458). Have the growth management laws of the state of Florida actually created a plan for the future which describes controlled, intelligent growth?

Background

All governmental agencies need to be concerned with growth management, as the population of the United States is expected to increase by 50% above year 2000 in the next 20 to 40 years (US Census Bureau, 2000, US GAO, 2000). Additionally, over 75% of people in the United States now live in cities of 100,000 people or more (Carreiro 2008). Humans are converting rural land uses to urban areas at an incredible pace (Carreiro 2008, Wu 2008). Compounding that, metropolitan populations are using more land per capita as they expand than a few decades ago (Fulton et al., 2001). Naturally, the regulation of growth is a prime function of government whenever there are scarce resources in conflict with public health, safety and welfare.

Water resource provision is a primary concern of the South Florida Water Management District (SFWMD), and current technologies and water sources can only provide so much water to residents and industry. Currently, the SFWMD has put a moratorium on the development of new water sources in many areas because of perceived future water resource deficiency. In fact, as we will see, the development that is allowed in currently approved FLUMs would not be able to provide for the water resource needs of that population at the current level of service. Additionally, although much of South Florida is designated as conservation because of the Everglades National Park, ecosystem services become a scarce public resource as land is converted to urban uses.

This project was initially envisioned and designed to inform the future of water resource planning in the region by the members of the SFWMD Intergovernmental Policy and Planning Division. The project was executed by the author during a summer internship in 2010 for the aforementioned purpose. However, upon further inspection of

the data that was gathered and processed, it became apparent that this data could have also be used to evaluate the degree to which the FLUMs that are created are properly implemented for the purpose with which they were designed.

The state of Florida has organized counties and cities on relatively equal standing under the law: each is generally considered sovereign. Although the Growth Management Act of 1985 (GMA) requires consistency between surrounding municipalities, it is loosely enforced by the state, as it relies upon and generally defers to the expertise of local officials (Burby and Dalton, 1994). Since Florida does not have a state income tax, the revenue of most local governments is derived from property taxes, while the state relies heavily upon a state sales tax. This system encourages both counties and cities to compete for development within their boundaries, to bolster their budgets, and the state generally respects the expertise of local officials. As such, vast areas are often zoned for some type of development or another, in the hopes that some business or builder, with a plethora of available sellers, will be tempted to join the local tax base.

Each governmental entity – state, county, and city – has a comprehensive plan: a document that directs future development out to a specific temporal planning horizon. However, this process has not entirely created the desired effect of regulated growth according to a community master plan. Instead we still witness sprawling, incremental accretion. Partially this is due to the nature of the planning process. The recognized planning horizon only sees the short-term future, and not the end product of the development. For instance, no comprehensive plan in this study acknowledges that there will ever be an end to the amount of development allowable, just that there is a

limit within the planning horizon. There is never a growth ceiling, just managed incrementalism.

This type of incremental accretion, what we know as “sprawl” in the United States, began in the post-WWII years with the returning soldiers, cheap, G.I. Bill home loans, and the 30-year mortgage (Lawrence, 2005). Regions of South Florida (particularly in Miami-Dade, Broward, and Palm Beach Counties) are characterized by urban sprawl. Urban sprawl has been defined as “relatively low-density, noncontiguous, automobile dependent, residential and nonresidential development that consumes relatively large amounts of farmland and natural areas” (Bengston, Fletcher, and Nelson, 2004, p. 271). Brody, Carrasco, and Highfield (2006) also include spiraling outward growth, leap-frogging development, and separation of land uses. FLUMs that encourage sprawl can create negative impacts on a community, including air and water pollution, infrastructure costs, and environmental and social inequities (Anthony 2004, Bengston, Fletcher and Nelson, 2004, Johnson and Klemens, 2005, Ewing, 1997, Porter, 2000, and Squires, 2002). The future development in South Florida is threatening the public welfare by causing a decrease in quality of life, and ecosystem resource provision future of the region. This type of incremental accretion has led to sprawl in many Florida cities, especially in South Florida (Lopez and Hynes, 2003, Brody, Carrasco, and Highfield, 2006). Sprawl is considered “to accompany almost every unwanted or unattractive aspect of U.S. urban life” (Lopez and Hynes, 2003, p.325).

Sprawl can be created by a FLUM that includes more area for future growth than is predicted to occur during the planning horizon. Leap-frogging development can be facilitated when any FLUM category is over-allocated for the planning horizon. This is

because market forces will dictate that a surplus in locational options for any FLU will drive the prices for that land down. Developers, who are rightly concerned with profit margins, will seek to buy and build on the cheapest land. If there is a surplus in available land, a somewhat random development pattern will occur as landowners sell to developers in somewhat random locations (Clawson, 1962). This development pattern will create a spatial development pattern that does not necessarily concentrate development near existing urban centers, thus undermining the one of the primary advantages of cities: economies of scale. (Clawson, 1962, O'Sullivan, 2007). As far back as 1962, Clawson states that "the market for suburban housing is a fragmented and not wholly consistent one…Differences in price for houses are often reflected back into differences in price for undeveloped land, but in varying degree" (p.102). This is how a FLUM that has over-allocated land, when compared to its future demand projections, creates a land market that encourages sprawl (Clawson, 1962).

CHAPTER 2
FRAMEWORK

Policy Framework

Due to the perceived unregulated growth in Florida during the 1970s and 1980s, state legislators enacted various growth management laws (detailed below) to re-focus development in a more coherent fashion. In response to anticipated local government opposition, the growth management laws had provisions that required state approval, via an agency created for that purpose, the Department of Community Affairs (DCA). In holding with that common-sense approach, researchers later concluded "that strong oversight and sanctions are required to motivate lower-level governments to pursue desired state policies when the two levels of government disagree on policy goals and objectives" (Deyle and Smith, 1998). May and Burby (1996) agreed that local governments generally required strong coercion to cooperate with state planning goals when the local government is less committed to those goals, although a cooperative approach is preferred. The growth management laws of Florida are widely recognized as progressive because they grant substantial review powers to the DCA, as well as the ability to impose fiscal sanctions, by withholding state money, on communities that are found not in compliance (Burby and Dalton, 1994, Deyle and Smith, 1998).

Florida's growth management framework grew out of a recognized necessity for curbing unplanned development. Beginning with recognition of areas such as "Areas of Critical State Concern" and "Developments of Regional Impact", Florida has long recognized the necessity of regulating growth (Anthony 2004). Although some of the first growth management legislation in Florida occurred in 1975, with the Local Government Comprehensive Planning Act (Pelham, 2007), it did not gain real teeth until

1985. Florida's landmark 1985 Growth Management Act (GMA), which includes the 1984 Florida State and Regional Planning Act, 1985 Omnibus Growth Management Act, and 1986 Glitch Bill, (Chapin, Connerly, and Higgins, 2007, p.1) created requirements for each municipality regarding future land use planning. Among other requirements, each municipality must create a community supported comprehensive plan, which contains a Future Land Use Element (FLUE) and Future Land Use Map (FLUM), as provided for in Florida Statutes, Chapter 163. The FLUM is a "future land use plan element designating proposed future general distribution, location, and extent of the uses of land for residential uses, commercial uses, industry, agriculture, recreation, conservation, education, public buildings and grounds, other public facilities, and other categories of the public and private uses of land" (FS §163.3177(6)a). The comprehensive plan is a legally-binding document between citizens and their government. The comprehensive plan, FLUE, and FLUM are revised on a regular basis; generally 5-7 years. For a more detailed history of the sequence and explanation of growth management legislation in Florida, see Pelham, Hyde, and Banks (1985).

The FLUM designates areas in the municipality where certain land uses can be located. The FLUE of the comprehensive plan requires that the municipality create a FLUM that specifies where future development may occur. The FLUM should be able to accommodate the growth that is expected to occur for at least 10 years from the adoption of the comprehensive plan (§163.3177(5)), although many municipalities adopt a much longer planning horizon (15-20 years from adoption).

Deyle and Smith (1998) explain the comprehensive plan and DCA review process best:

> Local governments were required to submit their draft plans to DCA for review according to a schedule that spanned four years: 1988-1991. DCA reviewed the plans in two stages. Teams of planners conducted line-by-line reviews of the draft plans against the administrative requirements. They itemized each plan's deficiencies and made suggestions for revisions. The review teams' recommendations were themselves reviewed, and often amended, by senior staff in the agency. Jurisdictions then had 60 days to revise and adopt their comprehensive plans, after which DCA conducted a "compliance" review. The formal decision to find the plan in compliance, and if appropriate, to impose sanctions for noncompliance, was then made by the State Administration Commission, consisting of the Governor and the Cabinet. (p.5)

One of the key concepts in the 1985 Growth Management Act is the idea of concurrency; that development must be concurrent with municipal provision of services (i.e. - roads, water, sewer and power connection, etc.). “Florida was the first state to require all local governments to adopt adequate public facility ordinances for selected local services and facilities” (Bengston, Fletcher, and Nelson, 2004, p.275), also known as concurrency. Although Florida’s growth management and concurrency have been criticized for failing to reduce uncontrolled, sprawling development (Lopez and Hynes, 2003), they have also been praised for reducing sprawl (Nelson, 1999, and Pelham, 2007). The FLUE and FLUM are supposed to combine future population projected demand with a geographic location for planned provision of services, and consequent areas where development would be allowed within the planning horizon. This is where the logical nexus of population projection to determine future demand and future land use planning and occurs.

Municipalities determine future population projected demand by creating population projections for their communities. By examining past development trends, birth and immigration rates, municipalities create projected demand for the period of the planning horizon. The Bureau of Economic and Business Research (BEBR) creates

population projections for all municipalities in Florida. These are recognized in Florida Statutes Chapter 163, section 9J-5 as acceptable sources of population projections for creating comprehensive plans, FLUMs, and projecting future demand. Florida Administrative Codes, Rule 9J-5 allows, and even recommends, that municipalities use the BEBR medium population projections for their particular planning horizon, and most generally do. Additionally, a local government can choose to perform their own population projections, so long as they justify their rationale to DCA (Population Estimation and Projection Techniques, 1986, p.6). BEBR publishes population estimations and projections annually for certain pre-established horizons (such as 10-, 15-, and 20-year projections).

Currently, the South Florida Water Management District (SFWMD) manages the water resources for 41% of Florida's nearly 18 million people, and includes the Everglades National Park, Lake Okeechobee, and associated lands. This project was initially undertaken in order to allow the District to better manage water resources, as they pertain to future development in the 154 local governments that are served by the District, which includes 16 counties. Subsequently, this project was determined to be appropriate for investigating the integrity of residential future land use planning in South Florida counties.

Supporting Literature

The 1960s and 1970s saw the beginnings of the environmental movement, and growing concern about the costs of sprawl and associated urban flight, as an environmental and social blight. There was a nationwide pushback against sprawl in the late 1990s, as evidenced by growing interest in growth management and smart growth (Bengston, Fletcher and Nelson, 2004, and Myers, 1999). Growth management has

been defined as government actions that “guide the location, quality, and timing of development” (Porter, 1997, p.vii). This growing concern with the impacts of sprawls also saw the increase in the role of regional entities in growth management (Anthony, 2004, Weitz and Seltzer, 1998) which is embodied in Florida by the involvement of the state, Regional Planning Councils (RPCs), and Water Management Districts (WMDs).

About 12 states have developed some sort of growth management efforts over the past four decades (Weitz, 1999), but Florida’s growth management legislation is exceptionally far-reaching. Generally speaking, states have responded with growth management efforts where concerns over rapid urban development and associated impacts clash with environmental concerns (Bengston, Fletcher and Nelson, 2004, and Weitz, 1999). Florida, with its environmental tourism (beaches) and extreme growth pressures, is a prime example, especially in South Florida.

However, even good legislation can be stymied if there is not a supportive administration (Deyle and Smith, 1998), an effective administrative process, and political will (Bardach, 1979). All that said, the Florida DCA took on a considerable job when the comprehensive planning process began in the late 1980s. Aside from DCA being required to review over 400 comprehensive plans in the first few years after GMA 1985, director Thomas Pelham also reported that in 1988 and 1989, financial sanctions had to be levied against three communities that attempted to ignore the new legislation (Deyle and Smith, 1998).

In a study of South Florida coastal communities, including West Palm Beach, Palm Beach County, Monroe County, Cape Coral, and Lee County, who had written comprehensive plans required to conform to state of Florida mandated coastal hazard

issues, plan quality varied. The authors expected “coastal hazard issues to have greater salience in the communities that had more recent hurricane experience before they prepared their plans” (Deyle and Smith, 1998, p.461). Likewise, it could be extrapolated that when considering residential future land use planning, communities with less undeveloped land, that have experienced greater growth pressures in recent years, would have greater salience to state planning mandates requiring adherence to approved population projections. In the framework of testing in the current project, this would translate to lower allocation of residential Future Land Use (FLU) in counties that have a history of intense growth pressures, versus counties who have only recently encountered those pressures.

Anthony (2004) uses population density as a measure of sprawl when analyzing the effectiveness of state growth management policies. Lopez and Hynes (2003) use population density at the census tract level in their creation of a metropolitan sprawl index. Nelson (1999) uses density per metropolitan urban area to categorize sprawl in cities. This project uses population per county as a measure of density, but does not attempt to standardize by any unit of area. Instead, the potential county population is compared to population projections that have been developed for the same land areas.

Anthony (2004) conducted a study of land use change in the lower 48 states plus Hawaii for the time period 1982-1992 and 1992-1997. From 1982-1997, the average change in urban land for states with growth management legislation was 49.16%, with an average change in urban land density of -9.50%. The average change in urban land for states without growth management legislation was 36.69%, with an average change in urban land density of -15.77%. Florida’s average change in urban land for states

without growth management legislation was 63.12%, with an average change in urban land density of -6.66%. This study was obviously very far-reaching, and did not attempt to control for factors such as interstate migrations. However, it is clear that although Florida experienced growth well above the national average, it did not experience as much of a decrease in urban density as even the other growth managed states. This lends some credence to the ability of Florida's growth management legislation to curtail sprawl. In the conclusions of that study, Anthony goes on to state the following:

> State-mandated measures need to be implemented at the local level. If at the local level there is no political support for the state-mandated measures, regardless of how significant and comprehensive those measures are, their implementation will be weak. This is certainly the case in Florida, where, in spite of state growth management law, local development planning in many jurisdictions is guided by the desire for more growth. (2004, p.390).

Incidentally, of the 10 most sprawling metropolitan areas in Florida, as defined by a "Sprawl Index" of 75 or higher out of a possible score of 100, four were in the area covered by this study (Lopez and Hynes, 2003). The Sprawl Index for the Fort Myers-Cape Coral area was 89/100; the Fort Pierce-Port Saint Lucie area was 92/100; Miami was 16/100 (comparatively very dense; probably because it has been nearly built out already); Naples was 75/100; and the West Palm Beach-Boca Raton area was 47/100 (Lopez and Hynes, 2003).

Nelson (1999) shows evidence, gleaned from U.S. Census reports of 1980 and 1990, that Florida's urbanized population density changed by -5.14% during the decade. This is in comparison to Oregon (-0.53%) and Georgia (-15.85%) during the same time period. During that time period, Oregon is an example of a state with strong state mandated growth management policies (since 1973), and Georgia is an example of a state without strong growth management legislation.

Another facet involved in the development of FLUMs is the strong private property movement in the United States. It could be said that the entire nation is founded on the principle of private property, and it is exemplified in Florida's Bert J. Harris Jr. Property Rights Protection Act of 1995 (Harris Act). The Harris Act provides for fair market value compensation for landowners with vested rights in real property that are disadvantaged by law or deed of a local government (Stroud and Wright, 1996). The "severity of the impact [of the Harris Act}…will not be measured by case law as much as by the unmeasurable, but real chilling effect the [Harris] Act will have on governmental regulation of land use" (Stroud and Wright, 1996, p.2). Because of certain concepts within the law that can be broadly construed and have generally had their scope expanded, such as "vested rights" and "inordinate private burden", "the broad scope of the [Harris] Act, the discretion left of the courts,…and the prospect of significant monetary consequences, create a strong incentive for government to compromise its regulatory authority for case by case settlements with complaining property owners" (Stroud and Wright, 1996, p.2). The Harris Act seeks to create a separate, more easily attainable, takings test regarding vested rights and lowers the bar for determining "inordinate burden" (Stroud and Wright, 1996). Additionally, nearly anyone can achieve standing to sue whenever any governmental action has caused a change in the value of their real property (Stroud and Wright, 1996). In part, the Harris Act is so extremist because it departs from traditional Florida common law by requiring "compensation for not only actual existing uses that may be changed, but also for those future uses that are foreseeable, nonspeculative, suitable and compatible under the [Harris] Act's unique definition" (Stroud and Wright, 1996, p.3). The immeasurable effects of this law on FLU

planning may have been partially revealed in the assessment of residential FLU planning in this study.

Given the large areas in many county FLUMs of residential and mixed-use designation, it is important to explore the idea of Development of Regional Impact (DRI). A DRI is a development that will have a disproportionately large impact upon the surrounding area, either by virtue of it's magnitude or location or both. The DRI process represents an exemption to the GMA that allows large, often well-funded developments to, in effect, skirt the local comprehensive plan. According to Florida Administrative Codes (FAC) Rule 28-24.023, the following residential developments thresholds trigger the designation of a DRI:

> (a) In counties with a population of less than 25,000 – 250 dwelling units.
>
> (b) In counties with a population between 25,000 and 50,000 – 500 dwelling units.
>
> (c) In counties with a population between 50,001 and 100,000 – 750 dwelling units.
>
> (d) In counties with a population between 100,001 and 250,000 – 1,000 dwelling units.
>
> (e) In counties with a population between 250,001 and 500,000 – 2,000 dwelling units.
>
> (f) In counties with a population in excess of 500,000 – 3,000 dwelling units.

And according to FAC Rule 28-24.032, the following mixed-use development thresholds trigger the designation of a DRI:

> (1) Any proposed development with two or more land uses where the sum of the percentages of the appropriate thresholds identified in Rules 28-24.015 through 28-24.017, 28-24.019 through 28-24.021, 28-24.023 through 28-24.024, 28-24.026 through 28-24.027 and 28-24.029 through 28-24.031, F.A.C., for each land use in the development is equal to or greater than 145 percent; or

> (2) Any proposed development with three or more land uses, one of which is residential and contains 100 dwelling units or 15 percent of the applicable residential threshold, whichever is greater, where the sum of the percentages of the appropriate thresholds identified in Rules 28-24.015 through 28-24.017, 28-24.019 through 28-24.021, 28-24.023 through 28-24.024, 28-24.026 through 28-24.027 and 28-24.029 through 28-24.031, F.A.C., for each land use in the development is equal to or greater than 160 percent. The thresholds listed in subsections (1) and (2) of this paragraph are in addition to, and do not preclude, a development from being required to undergo development of regional impact review under any other threshold.

Also fairly unique to Florida growth management planning is the express division of the powers of state. Executive, legislative, and judicial powers are expressly reserved for their respective branch, and are prohibited from being executed by members of another branch, according to the state of Florida constitution (Scoules, 2002). This means that it is unconstitutional in Florida for a body to designate areas, and then regulate them as well. Therefore, it is important for an executive body, such as a state or local planning entity to have their mission delegated to them by an appropriate legislative body. This disconnect in the planning process is designed to maintain balance in government.

Bengston, Fletcher, and Nelson (2004) summarize the reports of several authors (Nelson and Moore, 1996, and Weitz, 1999) by saying that “few empirical evaluations of policy effectiveness and impacts have been conducted” on growth management efforts (p.279). Very few studies examine the impact that state growth management policies have had in reducing sprawl (Anthony 2004). Since growth management has a strong effect on the economics of a region, both in terms of lost potential development and impacts of sprawl (Burchell et al., 1998), the lack of empirical studies is notably small (Bengston, Fletcher, and Nelson, 2004). The project described in this paper will address

the impact that the comprehensive plan FLUM has had in directing residential FLU planning in South Florida.

Location of the Project

South Florida makes a good study site because in the region is experiencing high pressure for sprawling development and despite Florida's growth management laws "rapid population increases and escalating demands for development outside of urban centers have forced the Everglades ecosystem and associated biodiversity into a state of decline" (Brody, Carrasco, and Highfield, 2006, p.299). The SFWMD has also recently been sued by the federal government for the degradation of water quality in the Everglades, most of which occurs from runoff from human inhabited areas, such as the Everglades Agricultural Area and urban centers. It is a landmark case, where the ultimate question is whether downstream landowners can demand unpolluted water runoff from a management authority that does not own the upstream lands. As South Florida develops, humans not only impact water resources by withdrawal for consumptive purposes and through leaky wastewater disposal systems, but also through the use of fertilizers and pesticides. This also justifies the study of future development patterns in South Florida, because continued sprawl could continue to negatively impact the Everglades.

In this project, the FLUMs for 8 counties and 78 cities were assembled, standardized, and analyzed in order to determine the general condition of future land use planning in South Florida, and the specific condition of residential future land use planning. Figure 1-1 shows the location of the counties used in this study. These counties were chosen because they are within the South Florida Water Management District, and reported back enough information to make a whole county analysis

relevant. Hendry County did not report back at all, and was not used in the analysis. Miami-Dade and Palm Beach Counties reported back a good amount of data, but not enough to justify a more in-depth analysis; however, they do represent a trend, even with a limited amount of data. Only Broward, Collier, Glades, Lee, Martin, and Saint Lucie Counties reported back enough information to justify making further more in-depth comparisons and analysis. The area of this study encompasses upwards of 30% of the population in the state of Florida.

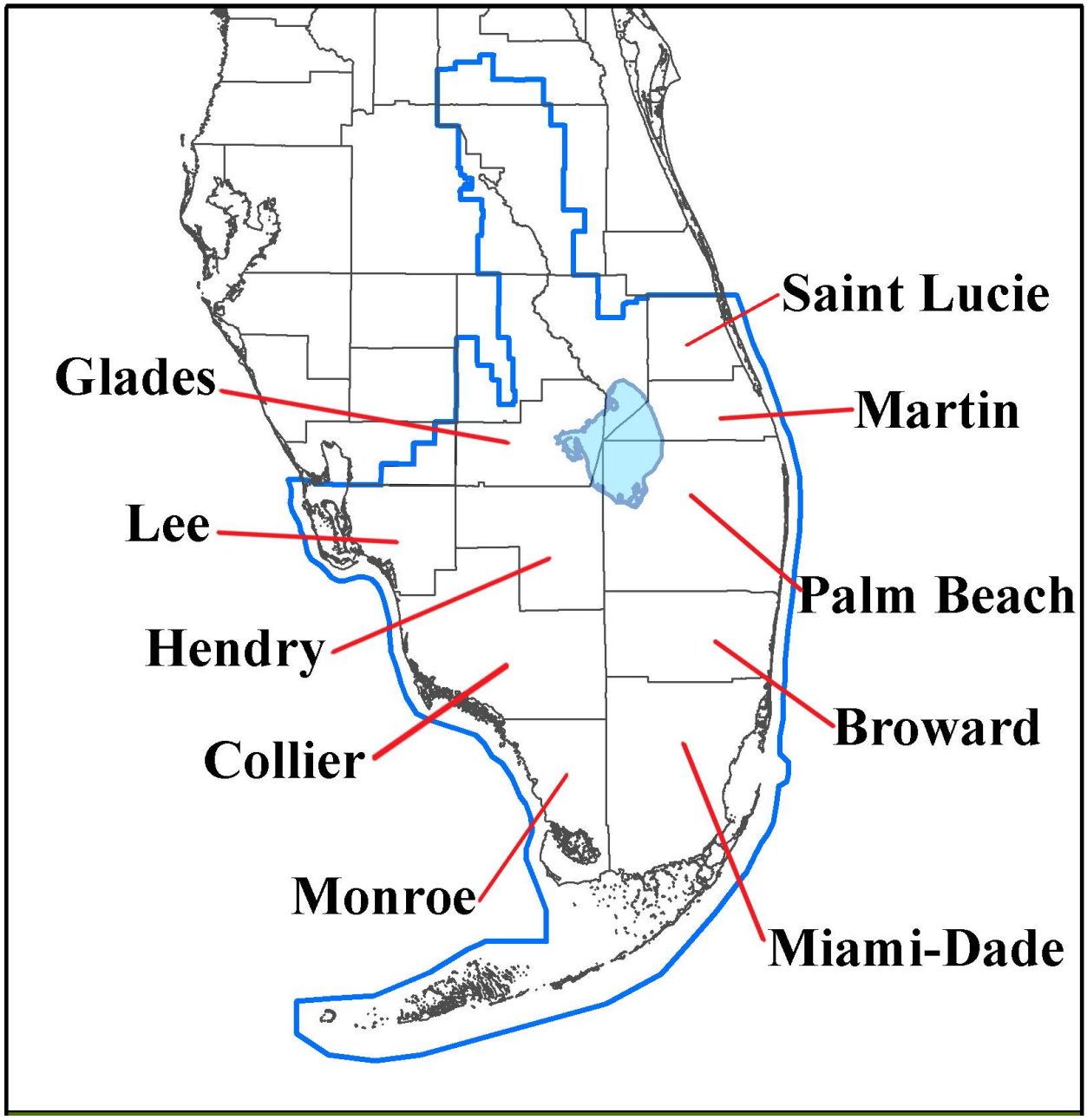

Figure 1-1. Locator map for selected counties in South Florida.

CHAPTER 3
PURPOSE AND METHODS

Overview

The Future Land Use Maps (FLUMs) for 9 counties and many of the cities located within their boundaries were combined in ArcGIS 9.3 and standardized to Future Land Use (FLU) categories. Each county was then analyzed by comparing a full buildout scenario to the Bureau of Economic and Business Research (BEBR) Medium 2020 Population Projections; a relevant comparative time period to the planning horizon for each county. Full buildout is what would occur if every acre of residential or mixed use land on the FLUM were built to maximum density, as specified in each local governments' comprehensive plans. It represents the maximum possible development as currently allowable in the adopted FLUMs. In this way, the aggregated FLUM for each county was determined to be over- or under-allocated, with respect to residential future land use.

Purpose

This project was implemented in order to examine future land use planning from a regional perspective. Comprehensive plans and FLUMs are necessarily local in nature, and tailored to local needs. This means that neighboring municipalities may have different future land use designations and different future land use objectives. In order to better anticipate, plan for, and evaluate future planning issues, it is necessary to evaluate large-scale trends in future land use planning. For that reason, I assimilated and categorized FLUMs from as many counties and cities as would respond during the period of this study (June 01, 2010 through August 20, 2010) in the South Florida Water Management District (SFWMD): 15 counties, covering 85+ municipalities, and including

the vast majority of the population served by the SFWMD. This data is as current as the FLUMs that were received during that time period, and all local governments should be contacted for updated FLUM information. However, the models developed during this project can be run in the future with updated information, whenever new FLUMs become available; it is essentially a “living” model.

The FLUMs for these local governments were then extrapolated to their logical endpoint: full buildout. Full buildout represents the condition that would be achieved if all land was developed at maximum density and intensity according to the currently approved FLUM. At full buildout, the population they could accommodate on various land types with their currently approved comprehensive plans is compared to the BEBR population projections that represent a comparable time frame. In fact, the BEBR population projections were supposedly used to determine the future residential demand for the local government comprehensive plan FLUMs in the first place. This sheds some light on the condition of future land use planning in South Florida.

On Accuracy and Scale

Due to the semi-regional focus of this project, it should not be relied upon as completely accurate at all scales. In fact, when analyzing trends and areas using the SFWMD Generalized Future Land Use Categories (Appendix A), the data is more accurate and relevant over a larger scale than a smaller scale. However, when examining local future land use maps using local future land use categories, the data is as accurate as when the data was collected, at all scales. All diligence has been taken to maintain the original data from each local government FLUM. The resultant maps are still useful for showing regional, spatial trends in future land use, using the SFWMD Generalized FLU Categories.

When analyzed using the SFWMD Generalized FLU Categories, the FLU comparisons and population projections derived from this data represent coarse-scale estimates. At best, this data may be 90% accurate for the area over which it is summarized; that is assuming that the GIS files received from local municipalities were accurate. The FLU data and population projections from this data are intended for some summary evaluation, and guidance in identifying potential areas of further research and examination. The data and maps presented here are more useful in the large scale exploration of general trends in future land use planning in South Florida.

It is also important to note that in Broward and Miami-Dade counties, there is a provision in the charter that requires city and county FLUMs to be consistent. For that reason, no city within those counties can have less restrictive FLUM designations for a given area than the county within which it exists. Therefore, by assembling the county FLUMs for Broward and Miami-Dade, I was able to assume that the FLUMs for cities therein were also accurate. There is the possibility that a city within one of these counties has a more restrictive FLUM, but this is rarely the case. In other counties, such as Palm Beach County, the county does not maintain a default FLUM for the cities within its boundaries. For that reason, there are still “holes” in the map for Palm Beach County.

Population Projection Techniques

“Population Estimation and Projection Techniques” outlines several ways to project future demand, as required by Chapter 9J-5, Florida Administrative Code. BEBR population projections are DCA approved and may be used by any municipality. In general, the population projection horizon should take into account historical population estimates from the U.S. Census Bureau for the same length of time (i.e.- when

projecting forward 30 years, be sure to evaluate population trends from the last three Census estimates) (“Population Estimation and Projection Techniques” 1986).

However, a local government may also choose to create their own population projections using techniques outlined in “Population Estimation and Projection Techniques” (1986). These include: 1) Mathematical Extrapolation, 2) Ratio, 3) Cohort-Component, and 4) Economic-Demographic. “Population Estimation and Projection Techniques” (1986) recommends that local governments use the Mathematical Extrapolation method because it is “relatively inexpensive, simple to employ, and capable of yielding results quickly” (p.8). The Mathematical Extrapolation method utilizes simple algebra, such as linear regression.

For this study, Mathematical Extrapolation was used to determine population projections from FLUM data. This means my projections are compatible with comprehensive plan FLUMs because they use a comparable method. Each FLUM category that accommodates residential future land uses also has a density restriction, usually described in terms of dwelling units allowable per acre. By taking the density restriction for a FLUM category and multiplying it times the acreage that the FLUM category encompasses, it is possible to determine the maximum amount of dwelling units allowable in that municipality at full buildout. Multiplying the number of dwelling units by the most recent U.S. Census density estimates, we can determine the maximum population that can be accommodated in the FLUM when every acre is developed to the maximum extent possible, as allowable in the comprehensive plan. When extrapolating population at full buildout, I always use the local government density restrictions for the multiplier.

Some local government FLUMs are necessarily intricate and complex, and they occasionally include more than one different density restrictions for one FLUM category. In some instances, there are allowances for denser development if certain criteria are met, like providing affordable housing or Section 8 housing in a development. When this occurred, the regular density restriction and the maximum density restriction are recorded. The comparisons are interesting, and are provided for perspective, however the full buildout condition using only the most common density is of greater concern to this study.

SFWMD Generalized Future Land Use Categories

The South Florida Water Management District generalized future land use categories methodology (Appendix A) was created and implemented in order to facilitate continuity in the comparison of FLUMs from different local governments. For assistance understanding the compiled FLUM Atlases presented in Appendices C through K, see Appendix B.

The Categories are adapted from Southwest Florida Water Management District (SWFWMD) Intergovernmental Policy and Planning Division (IPPD), and allow for comparisons across political boundaries: between municipalities, and between Water Management Districts. However, the SFWMD categories also incorporate an additional category, “Very High Density Residential”, which fits within the SWFWMD framework, yet also provides recognition for areas in the SFWMD of extremely high density. In all cases, each local government’s comprehensive plan was reviewed before assigning a Generalized Future Land Use Category. In cases where there was some uncertainty, the local government or SFWMD IPPD planning expert was consulted.

Each local government FLUMs density restrictions were then incorporated into the GIS database. This allowed the tracking of densities for each local government based on their own future land use designation. Essentially, all local government FLUM data was preserved, although each future land use category was re-categorized according to the SFMWD Generalized Future Land Use Categories methodology.

On Future Land Uses

Since housing generally represents the largest portion of land use in an urban area (Lopez and Hynes, 2003), it stands to reason that a measure of housing sprawl would be a good measure of overall sprawl in an area. For the purposes of this study, it is assumed that the local planners who developed the FLUMs for their community have provided enough non-residential services and land uses (such as Commercial/Office, Industrial, Institutional, and Transportation) to provide for the population that they will have at full buildout. In fact, this is one of the prime concerns of the comprehensive planning process. In this case, it is assumed that the amount that the residential future land use is over allocated is also mirrored in the designation of other future land uses in the community. For instance, and local government FLUM with residential future land use equal to twice the BEBR projection will be assumed to also have twice the Commercial/Office, Industrial, Institutional, and other associated land uses. Garreau (1992) suggests that housing sprawl may drive employment sprawl, as business follow their customers and workers to the suburbs. Therefore, a measure of over-allocation or sprawl of residential FLU is a proxy measurement for overall over-allocation or sprawl of an entire area.

However, this does not hold true for all future land uses. For instance, Agriculture is often a default FLU designation in most rural areas. This may be a consequence of

local governments feeling compelled by the GMA 1985 to designate FLU for all land within their jurisdiction. Conservation is often not designated in FLUMs unless there are specific plans in the future for its establishment, or if it already exists. This is because a FLU designation of Conservation usually means that the land will be forever protected from development and removed from the tax rolls. Additionally, some local governments do not designate areas as transportation or utilities, because it is inherent that other land uses should contain Rights-of-Way to provide for road building and utilities.

GIS Methods

The Future Land Use Maps were received in Geographic Information Systems (GIS) format (usually in shapefiles or feature classes) and combined and standardized to the SFWMD Generalized Future Land Use Categories methodology (Appendix A). This methodology allows comparisons across political boundaries by standardizing the data to common categories. The GIS data was manipulated, summarized, and analyzed using ESRI software ArcGIS 9.3 and ModelBuilder. The local governments FLUMs were re-categorized by comparing the SFWMD Generalized FLU Categories to the local government's comprehensive plan FLUE. Additionally, the density limits for each local government future land use category were recorded in the GIS geodatabase, for purposes of later computations, and to preserve local government information (see Appendix B).

Typically, the DCA will not object to a local comprehensive plan or FLUM that contains enough FLU allocations to accommodate the growth predicted by BEBR plus 25%[1]. This apparently occurs because DCA does not want to overly hinder the local governments' abilities to plan for themselves and accommodate unforeseen growth booms, and also because planning is not an exact science. Therefore, 125% becomes

the test statistic to determine whether a FLUM is over allocated at full buildout. An allocation of 100%-125% will be considered a FLUM that is consistent with BEBR projections, and anything under 100% will be considered under allocated. However, there are no local governments for which all data was collected that have less than 100% allocation at full buildout. The percentage allocated will be determined by dividing the population projection at full buildout from residential and mixed use FLUs by the BEBR projected population for a given year. Although Anthony (2004) uses density as a measure of sprawl, this study uses a slightly different measure which is density on a county-wide scale.

Table 3-1 details the planning horizons for the local governments relevant to this study. It is not always possible to determine the planning horizon for a comprehensive plan because its format is not specifically defined. According to Table 3-1, all local governments planning horizons are between 2015 and 2030, and most are around 2020 or earlier. Since there was a recent crash in the housing market, and planning is not an exact science, it would be unfair to compare the FLUMs residential full buildout condition against only one BEBR report. Therefore, three test statistics are provided for each county. The test statistic are compared against the BEBR medium population projections for year 2020 (from BEBR reports for 2004 and 2010) and year 2025 (from BEBR report for 2010) (Table 3-2). The 2004 BEBR report represents a population projection that was closer to the condition under which the FLUM was developed initially. The 2010 BEBR reports represent the population projections expected after the housing market crash, and the 2025 horizon gives perspective on the future expected for each area.

United States Census (2000, 2008) household density estimates and Bureau of Economic Business Research (BEBR, reports 2004, 2010) population projections were used for comparative analysis of FLUM full buildout population projections (Table 3-2 and Table 3-3). For cities that did not have Census household density estimates because they were too small, I used the same household density estimate as the county in which they exist for estimation purposes.

Results and Table Interpretation

Each county is initially summarized in two tables accompanied with a map of the county, and followed in the appendix by a comprehensive table summarizing local government FLUMs. Data that has been gathered for each county is initially presented and analyzed in a standardized fashion:

1. table(s) summarizing acreages and population projections based on full buildout, for each SFWMD Generalized FLU Category;
2. table(s) comparing population projections at full buildout to BEBR medium population projections for different time periods;
3. one map spatially depicting the SFWMD Generalized FLU Categories for each county;
4. one large table for each county (in the Appendices) presenting all data collected for each local government, organized by the local governments' future land use designations.

The first table summarizes land area, allowable development density, and associated population projections, combining all reporting municipalities (Table 3-4). To facilitate comparisons between counties, the SFWMD Generalized FLU Categories have been standardized to display percentage of the land area of that county. It is important to note that in some counties (Broward, Collier, Monroe, Miami-Dade, and others) there is a significant proportion of the county that is designated as

“Conservation”. This is primarily because of the Everglades National Park and associated lands. Therefore, percentage of non-conservation FLUM compiled land area was calculated in order to examine what proportion of each county that was actually available for development was designated in each FLU category.

The second table displays density and population projections in a full buildout scenario for each county. “Projected dwelling units” and “Projected dwelling units high” are projected dwelling units for the specified land uses, combined. This number is derived by multiplying total acreage for each future land use category by their respective density maximums, and summing. The suffix “high” denotes that these are higher density allowances for special circumstances, such as planned developments providing multiple land uses, or density bonuses associated with affordable housing, etc. “Population projection” and “Population projection high” are projected population that would live in these dwellings in a full buildout scenario. These numbers were derived by multiplying the allowable dwelling units by the most recent U.S. Census Bureau estimates for number of people per household in their respective municipalities.

Two separate scenarios are explored: Residential and Mixed Use only, and all land except Agriculture or water bodies. The reason for this is that Agriculture is often the default FLU category in many municipalities, and this study is attempting to determine the extent of purposeful residential future land use planning in South Florida; not de facto planning. These mathematically extrapolated population projections are then compared to BEBR projections from two different reports (2004 and 2010), attempting to accommodate for the recent crash in residential demand in South Florida.

However, the 2004 BEBR projections are likely closer to the numbers that were used to create the local government comprehensive plans originally.

Within the second table, the “Percentage allocated” is a comparison of BEBR population projections to the total development currently allowable at full buildout for each county; it is the full buildout population projection divided by the BEBR Medium Population Projection. For instance, a percentage allocated amount of 200% indicates that, at full buildout, the county in question could accommodate twice the BEBR predicted population for the planning horizon specified. The BEBR projections are usually for a planning horizon of 2020 or 2025, because most of these FLUMs would have been created for the same planning horizon. Even though the percentage allocated metric is based on very rough estimates of density and population projections, it is still worth noting when a municipality has enough future land use allocated to meet over 3-times more than its BEBR projected need. This could indicate the necessity for more examination. The yellow numbers indicate which figures were compared to each other to derive the percentage allocated below them.

Additionally, it is important to note that the fields “Dwelling units allowable in adopted plan” and “Population estimates at full buildout” are potentially underestimates. This is because the density estimates are based on a multiplicative function, so fractions are carried over and summed. Often a municipality stipulates that any fractional density unit would be rounded up (for instance, a 0.5 acre lot with future land use of 1 dwelling unit per acre could not house a half of a dwelling unit, and would be rounded up to 1 allowable dwelling unit). Additionally, it is possible that given infrastructure requirements (roads, utility rights of ways, stormwater control, etc.), a

given development might not be able to reach the maximum density allowable. However, these projections are still good representations of overall trends in future land use for the entire county.

The following data is used to describe local government FLUMs, and explore the possibility of a full buildout scenario for each county, where all lands are developed according to the current FLUM at full residential density. These scenarios are currently allowable under each governments adopted comprehensive plan, which have been reviewed and approved by the State of Florida Department of Community Affairs (DCA).

Table 3-1. Selected planning horizons for South Florida municipalities

Municipality	Planning Horizon	Page
Broward County	2015	1-1
Collier County	2020	9
Naples	undeterminable	
Glades County	undeterminable	
Lee County	2030	361
Cape Coral	2030	4-1
Fort Myers	2017	vii
Martin County	2020	Section 4.3
Stuart	undeterminable	
Miami-Dade County	undeterminable	
Coral Gables	unavailable	
North Miami Beach	unavailable	
Surfside	unavailable	
Monroe County	undeterminable	
Palm Beach County	2020	2-1A
Boynton Beach	unavailable	
Jupiter	unavailable	
Wellington	unavailable	
West Palm Beach	unavailable	
Saint Lucie County	2030	1-1
Fort Pierce	2017	1-2
Port Saint Lucie	undeterminable	

Table 3-2. U.S. Census data and BEBR population projections for selected years and selected South Florida counties.

Source	U.S. Census		Bureau of Economic and Business Research, UF		
County	Persons per household (Census 2000)	Housing units (Census 2008 est)	Medium 2020 Population Projection (2004)	Medium 2020 Population Projection (2010)	Medium 2025 Population Projection (2010)
Broward County	2.45	805,772	2,244,600	1,824,300	1,866,000
Collier County	2.39	193,808	489,900	406,500	446,400
Glades County	2.51	6,079	13,600	11,900	12,200
Lee County	2.31	364,932	728,000	779,000	866,500
Martin County	2.23	75,920	179,600	158,000	165,600
Miami-Dade County	2.84	979,082	2,885,900	2,664,200	2,764,200
Monroe County	2.23	53,813	82,700	76,900	76,200
Palm Beach County	2.34	640,851	1,666,100	1,415,700	1,485,200
Saint Lucie County	2.47	132,341	295,400	350,400	391,300

Table 3-3. U.S. Census data for selected South Florida municipalities that was used to determine full buildout population projections.

City	U.S. Census: Persons per household (Census 2000)	U.S. Census: Housing units (Census 2000)
Boynton Beach	2.26	30,643
Cape Coral	2.49	45,653
Coral Gables	2.31	17,849
Fort Myers	2.40	21,836
Fort Pierce	2.56	17,170
Jupiter	2.32	20,943
Naples	N/a	N/a
North Miami Beach	2.89	15,350
Port Saint Lucie	2.60	36,785
Stuart	N/a	N/a
Surfside	N/a	N/a
Wellington	2.95	14,761
West Palm Beach	2.26	40,461

Table 3-4. Explanation of fields present in the first table in each county, used to analyze FLUM data in each compiled county.

Field name	Description/Information
SFWMD Generalized FLU Category	Organized by SFWMD Generalized Future Land Use Categories to allow county-wide comparisons across all local governments
Acreage	Combined acreage for that future land use category across the whole county
Dwelling units at full buildout	Maximum number of dwelling units allowable in the adopted, local comprehensive plan if all areas are developed at maximum density. Aggregated by county.
Population projections at full buildout	Population projection for that particular future land use category if all areas are developed to maximum density, and the number of occupants are equivalent to the most current U.S. Census (2000) density per household. Aggregated by county.
Percentage of FLUM-compiled land area	The percentage of the total county land area (i.e.-water bodies excluded).
Percentage of non-Conservation FLUM-compiled land area	The percentage of the non-Conservation, total county land area (i.e.-water bodies and conservation lands excluded). Depicts the representative quantities of land available for development. In counties with large areas that are unavailable for development (such as Broward, Miami-Dade, Monroe, or Collier Counties) this is a more relevant comparison than percentage of FLUM-compiled land area.

CHAPTER 4
RESULTS

Overview

The following maps represent the South Florida Water Management District (SFWMD) Generalized Future Land Use (FLU) categories map for the entire project area, plus some bordering counties (Figures 4-1, 4-2, and 4-3). Of particular note are the Everglades National Park (Everglades) and associated lands, on the southern tip of Florida, colored in dark green, which represents Conservation lands. The large tracts of Agricultural lands surrounding Lake Okeechobee, which account for a large majority of Florida's produce and cattle industry are also visible. The Kissimmee River running from Orlando (and the northern tip of the SFWMD boundary) into Lake Okeechobee from the north can also be seen in dark green (Conservation). The Kissimmee River Basin has been a large focus for SFWMD towards meeting requirements for nutrient pollution reduction, flood protection, and restoring historic hydrologic regimes. The warm colors (reds, oranges, yellows, purples, and pinks) represent urban development, ranging from, and are generally clustered along the water. To the west, coastal areas like Naples (in Collier County) and Cape Coral and Fort Myers (in Lee County) have experienced considerable growth in recent years, and their Future Land Use Maps (FLUMs) anticipate and accommodate more development. To the east, areas like Miami-Dade County and Broward County are already mostly built out to the edges of non-conservation land, and must rely on denser redevelopment to continue growing. In the north, Orlando and Kissimmee are expanding southward, creating water quality concerns for water flowing into Lake Okeechobee. And areas to the north east, in Martin and Saint Lucie Counties, are balancing continued growth with areas of environmental

concern, such as the Indian River and St. Lucie Estuary. Meanwhile, smaller urban centers such as Okeechobee, Babcock Ranch (in eastern Charlotte County), and areas west of Port St. Lucie have their own plans to expand and accommodate development. Throughout the SFWMD, the Mixed Use FLU designation has gained usage in an attempt to encourage growth of multiple, compatible uses within compact areas, or for the purposes of large planned developments and some DRIs, almost like new cities in themselves. Data was not obtained for Hendry County, although the default land use in that county is Agricultural.

Table 4-1 details the acreage for each SFWMD Generalized FLU Category in summary form. Collier is the largest county, and Conservation is the most prevalent FLU, although that is due primarily to federal ownership of the Everglades National Park, and associated lands. It is also interesting to note that Lee has no Agricultural land in its FLUM. Table 4-1 is the starting point for comparisons that will be made in subsequent chapters.

Table 4-2 displays the full buildout population projections for all residential and mixed use FLU categories, summarized by county, for the entire study area, organized by the SFWMD Generalized FLU Categories. From the information, comparisons of gross acreage can be made between counties. Table 4-3 compares the full buildout population projections to the Bureau of Economic and Business Research (BEBR) Medium 2020 Population Projections (2010 Report). It is worth noting that at full buildout, the 8 counties included in this study, minus large parts of Palm Beach County and Miami-Dade County, will accommodate nearly 17.5 million residents. That is close to the current population of Florida, all living in the southernmost 8 counties. Currently,

the SFWMD contains 41% of Florida's population, and this includes people in counties that are split between WMDs; in counties such as Okeechobee, Orange, Osceola, Polk, Charlotte, Highlands, and Hendry).

Appendix A contains a summary of the SFWMD Generalized FLU Categories, including Table A-1, which presents the Categories and their equivalent local government designations. Appendix B describes the key to understanding the information in the FLUM Atlases in Appendices C through K. A summary of all data collected in this study is presented in Appendices C through K for the purposes of providing an archived data source for future research. Tables C-1 through K-1 detail the information. The FLU designations of the local government and their associated density maximums are recorded in those tables, as well as the SFWMD Generalized FLU Category for each. Each county is examined in depth in the remainder of this chapter. When speaking of the county, it is generally assumed to reference the aggregated results for the county, unless otherwise specified.

Broward County

Broward County, like Miami-Dade County, is a special case, in that all local governments' comprehensive plans within the county are required to be consistent with the County's comprehensive plan. This means that a local governments FLUM can be more restrictive than the County FLUM, but not less restrictive. As such, all local governments in Broward County are accounted for; 31 municipalities. Broward County has attempted to incorporate the entirety of the buildable county area, and only a few areas are currently completely unincorporated.

Figure 4-4 is a map of the county, displaying the SFWMD Generalized FLU Categories. It focuses on the eastern half of the county to provide greater detail

because the western half of the county is considered Conservation; Everglades National Park accounts for over half of the County's land area. Broward County maintains a well-detailed GIS FLUM; in many instances, even roads are designated as separate from the surrounding future land uses.

Table 4-4 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. The majority of Broward County is Conservation, over a half million acres, 66% of the county, because of the Everglades National Park. 162,349 acres of Broward County's FLUM are Residential and Mixed Use lands, with the primary FLU being Low Density Residential (62,346 acres).

The majority of Broward County's future residential population will be accommodated in High Density Residential, Low Density Residential, and Unknown Density Residential. Broward County does not list a residential density maximum for their Mixed Use areas, so the final population projections may appear slightly lower than reality. It is interesting that, in terms of future population accommodation, Broward County municipalities are not utilizing Medium Density Residential land uses as a relatively large intermediate repository between High and Low Density Residential.

The SFWMD Generalized FLU Category "Unknown Density Residential" was primarily created to accommodate the Broward County local government FLUM category known as "Residential in Irregular Areas". These are areas that have density restrictions that are significantly different from and dependent upon the neighboring parcels, and are treated on an individual basis by the County. As such, it was difficult to sort out the impact these parcels might have on future land use. Table 4-4 also

demonstrates the extreme variability in density restrictions for Residential in Irregular Areas.

Tables 4-5 and 4-6 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the appropriate BEBR population projections for relevant time periods. The differences in the BEBR Medium Population Projections for 2020 between report years 2004 and 2010 demonstrate the impact that the collapse of the housing bubble had on South Florida. So, with that knowledge in mind, it appears that Broward County has appropriately allocated their residential future land uses to accommodate their BEBR-projected future demand. However, that Broward County is already mostly built-out, and contains very little undeveloped land, which may be one of the primary reasons that they match their BEBR projections.

Appendix C contains all the data collected for county, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs, including density restrictions. The "Wedge", a triangle-shaped piece of Very Low Density Residential was recently transferred from Palm Beach County to Broward County by the State.

Collier County

Within Collier County, data was collected for the County and Naples. FLUMs were not received from Everglades City or Marco Island, although the County does maintain default FLU designations as part of its own FLUM. Figure 4-5 is a map of the county, displaying the SFWMD Generalized FLU Categories. The vast majority of Collier County is designated Conservation, primarily because of the Everglades National Park. The Mixed Use district in the northern part of the County is the Imokalee

area, and is not yet incorporated. Overall, the County is similar to most of South Florida, with primarily coastal development, and an Agricultural or Conservation interior.

Table 4-7 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. Over half of the County is Conservation, with the next largest land area covered by agriculture. Agricultural lands account for over 450,000 acres of Collier County's FLUM (27.7%), and Conservation lands cover over 900,000 acres (55.3%). Of the 253,866 acres of combined Residential and Mixed Use lands, 133,188 acres are Low Density Residential, and 90,738 acres are Mixed Use. The majority of Collier County's future residential population will be housed in Mixed Use centers, which has generally become a catch-all FLU for many municipalities.

Tables 4-8 and 4-9 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the appropriate BEBR population projections for relevant time periods. According to the FLUMs that were received, Collier County can accommodate one-and-a-half to two times the BEBR medium population projections within their currently-adopted FLUMs.

Table 4-10 compares the SFWMD Generalized FLU Categories and their associated population projections at full buildout for the county versus the reporting cities. Table 4-10 begins to uncover culpability regarding over-allocation of residential FLU, and the culprit is the county. Even if you do not account for the higher densities that can be reached through meeting certain criteria, the County alone can accommodate over twice the BEBR projected population for year 2020 (2010) at full buildout.

Appendix D contains all the data collected for this project, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs, including density restrictions. Also worth noting is that with density bonuses generally associated with a County FLU designation called "Residential Density Bands", the future population accommodation could be more than doubled. This is because of a Residential Density Rating System that the County has created; designed to encourage denser development around previously developed centers.

It is also worth noting that Collier County's FLUM contains specific FLU designations to encourage Transfer of Development Rights (TDR). This is a program that attempts to create a market solution for the conservation of some land, usually significant environmental resources, and densification of other priority areas, usually near cities or in areas planned for development. However, given that Collier County's TDR program seemingly only allows the transfer of 0.8 dwelling units per acre (an increase from 0.2 DU/acre to 1.0 DU/acre), into a FLU category barely equivalent to Low Density Residential, it is questionable how this program will discourage sprawl. It would seem more beneficial to transfer that 0.8 DU/acre from rural sites to encourage much higher density residential sites within existing urban areas.

Glades County

Within Glades County, data was collected only for the County; Moore Haven did not report back within the time constraints of this study. Figure 4-6 is a map of the county, displaying the SFWMD Generalized FLU Categories. The large Unknown area in the northwest is an Indian Reservation. Otherwise, there is scattered development, but the county is primarily agricultural and rural in nature.

Table 4-11 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. The vast majority of the Glades County is Agricultural (420,378 acres, 71.3%). Of the 29,869 acres of Residential and Mixed Use, 11,339 acres are Mixed Use and 16,247 acres are Medium Density Residential, which represent the vast majority of those lands. The Glades County FLUM has allocated 638 acres of Institutional land in their FLUM to accommodate a full buildout population of 561,418 residents.

Future population will primarily be accommodated in Mixed Use and Medium Density Residential areas. Medium Density Residential lands can accommodate 199,231 and 285,929 residents at full buildout, respectively. Tables 4-12 and 4-13 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the appropriate BEBR population projections for relevant time periods. Mixed Use and Glades County, by far, has the largest mismatch between their currently-allowable future residential capacity and the BEBR population projections; the current county FLUM can accommodate over forty times the residential capacity projected to be necessary by 2020.

Appendix E contains all the data collected for this project, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs, including density restrictions. The Glades County FLUM categories for Residential and Transitional (a mixed use catch-all category) are primarily responsible for the excess future residential capacity.

Lee County

Within Lee County, data was collected for the County, Cape Coral, and Fort Myers. FLUMs were not received from Bonita Springs, Fort Myers Beach, or Sanibel,

although the County does maintain default FLU designations as part of its own FLUM. Figure 4-7 is a map of the county, displaying the SFWMD Generalized FLU Categories. The vast majority of the county is slated for some type of development, with only fragments being designated Conservation. The large wedge of Mixed Use on the eastern border of the county is LeHigh Acres; a large, platted subdivision that was established in the mid-1900s, well before the growth management legislation of the 1980s. Aside from LeHigh Acres, Mixed Use has become a dominant FLU category in the county.

Lee County's FLUM is distinct in that it designates no Agricultural land in its FLUM. The primary FLUM categories by land area are Conservation (130,881 acres, 25.1%), Mixed Use (125,761 acres, 24.1%), and Very Low Density Residential (120,705 acres, 23.1%). Table 4-14 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. Mixed Use and Very Low Density Residential are the predominant future residential land uses, by area. The majority of Lee County's future population will be housed in Mixed Use areas.

Tables 4-15 and 4-16 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the appropriate BEBR population projections for relevant time periods. Although this area will probably experience significant growth in the future, the currently-adopted FLUMs can accommodate over six times the BEBR medium projected population.

Table 4-17 compares the SFWMD Generalized FLU Categories and their associated population projections at full buildout for the county versus the reporting

cities. The table begins to uncover culpability regarding over-allocation of residential FLU, and the culprit is the county. At full buildout, Lee County currently can accommodate nearly five times the BEBR Medium 2020 Population Projection (2010).

Appendix F contains all the data collected for this project, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs, including density restrictions. The Density Reduction/Groundwater Resource area is a special future land use designation designed to protect the regions well fields and water resources for the future. In Cape Coral, over a half million people could be housed in Multiple Family Residential areas alone, according to the currently-adopted FLUM; nearly as much as the BEBR projected population for the entire county in 2020. Lee County's Mixed Use areas (Central Urban and Urban Community in the Local FLUM category) could house over 2.6 million residents at full buildout and cover nearly 100,000 acres.

Martin County

Within Martin County, data was collected for the County and Stuart, the largest city. FLUMs were not received from Jupiter Island, Ocean Breeze Park, or Sewall's Point, although the County does maintain default FLU designations as part of its own FLUM. The vast majority of the area and population of the county are accounted for. Martin County has been experiencing growth in recent years as more southerly counties have reached the limits of their developable land.

Figure 4-8 is a map of the county, displaying the SFWMD Generalized FLU Categories. Like many South Florida counties, the bulk of development is concentrated on the coast, with density intensifying nearer the coast, and with interior Agricultural and

Conservation areas. There is future accommodation for a large industrial facility near Lake Okeechobee: an inland port.

Martin County's FLUM is primarily Agricultural (221,624 acres, 64.5%). Table 4-18 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. Of the 50,397 acres of Residential and Mixed Use land, Low Density Residential (27,652 acres, 8.1%, 219,712 full buildout residents) is the primary means of accommodating future residential growth, followed by Medium Density Residential (5,250 acres, 1.5%, 94,469 full buildout residents).

Tables 4-19 and 4-20 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the appropriate BEBR population projections for relevant time periods. Martin County alone can accommodate over twice the BEBR projected growth for 2020 within its currently-adopted FLUM.

Table 4-21 compares the SFWMD Generalized FLU Categories and their associated population projections at full buildout for the county versus the reporting cities. The table begins to uncover culpability regarding over-allocation of residential FLU, and the culprit is the county. Martin County currently can accommodate nearly five times the BEBR Medium 2020 Population Projection (2010) at full buildout.

Appendix G contains all the data collected for this project, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs, including density restrictions. Although Agricultural areas could accommodate much

future population growth, the majority of the future population will likely be accommodated in the County's Low Density [Residential] FLU category.

Miami-Dade County

Miami-Dade County, like Broward County, is a special case, in that all local governments' comprehensive plans within the county are required to be consistent with the County's comprehensive plan. This means that a local governments FLUM can be more restrictive than the County FLUM, but not less restrictive. Therefore, the data presented here is representative of the majority of the local governments within the county. However, noticeably absent are Homestead, Hialeah, and El Portal, because they did not report back within the time constraints of this project. Accordingly, Miami-Dade County will not be used for further comparisons or analysis, except to demonstrate that the trend toward over-allocation of residential future land use is ubiquitous in South Florida.

Figure 4-9 is a map of the county, displaying the SFWMD Generalized FLU Categories. As has been seen before, the majority of development is on the coast, while the interior is mostly Conservation because of the Everglades National Park. The Everglades are the primary constituent of the Conservation lands, which account for 69.7% of Miami-Dade County's FLUM (863,928 acres). Recreational/Open Space land (54,101 acres, 4.4%) is generally situated as a buffer between the Everglades and the more heavily developed areas. Homestead and several small municipalities are noticeably absent from the map because they did not report data during the project.

Table 4-22 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. Nearly three-fourths of Miami-Dade County's FLUM is Conservation, with residential

future land uses accounting for the next largest proportion. Miami-Dade County plans to accommodate the majority of its future population in Medium Density Residential or denser.

Of the Residential and Mixed Use land (164,434 acres) in Miami-Dade County's FLUM, the majority of future residents are slated to be accommodated in High Density Residential (39,114 ares, 1.86 million residents), Medium Density Residential (91,600 acres, 1.56 million residents), and Very High Density Residential (6,131 acres, 1.10 million residents) areas. Mixed Use areas (2,993 acres, 0.2%) play a smaller role in Miami-Dade County's FLUM when compared to other county's FLUMs.

Tables 4-23 and 4-24 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the appropriate BEBR population projections for relevant time periods. Despite the absence of data for Homestead and other Miami-Dade County municipalities, the trend is that the county can accommodate over one-and-a-half times it's BEBR-projected future population within the currently adopted FLUM.

Table 4-25 compares the SFWMD Generalized FLU Categories and their associated population projections at full buildout for the county versus the reporting cities. The table begins to uncover culpability regarding over-allocation of residential FLU, and the culprit is the county. Miami-Dade County alone can accommodate over one-and-a-half times the BEBR Medium 2020 Population Projection (2010) at full buildout.

Appendix H contains all the data collected for this project, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs,

including density restrictions. From this table, it becomes apparent that the majority of Miami-Dade County's over abundance of residential FLU is not due to Mixed Use, but rather to tens of thousands of acres designated as some form of Residential FLU.

Monroe County

Within Monroe County, data was collected for the County and Key Colony Beach. FLUMs were not received from Islamorada, Key West, Layton, or Marathon, although the County does maintain default FLU designations as part of its own FLUM.

Figure 3-10 is a map of the county, displaying the SFWMD Generalized FLU Categories. Monroe County is an interesting case, because the vast majority of the county is federally protected Everglades National Park, and the majority of developed land is stretched along the Florida Keys. This makes Monroe County not preferable for further comparisons or analysis, except to demonstrate that the trend toward over-allocation of residential future land use is ubiquitous in South Florida.

Table 4-26 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. As expected, nearly nine-tenths of the county is Conservation (581,026 acres), primarily Everglades. The majority of future residents are to be accommodated in Medium Density Residential: 95,082 future residents on 5,330 acres. Only 416 acres of Industrial land is designated; the primary industry of Monroe County and the Florida Keys is tourism. A large proportion of the county has an Unknown FLUM category (2.0%, 12,819 acres) because the nature of mapping the constantly-shifting keys presents challenges.

Tables 4-27 and 4-28 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the

appropriate BEBR population projections for relevant time periods. Monroe County's currently adopted FLUM can provide for nearly twice the BEBR projected residential growth in the area until the year 2020.

Appendix I contains all the data collected for this project, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs, including density restrictions. It is interesting to note that Monroe County offers density bonuses for, and seems to place a premium on, Planned Developments.

Palm Beach County

Within Palm Beach County, data was collected for the County, Boynton Beach, Jupiter, Wellington, and West Palm Beach. FLUMs were not received from over 30 other municipalities, and the county FLUM does not cover these areas. Noticeably absent are Belle Glade, Delray Beach, Boca Raton, Juno Beach, Lake Worth, Palm Beach, and Tequesta. Since large areas of Palm Beach County are missing, it will not be used for further comparisons or analysis, except to demonstrate that the trend toward over-allocation of residential future land use is ubiquitous in South Florida.

Figure 4-11 is a map of the county, displaying the SFWMD Generalized FLU Categories. Like most coastal cities, the majority of the development is on the coast, with some near Lake Okeechobee as well. More dense residential development is near the water, and there are large areas of federally-owned and SFWMD-owned Conservation lands. The Everglades Agricultural Area (EAA) is south of Lake Okeechobee.

Table 4-29 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. A majority of the county is either Conservation (374,054 acres, 32.7%) or Agricultural

(498,703 acres, 43.6%) land. According to the FLUMs assembled, the vast majority of the future population in the county would be in SFWMD Generalized FLU Categories for Medium Density Residential (34,620 acres accommodating 700,254 future residents) and Low Density Residential (73,783 acres accommodating 618,229 future residents). High Density and Very High Density Residential areas make up a very small proportion of the total land area (6,976 acres combined, 0.6% combined), but can accommodate over a quarter of a million residents. A very small proportion of the county's FLUM is allocated for Commercial/Office space (8,247 acres, 0.7%).

Tables 4-30 and 4-31 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the appropriate BEBR population projections for relevant time periods. The currenly adopted FLUMs that have been assembled for Palm Beach County could easily accommodate the 2020 BEBR medium population projections, even without the extra capacity of the FLUMs from the missing 34 municipalities. This indicates a that this county has likely over allocated its residential future land use.

Table 4-32 compares the SFWMD Generalized FLU Categories and their associated population projections at full buildout for the county versus the reporting cities. It is important to remember that although many significant cities did contribute FLUMs, not enough information was collected in Palm Beach County to justify the sufficient coverage necessary for using this county in further analysis. However, Palm Beach County comes the closest to a balanced approach in residential FLU allocation, when compared to the BEBR Medium 2020 Population Projections; more than any other county.

Appendix J contains all the data collected for this project, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs, including density restrictions. Palm Beach County has a highly structured FLUM with detailed and complex FLU designations.

Saint Lucie County

Within Saint Lucie County, data was collected for the County, Fort Pierce, and Port Saint Lucie. FLUMs were not received from Saint Lucie Village, although the population or area of that town is not significant compared to the rest of the data collected for this county.

Figure 4-12 is a map of the county, displaying the SFWMD Generalized FLU Categories. Noticeably absent are vast Conservation areas (only 17,676 acres, 5.0%), although nearly the entire western half of the county is Agricultural (190,423 acres, 53.4%). Two large Mixed Use areas in the north and south of the county are visually prominent, and might represent DRIs or other large planned developments. A large proportion of the county is Low Density Residential (57,552 acres, 16.1%).

Table 4-33 summarizes the acreages, dwelling units, and population allowable in the current FLUMs, organized according to the SFWMD Generalized FLU Categories. Mixed Use (44,198 acres, 12.4%) will accommodate the majority of future residents (844,291 future residents) in the currently adopted FLUMs for this county, followed in magnitude by Low Density Residential (687,688 future residents). Medium Density Residential covers 9,132 acres (2.6%) and can accommodate 222,527 future residents.

Tables 4-34 and 4-35 summarize information relating to the comparison of the current FLUM-allowable development and associated population capacity, to the appropriate BEBR population projections for relevant time periods. Saint Lucie County's

currently adopted FLUMs could accommodate over five times the BEBR projected future residential demand for the year 2020.

Table 4-36 compares the SFWMD Generalized FLU Categories and their associated population projections at full buildout for the county versus the reporting cities. The FLUM for Saint Lucie County covers 272,792 acres, including 190,423 acres of Agriculture and 11,889 acres of Conservation. Saint Lucie County contradicts the general trend observed so far, and the cities are responsible for the over-allocation of residential future land use.

Table 4-37 compares the SFWMD Generalized FLU Categories for the cities only, and the associated population projections at full buildout. Fort Pierce's FLUM covers a modest 10,846 acres. It is Port Saint Lucie that is most over-allocated when compared to the BEBR Medium 2020 Population Projection, and accounts for the lion's share of the discrepancy. Port Saint Lucie's FLUM covers 73,043 acres, including 5,187 acres of Conservation. The New Community District in Port Saint Lucie, a FLU designation occurring on over 14,500 acres, is responsible for the buildout population projection accommodating capacity of over three-quarters of a million people, as currently adopted. This FLU is only available for DRIs, and is the large Mixed Use area located in the south central part of Saint Lucie County in Figure 12-2. Additionally, Port Saint Lucie's local FLU designation Low Density Residential, occurring on over 37,000 acres is capable of accommodating nearly half-a-million residents at full buildout. If evenly spaced at current densities, this would equate to one single-family household per 0.2 acres, over 37,113 acres, in the town of Port Saint Lucie alone. It is interesting that one

city can account for so much divergence from the BEBR Population Projections for an entire county.

Appendix K contains all the data collected for this project, organized by each local government's FLUM designations. It provides an atlas of local government FLUMs, including density restrictions. The Saint Lucie County FLU designation Special District (western half of the large Mixed Use area in the north central part of Figure 12-2) is an interesting case with a large density range. Depending on the density allowed, this area would accommodate between 2,773 and 208,000 people on 5,616 acres, at full buildout. This large range of both density and potential mix of uses over such a large area does not indicate that much thought has been put into the actual planning of this area; it seems as if it is a place holder to keep all options open. The large eastern half of that same area is also under the jurisdiction of Saint Lucie County (Figure 12-2). It is 13,660 acres and is designated as Towns, Villages, & Countryside, which coincides the SFWMD Generalized FLU category of Mixed Use. This area has an unspecified density, so it is unknown how much future residential growth is allotted there. However, assuming a conservative density allowance of 0.2-2, this area could still accommodate between 6,700 and 67,000 people at full buildout. Saint Lucie County also has a FLUM designation known as Mixed Use Development, covering 2,222 acres, where density restrictions were undeterminable at the time of this study. It is clear that Saint Lucie County's FLUM population projection at full buildout is an underestimate.

Summary

All of the counties in this study showed a trend toward over-allocation of residential FLU when compared to the BEBR Medium 2020 Population Projections (2010). Even the counties that had a significant proportion of non-reporting municipalities (Miami-

Dade, Monroe, and Palm Beach) displayed the trend. The majority of aggregated over-allocation of residential FLU for each was due to the county designating vast tracts of land as residential FLU, although some counties also contained cities which also did this. These results indicates an over abundance of spatial options for residential development, and by extension of this over-allocation, it is assumed that associated FLUs (Commercial/Office, Institutional, Industrial, Transportation, Recreation/Open Space) are also over-allocated.

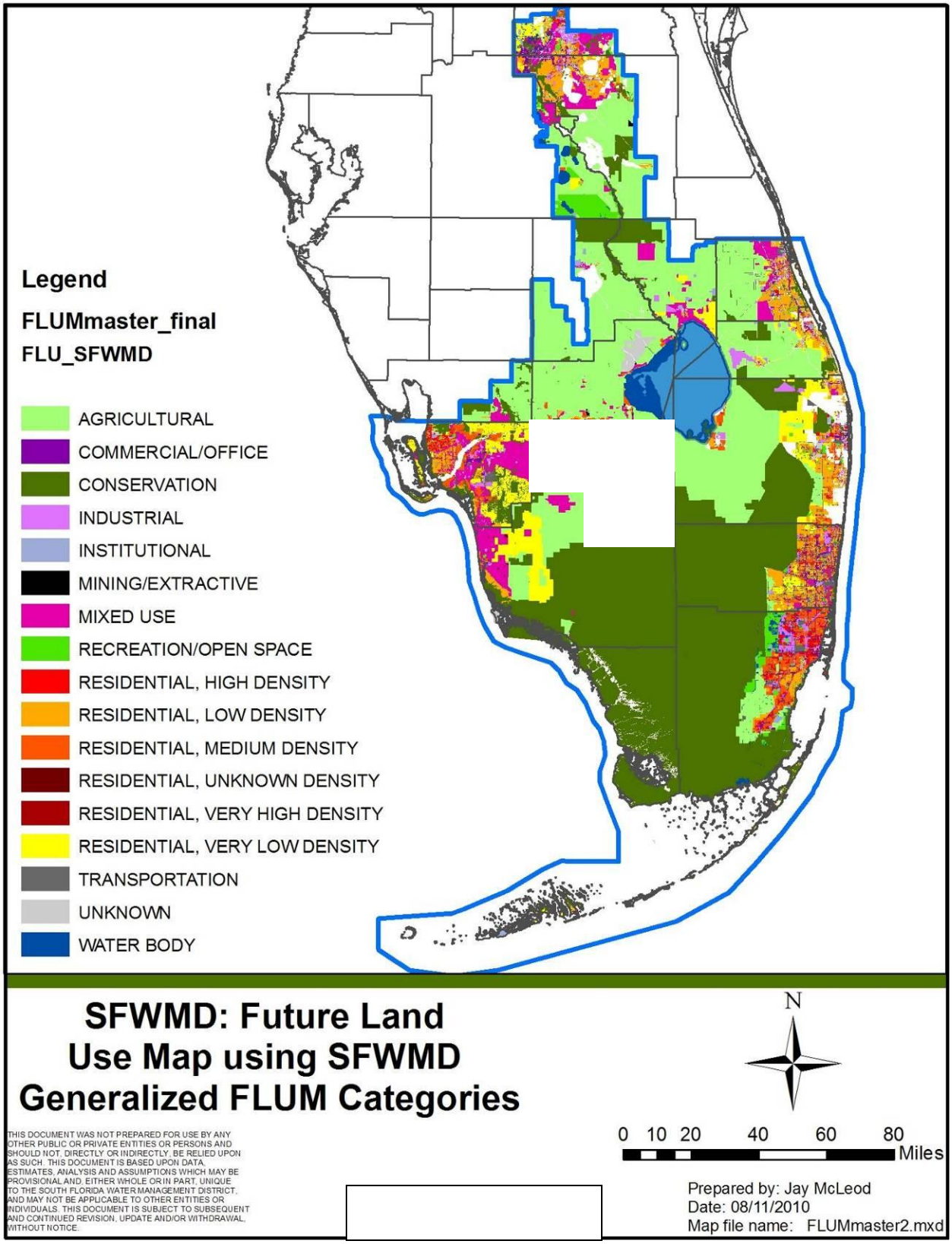

Figure 4-1. Spatial overview of compiled, standardized Future Land Use Map (FLUM) for SFWMD.

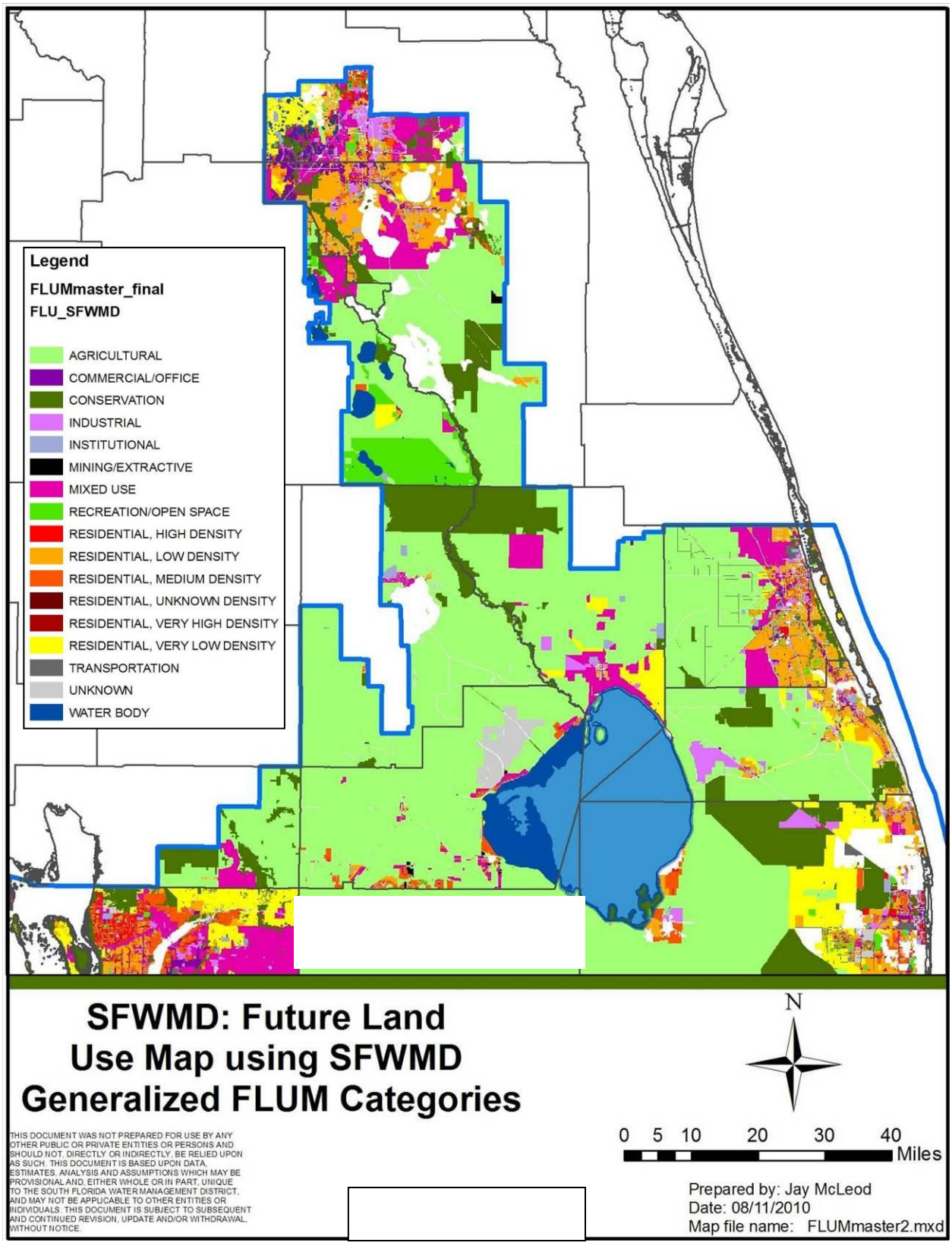

Figure 4-2. Spatial overview of compiled, standardized FLUM for northern SFWMD.

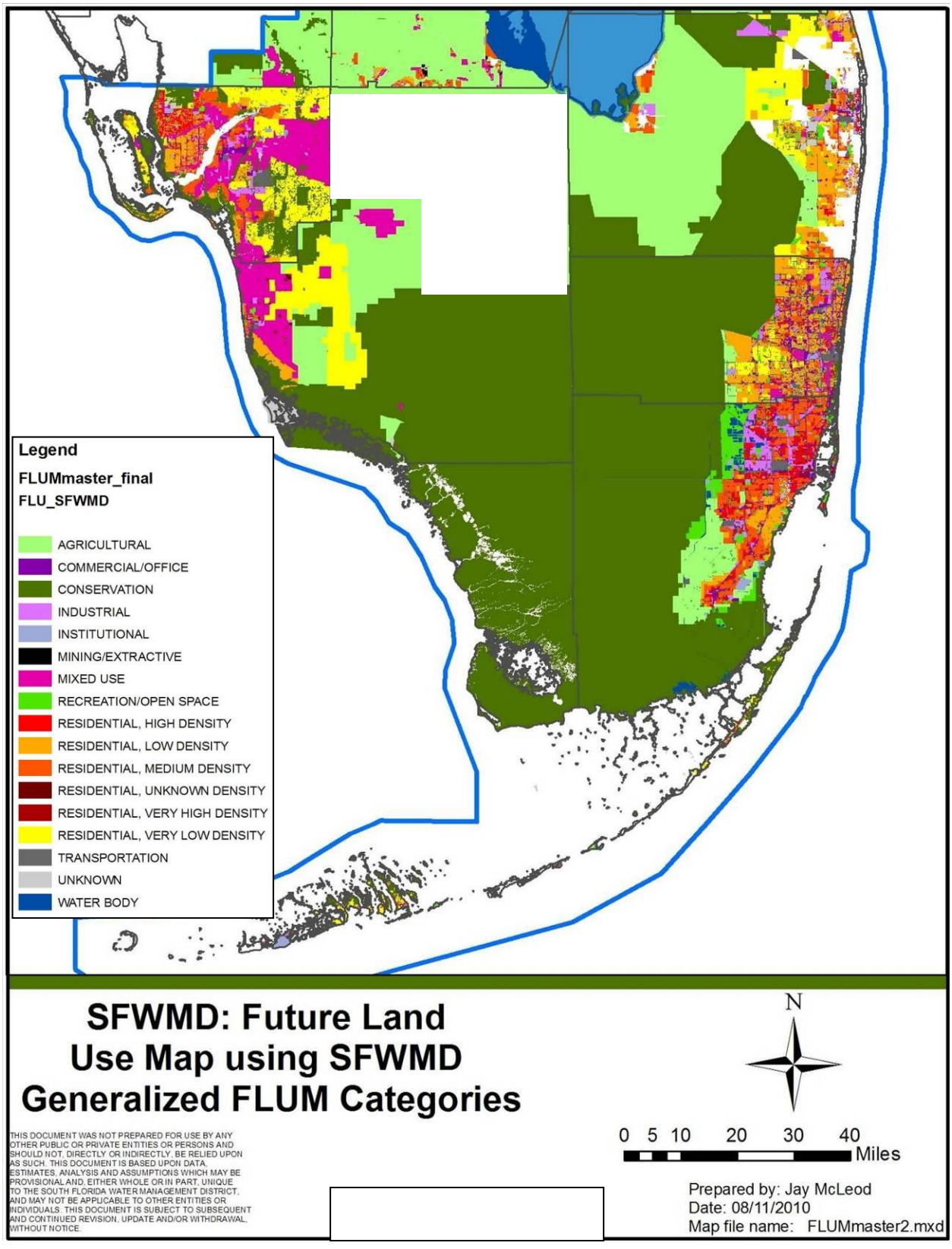

Figure 4-3. Spatial overview of compiled, standardized FLUM for southern SFWMD.

Table 4-1. Future land use acreages summarized by county.

SFWMD Generalized FLU Category acreages for selected South Florida counties (in thousands, where applicable)

SFWMD Generalized FLU Category	Broward	Collier	Glades	Lee	Martin	Miami-Dade*	Monroe*	Palm Beach*	Saint Lucie	Total Acreage	Percentage
Agricultural	9.9	451.5	420.3	0	221.6	79.4	.021	498.7	190.4	1,871.9	24.6%
Commercial/Office	24.0	1.1	1.1	9.2	3.0	21.0	2.3	8.2	6.7	76.5	1.0%
Conservation	514.5	901.0	100.1	130.8	43.9	863.9	581.0	374.0	17.7	3,527.0	46.3%
Industrial	11.1	2.8	0	11.6	16.5	26.1	.416	16.2	4.7	89.4	1.2%
Institutional	7.9	.215	.638	8.6	3.7	11.9	5.1	7.4	5.5	50.8	0.7%
Mining/Extractive	0	0	1.8	0	0	0	0	.043	0	1.8	0.02%
Mixed Use	9.5	90.7	11.3	125.8	1.7	3.0	0	4.0	44.2	290.2	3.8%
Recreation/Open Space	8.2	1.1	.5	2.9	1.7	54.1	2.0	10.2	3.5	84.1	1.1%
Residential, Unknown Density	41.1	13.7	0	0	0	0	0	0	0	54.8	0.7%
Residential, Very High Density	1.2	0	0	0	0	6.1	0	1.0	0	8.3	0.1%
Residential, High Density	13.7	4.2	0	17.5	.5	39.1	1.3	6.0	1.6	83.9	1.1%
Residential, Medium Density	11.3	0	16.3	42.0	5.3	91.6	5.3	34.6	9.1	215.5	2.8%
Residential, Low Density	62.4	12.1	2.3	45.2	27.7	24.6	0	73.8	57.6	305.5	4.0%
Residential, Very Low Density	23.2	133.2	0	120.7	15.3	0	22.3	92.4	5.4	412.5	5.4%
Transportation	42.1	.7	.058	6.0	0	18.2	.182	8.2	9.8	85.3	1.1%
Unknown	.000001	18.0	35.3	2.0	2.6	.076	12.8	8.6	.432	79.8	1.0%
Water Body	7.6	0	134.5	.22	61.1	28.7	0	151.7	.021	383.8	5.0%
Total Acreage	787.5	1,630.0	724.2	522.6	404.5	1,267.9	632.8	1,295.1	356.7	7.621.3	
Percentage	10.3%	21.4%	9.5%	6.9%	5.3%	16.6%	8.3%	17.0%	4.7%		100.0%

* = A significant proportion of municipalities did not report data. Available data is shown. These estimates represent an underestimate.

Table 4-2. Full buildout population projection in Residential and Mixed Use summarized by county.

Full buildout scenario population projections for selected South Florida counties by SFWMD Generalized FLU Category.

County	Residential, Very Low Density	Residential, Low Density	Residential, Medium Density	Residential, High Density	Residential, Very High Density	Residential, Unknown Density	Mixed Use	Full buildout population projection total
Broward	43,402	653,723	227,283	629,301	146,226	446,452	0	2,146,387
Collier	112,141	115,696	0	89,343	0	97,997	537,759	952,936
Glades	0	4,732	285,929	0	0	0	199,231	489,892
Lee	114,494	365,605	601,441	694,885	0	0	3,336,874	5,113,299
Martin	19,259	219,712	81,579	0	0	0	25,434	345,984
Miami-Dade*	0	174,634	1,561,396	1,866,798	1,103,550	0	31,193	4,737,571
Monroe*	14,583	0	95,082	47,530	0	0	0	157,195
Palm Beach*	74,761	618,229	700,254	208,955	71,248	0	47,305	1,720,752
Saint Lucie	8,113	687,668	222,527	63,069	0	0	844,291	1,825,668
Total	386,753	2,839,999	3,775,491	3,599,881	1,321,024	544,449	5,022,087	17,489,684

* = A significant proportion of municipalities did not report data. Available data is shown. These estimates represent an underestimate.

Table 4-3. Full buildout population projection comparison and percentage allocated summarized by county.

Full buildout scenario population projections for Residential and Mixed Use FLU categories summarized by county.

County	Total Residential and Mixed Use Acreage	Total full buildout population projection	BEBR Medium 2020 Population Projection (2010)	Percentage Allocated
Broward	162,348	2,146,387	1,824,300	118%
Collier	253,866	952,936	406,500	234%
Glades	29,869	489,892	11,900	4117%
Lee	351,115	5,113,299	779,000	656%
Martin	50,397	345,984	158,000	219%
Miami-Dade*	164,434	4,737,571	2,664,200	178%
Monroe*	29,009	157,195	76,900	204%
Palm Beach*	211,871	1,720,752	1,415,700	122%
Saint Lucie	117,865	1,825,668	350,400	521%
Total	1,370,774	17,489,684	7,686,900	708%

* = A significant proportion of municipalities did not report data. Available data is shown. These estimates represent an underestimate.

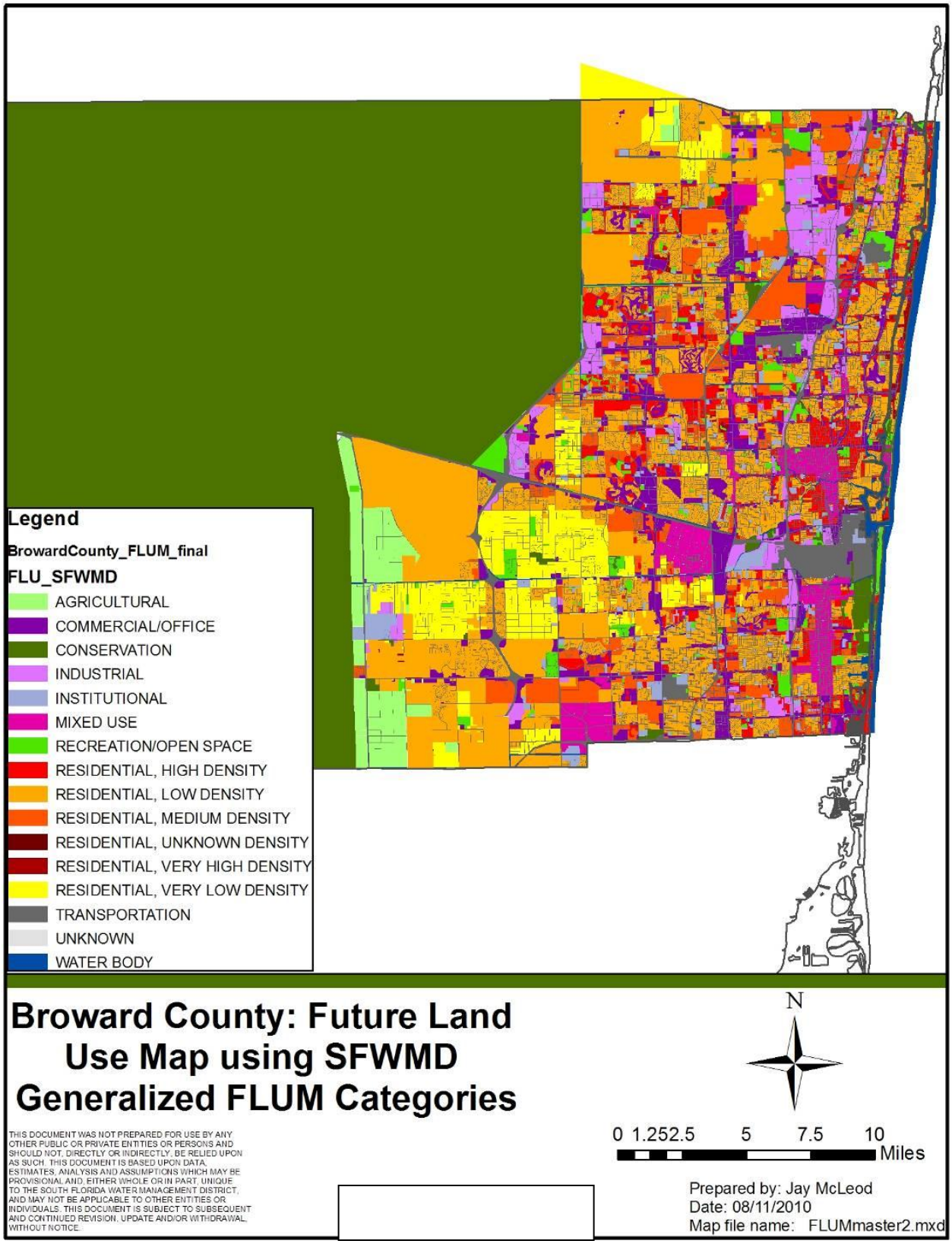

Figure 4-4. Compiled, standardized FLUM for Broward County.

Table 4-4. Future land use summary for Broward County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Agricultural	9,895	0	0	1.3%	3.7%
Commercial/Office	23,958	0	0	3.1%	9.0%
Conservation	514,474	0	0	66.0%	
Industrial	11,126	0	0	1.4%	4.2%
Institutional	7,882	0	0	1.0%	3.0%
Mixed use	9,466	0	0	1.2%	3.6%
Recreation/Open Space	8,167	0	0	1.0%	3.1%
Residential, High Density	13,722	256,858	629,301	1.8%	5.2%
Residential, Low Density	62,364	266,826	653,723	8.0%	23.5%
Residential, Medium Density	11,318	113,177	277,283	1.5%	4.3%
Residential, Unknown Density	41,132	182,225	446,452	5.3%	15.5%
Residential, Very High Density	1,194	59,684	146,226	0.2%	0.4%
Residential, Very Low Density	23,152	17,715	43,402	3.0%	8.7%
Transportation	42,122	0	0	5.4%	15.9%
Water Body	7,555	0	0		
Grand Total	787,529	896,485	2,196,388	100.0%	100.0%

Table 4-5. Population projection comparison for Broward County.

	Approved comprehensive plan allows				
		Dwelling units at full buildout		Population projection at full buildout	
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	162,348	896,485	896,485	2,196,388	2,196,388
Total allowable (without Agriculture or Water)	770,078	896,485	896,485	2,196,388	2,196,388

Table 4-6. Percentage allocated comparison for Broward County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	162,348	2,196,388	2,244,600	1,824,300	1,866,000
Percentage allocated			98%	120%	118%

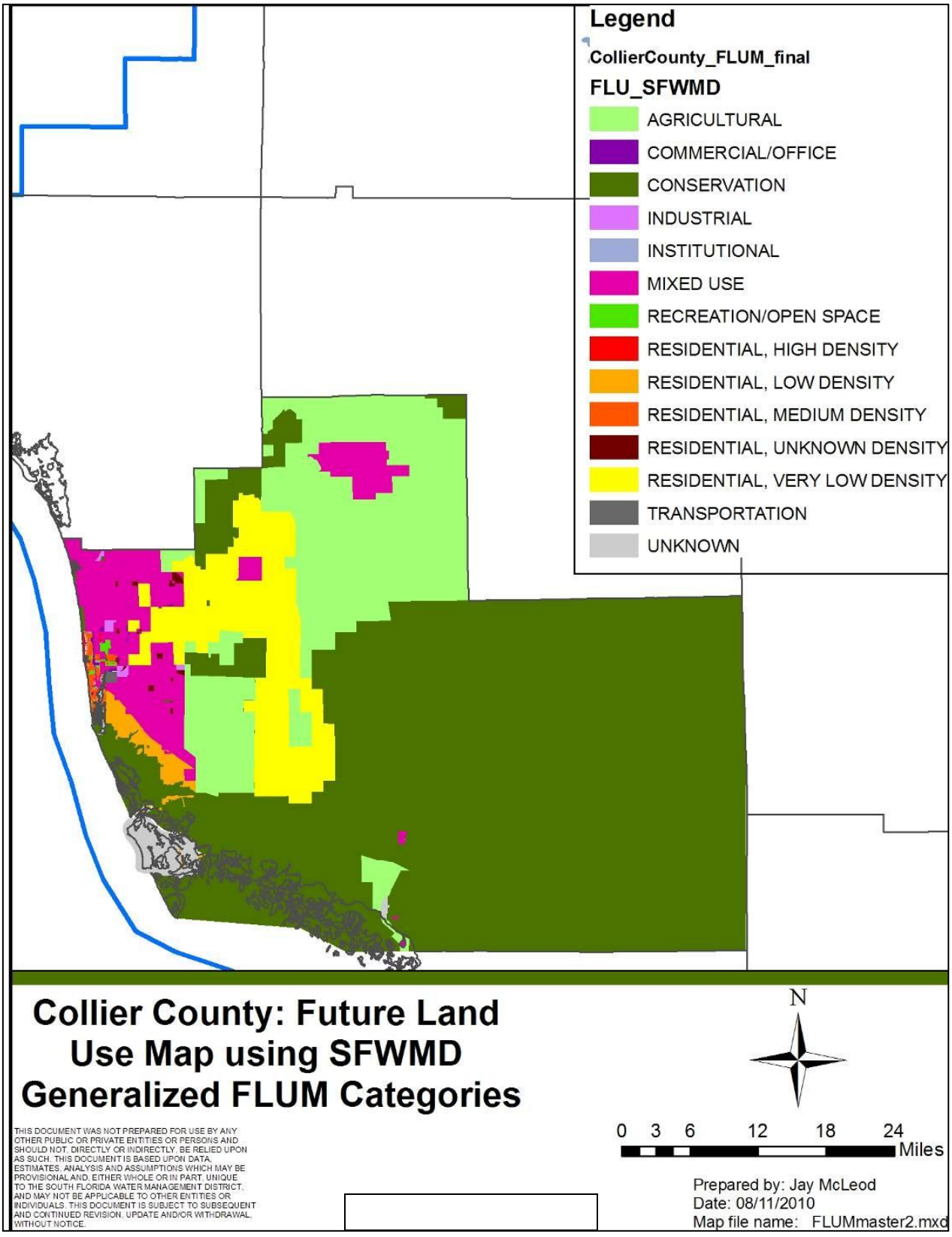

Figure 4-5. Compiled, standardized FLUM for Collier County.

Table 4-7. Future land use summary for Collier County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Agricultural	451,465	90,293	215,800	27.7%	61.9%
Commercial/Office	1,070	837	2,000	0.1%	0.1%
Conservation	900,980	0	0	55.3%	
Industrial	2,757	0	0	0.2%	0.4%
Institutional	215	0	0	0.01%	0.03%
Mixed Use	90,738	225,004	537,759	5.6%	12.4%
Recreation/Open Space	1,064	0	0	0.1%	0.1%
Residential, High Density	4,170	37,382	89,343	0.3%	0.6%
Residential, Low Density	12,102	48,408	115,696	0.7%	1.7%
Residential, Unknown Density	13,668	41,003	97,997	0.8%	1.9%
Residential, Very Low Density	133,188	46,921	112,141	8.2%	18.3%
Transportation	651	0	0	0.04%	0.1%
Unknown	17,922	0	0	1.1%	2.5%
Grand Total	1,629,990	489,848	1,170,736	100.0%	100.0%

Table 4-8. Population projection comparison for Collier County.

		Approved comprehensive plan allows			
		Dwelling units at full buildout		Population projection at full buildout	
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	253,866	398,718	803,239	952,936	1,919,741
Total allowable (without Agriculture or Water)	1,178,525	399,555	804,076	954,936	1,921,741

Table 4-9. Percentage allocated comparison for Collier County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	253,866	952,936	489,900	406,500	446,400
Percentage allocated			195%	234%	213%

Table 4-10. Comparison of full buildout population projections of Collier County and the cities therein.

		Currently allowable in adopted FLUM, at full buildout					
Municipality	SFWMD Generalized FLU Category	Acreage	Projected dwelling units	Projected dwelling units high	Population projection	Population projection high	Percentage allocated (as compared to BEBR Medium 2020 Population Projection (2010 report))
County	Residential & Mixed Use	249,186	361,300	765,821	863,507	1,830,311	212.4%
County	All except Agricultural, Water Body, and Conservation	270,304	362,137	766,658	865,507	1,832,312	212.9%
All reporting cities	Residential & Mixed Use	4,680	37,418	37,418	89,429	89,429	22.0%
All reporting cities	All except Agricultural, Water Body, and Conservation	7,240	37,418	37,418	89,429	89,429	22.0%

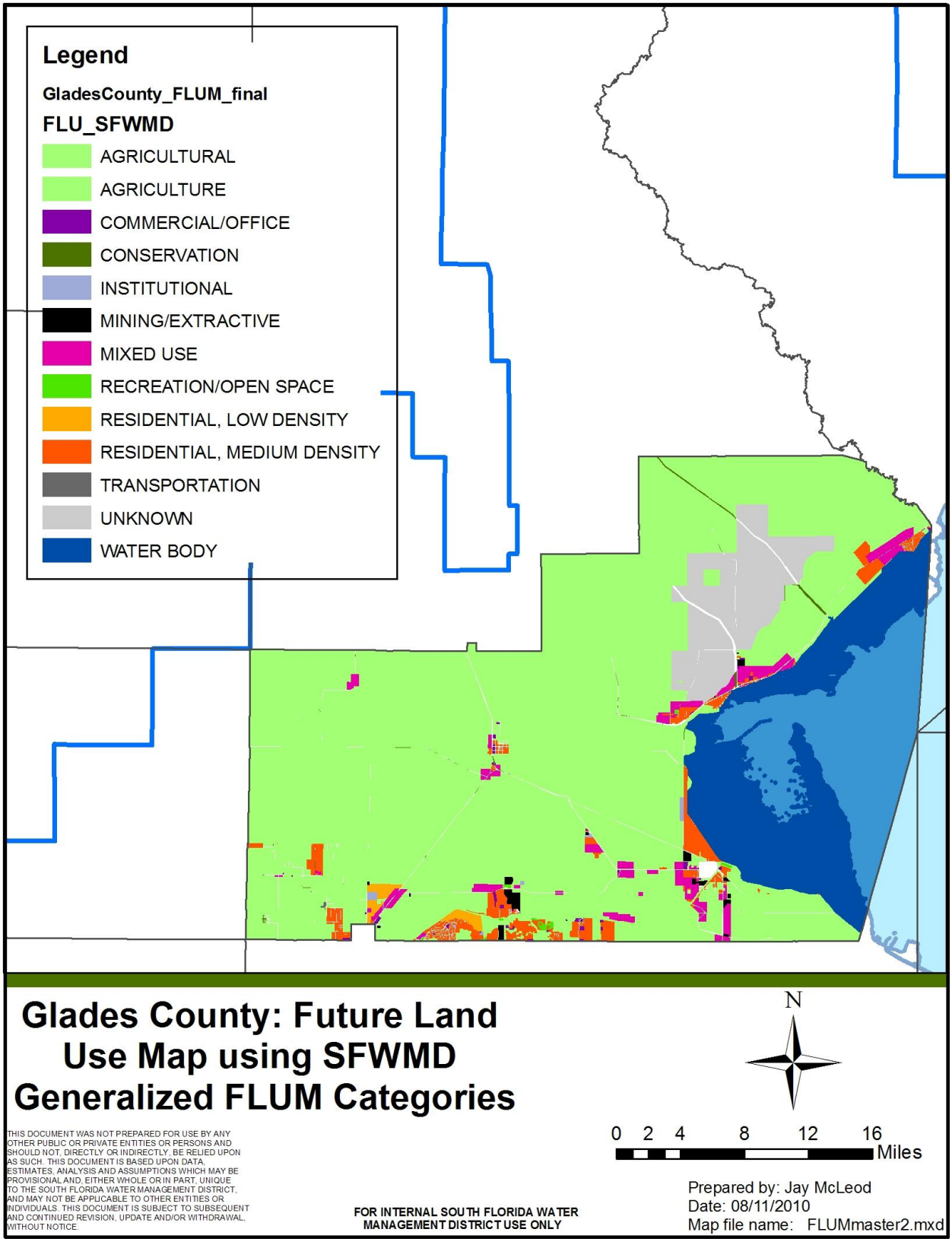

Figure 4-6. Compiled, standardized FLUM for Glades County.

Table 4-11. Future land use summary for Glades County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Agricultural	420,376	23,455	58,872	71.3%	85.9%
Commercial/Office	1,061	0	0	0.2%	0.2%
Conservation	100,131	5,007	12,566	17.0%	
Institutional	638	0	0	0.1%	0.1%
Mining/Extractive	1,789	0	0	0.3%	0.4%
Mixed Use	11,339	79,375	199,231	1.9%	2.3%
Recreation/Open Space	499	0	0	0.1%	0.1%
Residential, Low Density	2,256	1,885	4,732	0.4%	0.5%
Residential, Medium Density	16,274	113,916	285,929	2.8%	3.3%
Transportation	58	35	87	0.0%	0.01%
Unknown	35,295	0	0	6.0%	7.2%
Water Body	134,504	0	0		
Grand Total	724,221	223,672	561,418	100.0%	100.0%

Table 4-12. Population projection comparison for Glades County.

	Approved comprehensive plan allows				
	Dwelling units at full buildout		Population projection at full buildout		
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	29,869	195,176	195,176	489,892	489,892
Total allowable (without Agriculture or Water)	169,341	200,218	200,218	502,546	502,546

Table 4-13. Percentage allocated comparison for Glades County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	29,869	489,892	13,600	11,900	12,200
Percentage allocated			3602%	4117%	4016%

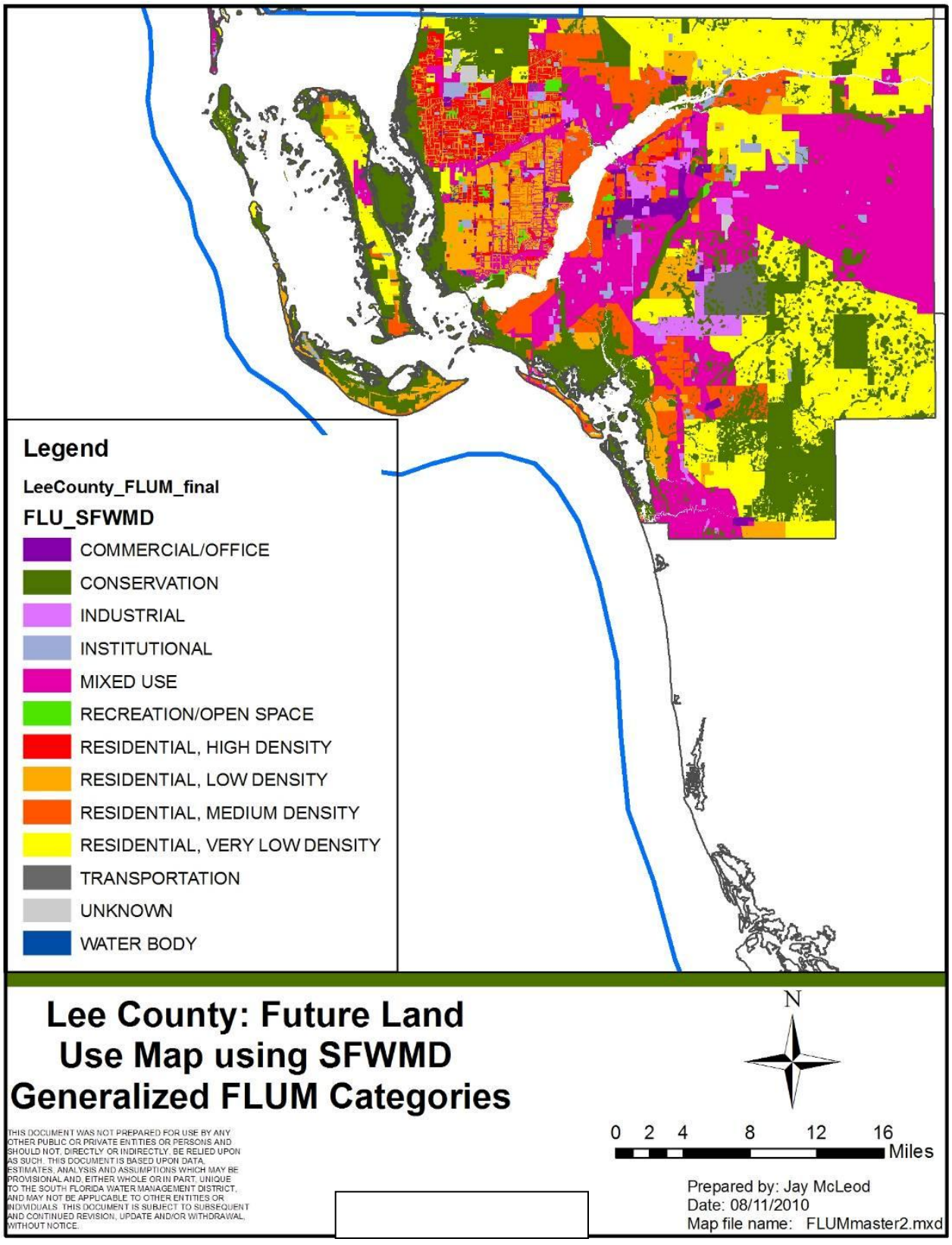

Figure 4-7. Compiled, standardized FLUM for Lee County

Table 4-14. Future land use summary for Lee County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Commercial/Office	9,245	1,945	4,842	1.8%	2.4%
Conservation	130,881	0	0	25.1%	
Industrial	11,612	0	0	2.2%	3.0%
Institutional	8,591	0	0	1.6%	2.2%
Mixed Use	125,761	1,435,753	3,336,874	24.1%	32.1%
Recreation/Open Space	2,893	0	0	0.6%	0.7%
Residential, High Density	17,463	279,410	694,885	3.3%	4.5%
Residential, Low Density	45,221	152,940	365,605	8.7%	11.6%
Residential, Medium Density	41,965	258,780	601,441	8.0%	10.7%
Residential, Very Low Density	120,705	49,553	114,494	23.1%	30.8%
Transportation	6,035	0	0	1.2%	1.5%
Unknown	2,027	0	0	0.4%	0.5%
Water Body	220	0	0		
Grand Total	522,619	2,178,382	5,118,141	100.0%	100.0%

Table 4-15. Population projection comparison for Lee County.

		Approved comprehensive plan allows			
		Dwelling units at full buildout		Population projection at full buildout	
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	351,115	2,176,437	2,296,749	5,113,298	5,404,632
Total allowable (without Agriculture or Water)	522,399	2,178,382	2,298,694	5,118,141	5,409,475

Table 4-16. Percentage allocated comparison for Lee County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	351,115	5,113,298	728,000	779,000	866,500
Percentage allocated			702%	656%	590%

Table 4-17. Comparison of full buildout population projections of Lee County and the cities therein.

		Currently allowable in adopted FLUM, at full buildout					
Municipality	SFWMD Generalized FLU Category	Acreage	Projected dwelling units	Projected dwelling units high	Population projection	Population projection high	Percentage allocated (as compared to BEBR Medium 2020 Population Projection (2010 report))
County	Residential & Mixed Use	296,321	1,647,607	1,686,383	3,805,973	3,895,546	488.6%
County	All except Agricultural, Water Body, and Conservation	318,813	1,647,607	1,686,383	3,805,973	3,895,546	488.6%
All reporting cities	Residential & Mixed Use	54,795	528,830	610,366	1,307,325	1,509,087	167.8%
All reporting cities	All except Agricultural, Water Body, and Conservation	72,705	530,775	612,310	1,312,168	1,513,929	168.4%

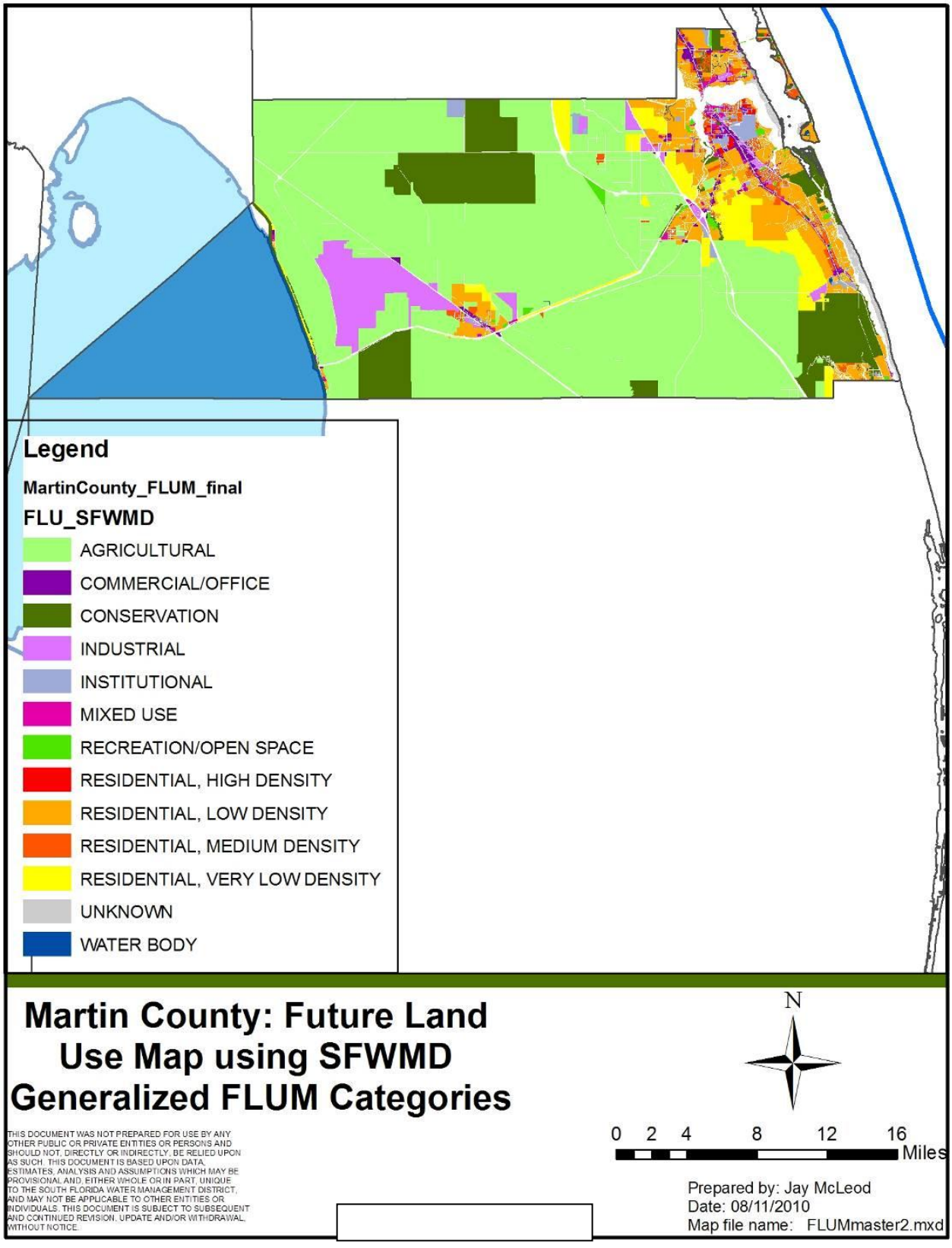

Figure 4-8. Compiled, standardized FLUM for Martin County.

Table 4-18. Future land use summary for Martin County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Agricultural	221,624	15,752	35,126	64.5%	74.0%
Commercial/Office	2,998	9,672	21,568	0.9%	1.0%
Conservation	43,887	0	0	12.8%	
Industrial	16,473	0	0	4.8%	5.5%
Institutional	3,699	1,512	3,373	1.1%	1.2%
Mixed Use	1,680	18,788	41,898	0.5%	0.6%
Recreation/Open Space	1,686	0	0	0.5%	0.6%
Residential, High Density	502	5,023	11,200	0.1%	0.2%
Residential, Low Density	27,652	98,525	219,712	8.1%	9.2%
Residential, Medium Density	5,250	42,363	94,469	1.5%	1.8%
Residential, Very Low Density	15,312	8,636	19,259	4.5%	5.1%
Unknown	2,597	0	0	0.8%	0.9%
Water Body	61,135	0	0		
Grand Total	404,496	200,271	446,604	100.0%	100.0%

Table 4-19. Population projection comparison for Martin County.

		Approved comprehensive plan allows			
		Dwelling units at full buildout		Population projection at full buildout	
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	50,396	173,335	180,618	386,538	402,778
Total allowable (without Agriculture or Water)	121,737	184,519	196,638	411,478	438,502

Table 4-20. Percentage allocated comparison for Martin County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	50,396	386,538	179,600	158,000	165,600
Percentage allocated			215%	245%	233%

Table 4-21. Comparison of full buildout population projections of Martin County and the cities therein.

		Currently allowable in adopted FLUM, at full buildout					
Municipality	SFWMD Generalized FLU Category	Acreage	Projected dwelling units	Projected dwelling units high	Population projection	Population projection high	Percentage allocated (as compared to BEBR Medium 2020 Population Projection (2010 report))
County	Residential & Mixed Use	48,528	155,149	155,149	345,983	345,983	219.0%
County	All except Agricultural, Water Body, and Conservation	74,482	155,149	155,149	345,983	345,983	219.0%
All reporting cities	Residential & Mixed Use	1,868	18,186	25,469	40,555	56,795	25.7%
All reporting cities	All except Agricultural, Water Body, and Conservation	3,368	29,370	41,488	65,495	92,519	41.5%

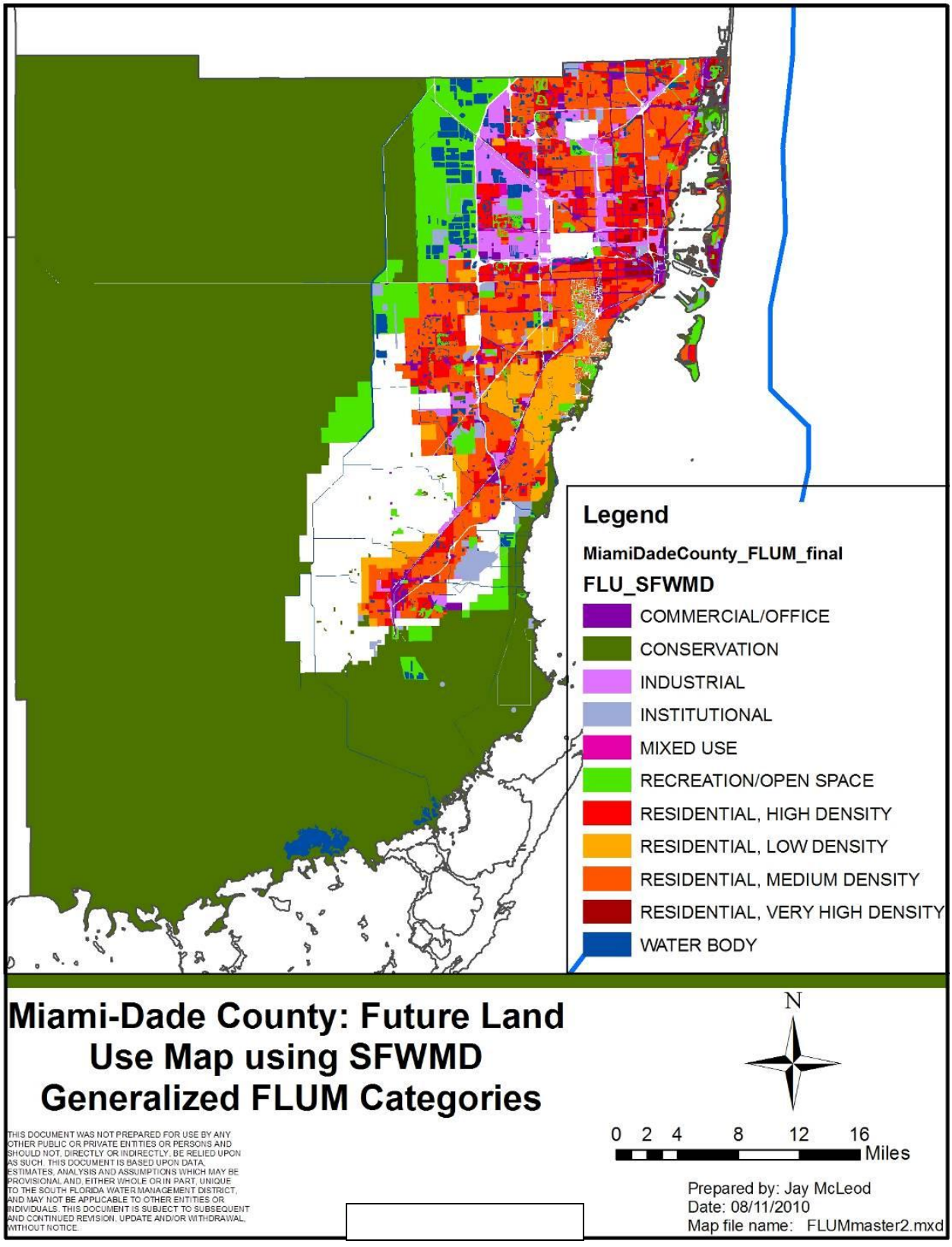

Figure 4-9. Compiled, standardized FLUM for Miami-Dade County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Agricultural	79,388	0	0	6.4%	21.2%
Commercial/Office	20,974	0	0	1.7%	5.6%
Conservation	863,928	0	0	69.7%	
Industrial	26,137	0	0	2.1%	7.0%
Institutional	11,889	0	0	1.0%	3.2%
Mixed Use	2,993	10,793	31,193	0.2%	0.8%
Recreation/Open Space	54,101	0	0	4.4%	14.4%
Residential, High Density	39,114	657,508	1,866,798	3.2%	10.4%
Residential, Low Density	24,596	61,491	174,634	2.0%	6.6%
Residential, Medium Density	91,600	553,474	1,561,396	7.4%	24.4%
Residential, Very High Density	6,131	389,350	1,103,550	0.5%	1.6%
Transportation	18,238	0	0	1.5%	4.9%
Unknown	76	0	0	0.01%	0.02%
Water Body	28,705	0	0		
Grand Total	1,267,870	1,672,617	4,737,570	100.0%	100.0%

Table 4-22. Future land use summary for Miami-Dade County.

Table 4-23. Population projection comparison for Miami-Dade County.

	Approved comprehensive plan allows				
		Dwelling units at full buildout		Population projection at full buildout	
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	164,434	1,672,617	2,671,521	4,737,570	7,573,627
Total allowable (without Agriculture or Water)	1,159,777	1,672,617	2,671,521	4,737,570	7,573,627

Table 4-24. Percentage allocated comparison for Miami-Dade County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	164,434	4,737,570	2,885,900	2,664,200	2,764,200
Percentage allocated			164%	178%	171%

Table 4-25. Comparison of full buildout population projections of Miami-Dade County and the cities therein.

		Currently allowable in adopted FLUM, at full buildout					
Municipality	SFWMD Generalized FLU Category	Acreage	Projected dwelling units	Projected dwelling units high	Population projection	Population projection high	Percentage allocated (as compared to BEBR Medium 2020 Population Projection (2010 report))
County	Residential & Mixed Use	158,330	1,603,405	2,599,904	4,553,669	7,383,726	170.9%
County	All except Agricultural, Water Body, and Conservation	286,782	1,603,405	2,599,904	4,553,669	7,383,726	170.9%
All reporting cities	Residential & Mixed Use	6,104	69,212	71,618	183,901	189,900	6.9%
All reporting cities	All except Agricultural, Water Body, and Conservation	9,067	69,212	71,618	183,901	189,900	6.9%

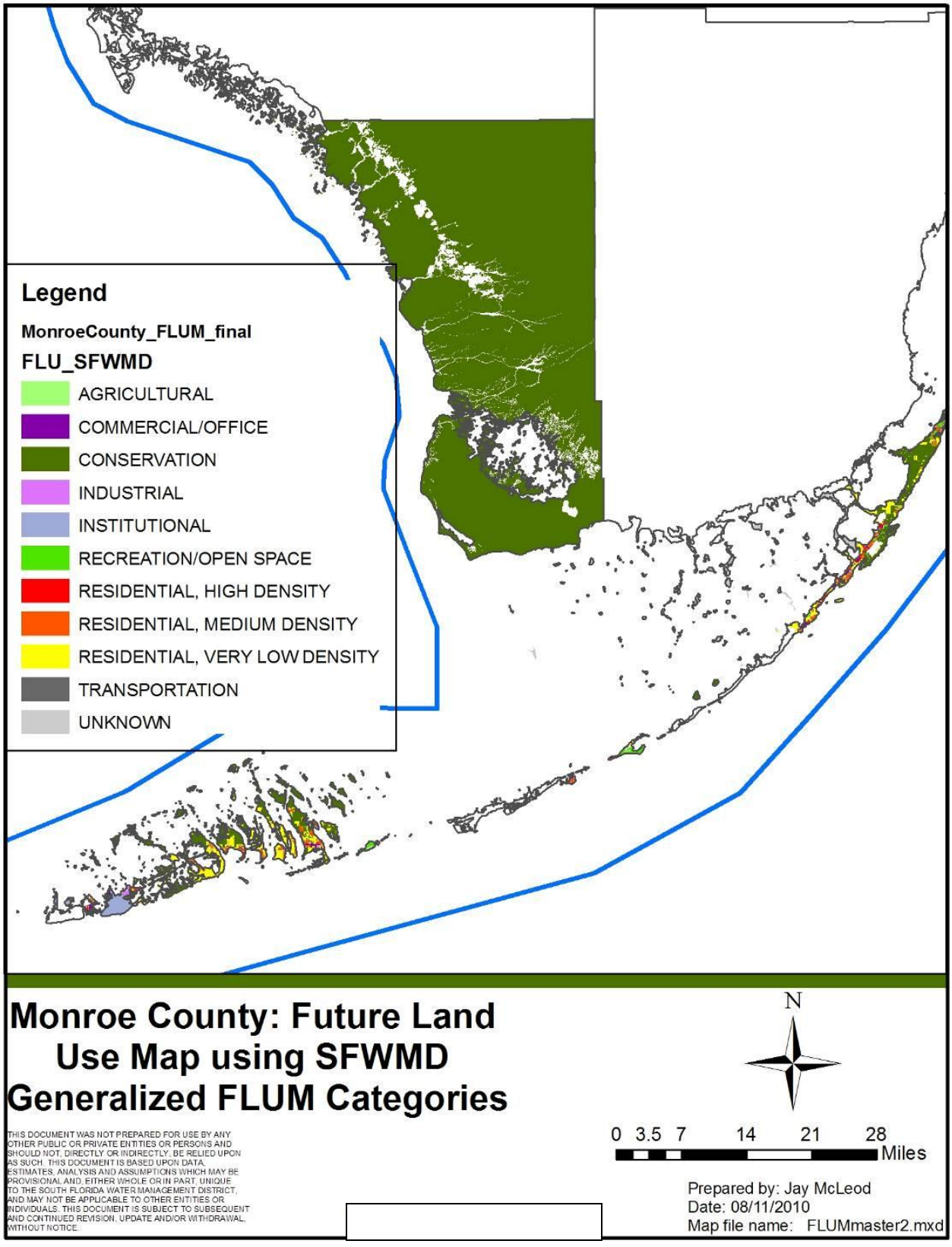

Figure 4-10. Compiled, standardized FLUM for Monroe County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Agricultural	21	0	0	0.003%	0.04%
Commercial/Office	2,257	13,997	31,213	0.4%	4.4%
Conservation	581,026	0	0	91.8%	
Industrial	416	416	927	0.1%	0.8%
Institutional	5,079	29,043	64,765	0.8%	9.8%
Recreation/Open Space	2,014	503	1,123	0.3%	3.9%
Residential, High Density	1,332	21,314	47,530	0.2%	2.6%
Residential, Medium Density	5,330	42,638	95,082	0.8%	10.3%
Residential, Very Low Density	22,347	6,539	14,583	3.5%	43.1%
Transportation	182	0	0	0.03%	0.4%
Unknown	12,819	0	0	2.0%	24.7%
Grand Total	632,822	114,450	255,223	100.0%	100.0%

Table 4-26. Future land use summary for Monroe County.

Table 4-27. Population projection comparison for Monroe County.

		Approved comprehensive plan allows			
		Dwelling units at full buildout		Population projection at full buildout	
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	29,008	70,491	70,491	157,195	157,195
Total allowable (without Agriculture or Water)	632,801	114,450	168,748	255,223	376,308

Table 4-28. Percentage allocated comparison for Monroe County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	29,008	157,195	82,700	76,900	76,200
Percentage allocated			190%	204%	206%

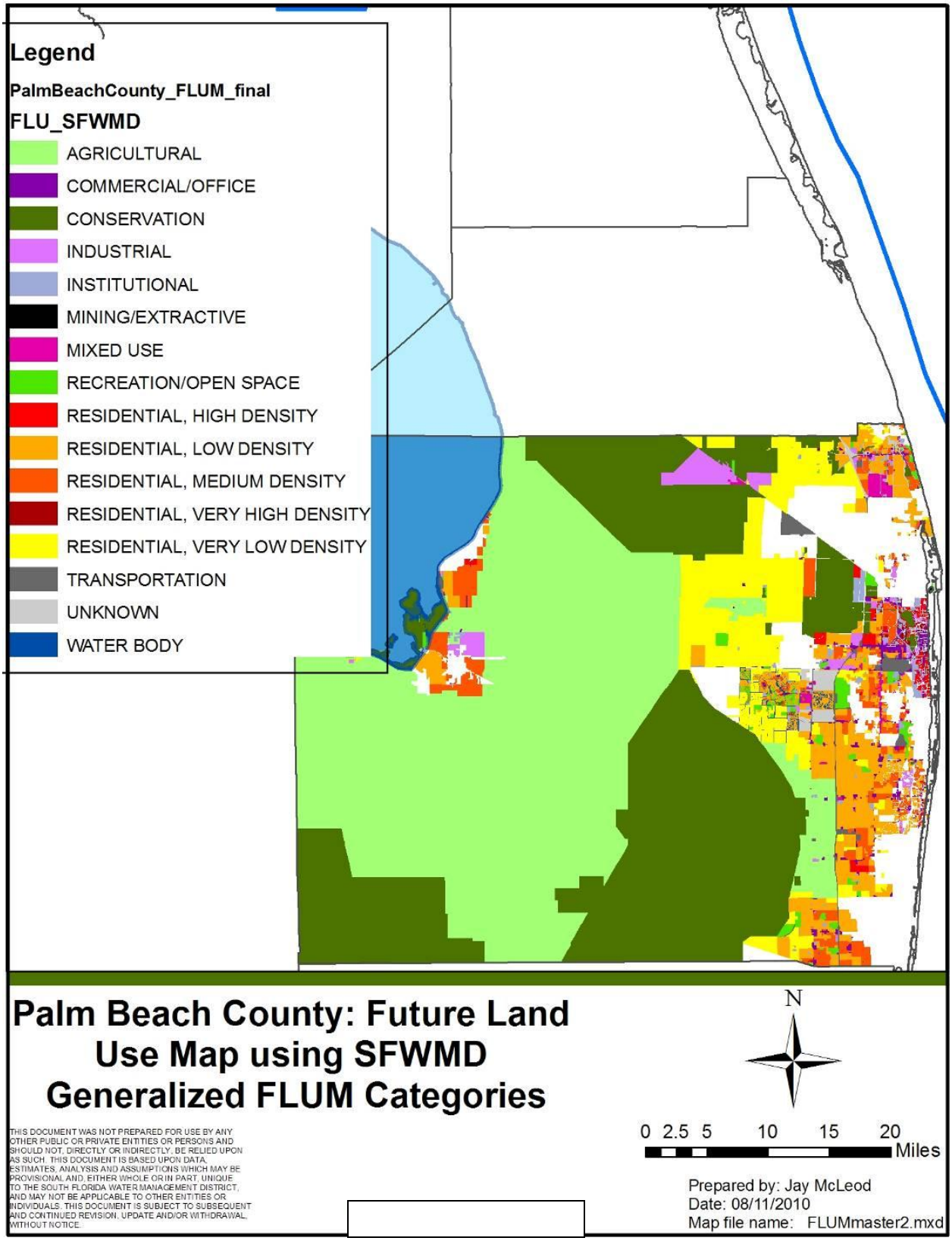

Figure 4-11. Compiled, standardized FLUM for Palm Beach County.

Table 4-29. Future land use summary for Palm Beach County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Agricultural	498,703	21,085	49,339	43.6%	64.8%
Commercial/Office	8,247	30,757	71,449	0.7%	1.1%
Conservation	374,054	0	0	32.7%	
Industrial	16,204	2,530	5,920	1.4%	2.1%
Institutional	7,358	1,108	2,594	0.6%	1.0%
Mining/Extractive	43	0	0	0.004%	0.01%
Mixed Use	4,047	19,653	47,305	0.4%	0.5%
Recreation/Open Space	10,182	2,932	6,861	0.9%	1.3%
Residential, High Density	5,999	90,873	208,955	0.5%	0.8%
Residential, Low Density	73,783	260,450	618,229	6.5%	9.6%
Residential, Medium Density	34,620	299,118	700,254	3.0%	4.5%
Residential, Very High Density	977	31,526	71,248	0.1%	0.1%
Residential, Very Low Density	92,445	30,562	74,761	8.1%	12.0%
Transportation	8,186	37	86	0.7%	1.1%
Unknown	8,573	0	0	0.7%	1.1%
Water Body	151,673	0	0		
Grand Total	1,295,093	790,631	1,857,000	100.0%	100.0%

Table 4-30. Population projection comparison for Palm Beach County.

		Approved comprehensive plan allows			
		Dwelling units at full buildout		Population projection at full buildout	
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	211,871	732,182	733,836	1,720,753	1,725,630
Total allowable (without Agriculture or Water)	644,716	769,546	771,200	1,807,661	1,812,539

Table 4-31. Percentage allocated comparison for Palm Beach County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	211,871	1,720,753	1,666,100	1,415,700	1,485,200
Percentage allocated			103%	122%	116%

Table 4-32. Comparison of full buildout population projections of Palm Beach County and the cities therein.

		Currently allowable in adopted FLUM, at full buildout					
Municipality	SFWMD Generalized FLU Category	Acreage	Projected dwelling units	Projected dwelling units high	Population projection	Population projection high	Percentage allocated (as compared to BEBR Medium 2020 Population Projection (2010 report))
County	Residential & Mixed Use	170,454	489,648	489,648	1,145,777	1,145,777	80.9%
County	All except Agricultural, Water Body, and Conservation	206,634	520,476	520,476	1,217,913	1,217,913	86.0%
All reporting cities	Residential & Mixed Use	41,417	242,534	244,188	574,975	579,853	40.6%
All reporting cities	All except Agricultural, Water Body, and Conservation	64,028	249,070	250,724	589,748	594,626	41.7%

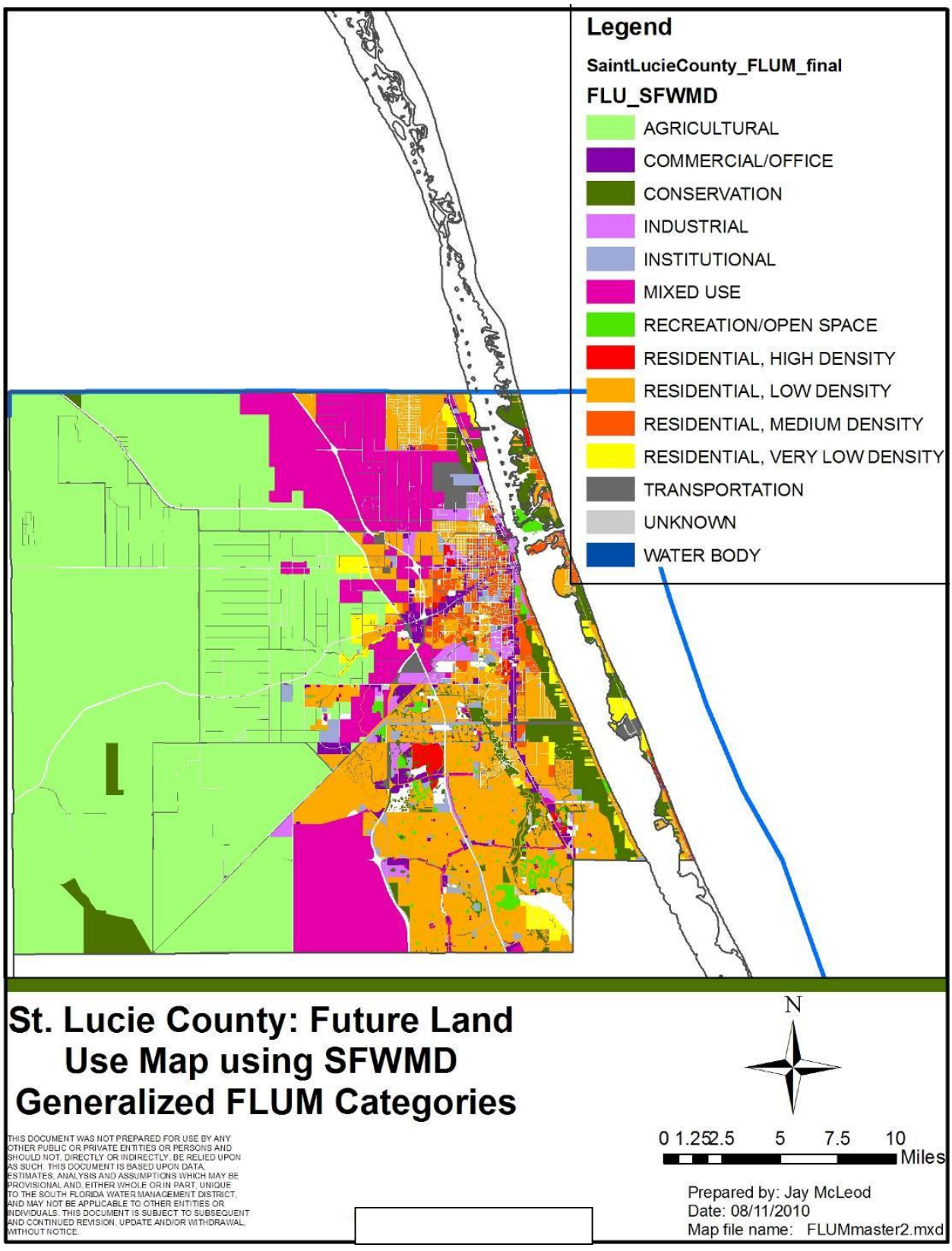

Figure 4-12. Compiled, standardized FLUM for Saint Lucie County.

Table 4-33. Future land use summary for Saint Lucie County.

SFWMD Generalized FLU Category	Acreage	Dwelling units at full buildout	Population projections at full buildout	Percentage of FLUM-compiled land area	Percentage of non-Conservation FLUM-compiled land area
Agricultural	190,423	38,810	95,861	53.4%	56.2%
Commercial/Office	6,729	17,176	43,970	1.9%	2.0%
Conservation	17,676	0	0	5.0%	
Industrial	4,720	0	0	1.3%	1.4%
Institutional	5,461	0	0	1.5%	1.6%
Mixed Use	44,198	324,826	844,291	12.4%	13.0%
Recreation/Open Space	3,534	0	0	1.0%	1.0%
Residential, High Density	1,622	24,684	63,069	0.5%	0.5%
Residential, Low Density	57,552	268,642	687,668	16.1%	17.0%
Residential, Medium Density	9,132	87,188	222,527	2.6%	2.7%
Residential, Very Low Density	5,361	3,293	8,133	1.5%	1.6%
Transportation	9,839	0	0	2.8%	2.9%
Unknown	432	0	0	0.1%	0.1%
Water Body	21	0	0		
Grand Total	356,701	764,618	1,965,520	100.0%	100.0%

Table 4-34. Population projection comparison for Saint Lucie County.

	Approved comprehensive plan allows				
		Dwelling units at full buildout		Population projection at full buildout	
	Acreage	Projected dwelling units	Projected dwelling units high	Pop. Projection	Pop. Projection high
Total allowable: Residential and Mixed Use	117,865	708,632	827,795	1,825,689	2,120,048
Total allowable (without Agriculture or Water)	166,257	725,808	865,785	1,869,659	2,217,304

Table 4-35. Percentage allocated comparison for Saint Lucie County.

	Approved comprehensive plan allows				
	Acreage	Population projection at full buildout	BEBR Medium 2020 Population Projection (2004)	BEBR Medium 2020 Population Projection (2010)	BEBR Medium 2025 Population Projection (2010)
Total allowable: Residential and Mixed Use	117,865	1,825,689	295,400	350,400	391,300
Percentage allocated			618%	521%	467%

Table 4-36. Comparison of full buildout population projections of Saint Lucie County and the cities therein.

		Currently allowable in adopted FLUM, at full buildout					
Municipality	SFWMD Generalized FLU Category	Acreage	Projected dwelling units	Projected dwelling units high	Population projection	Population projection high	Percentage allocated (as compared to BEBR Medium 2020 Population Projection (2010 report))
County	Residential & Mixed Use	54,933	111,927	230,773	276,459	570,010	78.9%
County	All except Agricultural, Water Body, and Conservation	70,479	111,927	230,773	276,459	570,010	78.9%
All reporting cities	Residential & Mixed Use	62,932	596,706	597,021	1,549,230	1,550,038	442.1%
All reporting cities	All except Agricultural, Water Body, and Conservation	78,101	613,881	635,012	1,593,200	1,647,294	454.7%

Table 4-37. Comparison of full buildout population projections for the reporting cities in Saint Lucie County.

		Currently allowable in adopted FLUM, at full buildout					
Municipality	SFWMD Generalized FLU Category	Acreage	Projected dwelling units	Projected dwelling units high	Population projection	Population projection high	Percentage allocated (as compared to BEBR Medium 2020 Population Projection (2010 report))
Fort Pierce	Residential & Mixed Use	5,802	55,116	55,432	141,098	141,906	40.3%
Port Saint Lucie	Residential & Mixed Use	59,756	541,589	541,589	1,408,132	1,408,132	401.9%

CHAPTER 5
DISCUSSION

Regarding Population Projections

Demographers generally agree “that forecasting accuracy tends to increase as the size of the population group being observed increases…; as the time period increases…; and as the level of net migration decreases” (Population Estimates and Projections, 1986, p.4). For instance, in the data presented for Glades County may be less accurate than Broward County, because it has a smaller population. All of these factors must be considered subjectively when evaluating these projections. But the significant discrepancies uncovered by the data presented here still present themselves as relevant and important, despite potential imperfections in forecasting accuracy. For instance, the difference between Glades County’s Bureau of Economic and Business Research (BEBR) medium projected population for 2020 (between 11,900 and 13,600) and their current FLUM, which could accommodate nearly 500,000 people, still warrants further investigation regarding an institutional breakdown in future land use planning, at both the local and state level.

In regards to the idea that communities that had experienced greater growth pressure in recent years would have greater salience to state mandates (Deyle and Smith, 1998) regarding incorporating approved population projections into Future Land Use Maps (FLUMs), it would appear to generally hold true. Broward, Miami, and Palm Beach Counties generally have lower allocations than counties that have not experienced as much growth pressure in recent years, such as Lee, Glades, Collier, and Martin Counties. However, as previously stated, all municipalities have not been reported for Miami and Palm Beach Counties. Furthermore, Lee County has the

particular distinction of having LeHigh Acres, a large, unincorporated, vested development. A possible confounding factor is that counties that have experienced recent growth pressures are likely closer to a buildout scenario (i.e. reaching the limits of developable land) than counties that have only recently experience intense growth pressures. The general trend is that counties with a history of high growth pressure tend to conform better to state mandated growth controls, as represented in their FLUMs. These results are examined in the next section.

General Comparisons

From the data presented, it is certain that municipalities in South Florida are over allocated in terms of residential future land use. This trend spans all municipalities measured. Even if one considers that, typically, the Florida Department of Community Affairs (DCA) will not object to a comprehensive plan or FLUM that contains enough allocations to accommodate the growth predicted by BEBR plus 25% [1]. This can be explained by DCA's desire to allow local governments to plan for themselves and accommodate unforeseen growth and because planning is not an exact science. Florida has often encountered unprecedented growth, where growth occurs unexpectedly and quickly and only those municipalities ready for that eventuality benefit most. However, by this measure each government FLUM should accommodate less than 125% of their BEBR medium projected population. This is obviously not the case, except perhaps in municipalities that have already reached the limits of their developable land, like Broward County (120% allocated). Palm Beach County (122% allocated) also contradicts the trend, but the results for this county are incomplete; a significant

[1] Bittaker, H. South Florida Water Management District, summer 2010, personal conversation.

proportion of the county did not report back. Even without a significant proportion of the county reporting, Palm Beach County is over allocated for residential Future Land Use (FLU).

Nearly all counties have allocated more than twice the residential capacity of their BEBR 2010 report projected population for 2020. The BEBR 2010 report was created after the catastrophic failure of the housing market. Thus, a better comparison for many counties may be the 2004 BEBR report, which was created before the drop in the housing market, and perhaps may be more representative of the optimistic planning that created these over allocated FLUMs. However, that comparison still shows a gross discrepancy between the BEBR report projections, which supposedly were used to create each FLUM, and the actual residential population that each currently adopted set of FLUMs can accommodate at full buildout. To review, the results show that the currently approved comprehensive plans of the nine counties analyzed can nearly accommodate the entire current population of Florida: 17.5 million people. For instance, when compared to the BEBR 2004 Medium Population Projections, all counties except Broward are still vastly over-allocated for residential FLU.

It is generally agreed that the more funding spent on planning, the better the FLUM will be, and the better the overall comprehensive plan will be (Deyle and Smith, 1988). In evaluating studies of other comprehensive plans where the state of Florida mandated certain planning procedures, Deyle and Smith agree that there is a “high variation in quality among the plans produced…[which] strongly suggest[s] that other factors beyond the legal content of the state planning mandate are at work” (1998, p.4).

This could perhaps explain the variation in the future residential over-allocations between the counties.

Comparisons among Counties

One possible explanation for the differences in residential FLU over-allocation among the counties studied could be administrative. In the first years after the Florida Growth Management Act of 1985 (GMA), the DCA had to review, usually twice, over 400 comprehensive plans, some of which were hundreds of pages long (Deyle and Smith, 1998). Additionally, each local government is allowed two large-scale amendments per year, which also require DCA approval. When the cumulative and direct impact of vested development rights, which were approved prior to the GMA, are also considered, as in LeHigh Acres, it may have been the case that each comprehensive plan was over allocated from the beginning. Given those financial and physical realities, the mere presence of a coherent FLUM may have been more important that the substance contained therein. DCA may have given greater scrutiny to larger, more populated communities than smaller, more rural communities, such as Glades County. Additionally, larger, more wealthy counties, like Broward and Miami-Dade Counties, have more funding and staff to devote to planning than smaller, less wealthy counties, like Glades County. These factors could, in part, lead to the over-allocation of residential FLU that is apparent in this study.

Comparisons between Counties

Due to the mostly incomplete nature of the data collected for Miami-Dade, Monroe, Palm Beach, and Hendry Counties, these counties will not be used in case study comparisons. They have been presented to show that the general trends towards over-allocation in residential land are present across all counties in South Florida. However,

for the remaining counties- Broward, Collier, Glades, Lee, Martin, and Saint Lucie- interesting connections can be drawn.

Figure 5-1, summarizes the trends in these remaining counties to help explain the dynamic of population allocation in South Florida. Broward County can be envisioned as the future condition of all the other counties; it is fully built-out on all developable land, has the highest population, and retains no areas for future expansion. Low density residential is a large part of Broward County's future land use.

Glades County is a unique situation, because it has enough room for forty times the growth it is predicted to have, according to BEBR, primarily accommodated with Medium Density Residential. With sea level rise occurring, Florida stands to lose quite a bit of coastal land, not only because it is a peninsula, but also because it has relatively little elevation change. As this occurs, it is possible that many of coastal Florida's residents will seek higher ground inland. Glades County is centrally located to receive a mass exodus from both the southeast and southwest coasts. Perhaps Glades County is far-sighted enough to plan for the mass exodus of people from the coastal regions that will soon be flooded due to sea level rise. But that is not likely. It is more likely that Glades County has created its comprehensive plan on the tail end of the enormous land grab, development craze that has fundamentally altered South Florida over the past 50 years. However, it is doubtful that the planners in Glades County have over-allocated their FLUMs in specific preparation for this event, and even if they have, they have not specifically outlined this in their comprehensive plan as the reason for such over-allocation.

Martin and Saint Lucie Counties are relatively similar, in that they are both still fairly undeveloped, and have populated coastal regions, and rural interiors. They are areas where spillover from Miami-Dade and Broward will likely occur. However, the majority of residential future land use in Martin County will be accommodated by low density residential, but it will be mixed use via two very large areas in Saint Lucie County. Both counties have much less future agricultural and conservation land than Broward County. Martin has similar mixed use future land use to Broward, but Saint Lucie does not.

On the west coast, Lee and Collier Counties provide an interesting comparison to both their east coast counterparts (Martin and Saint Lucie Counties) and to the "future", as shown by Broward County. Lee and Collier Counties have both experience large amounts of growth in recent years, and these trends are predicted to continue. However, they have different reasons for over-allocating residential future land use: in Lee it is due to primarily to LeHigh Acres, which was vested before the GMA, and in Collier it is due to primarily mixed use and low density residential areas. LeHigh Acres has been a vested development since the mid-1900s, but is still under the jurisdiction of the county. The difference between the two counties has to do with Collier's large conservation areas, while Lee County is primarily slated for future development according to adopted comprehensive plans.

Land Use Density Changes

Sanchez and Mandel (2007) attempted to quantify the change in residential land use patterns between 1970 and 2000 using census tract data, and quantifying land into spatial patterns ranging from very dense ("urban", 3000+ persons/square mile) to very

sprawled (“rural”, less than 300 persons/square mile). They compared the changes in 1970-1980 land use to 1990-2000 land use.

Although they suggest that the 1985 GMA might have slowed the increase in low density sprawl (Sanchez and Mandel, 2007, p.97). Furthermore, the authors also state that due to conflicting trends in densification, population growth and land use change in Florida metropolitan areas, they “cannot conclude…that the faster pace of urban land growth in Florida was attributable to the 1985 GMA” (Sanchez and Mandel, 2007, p.97). However, the authors only define “significance” as a Pearson coefficient test result falling below an unstated alpha value, and not as regionally important or some alternative measure of impact. It has been my experience, as a scientist, that statistical significance and real world significance are very different; trends that do not attain an arbitrary alpha value may still be important, especially in studies that are not carefully controlled and executed in a laboratory setting. Therefore, I would suggest that the trends the authors have observed are important.

The population changes that Sanchez and Mandel (2007, p.96) report for six selected counties are listed in the second column of Table 5-1; all else has been calculated using the data they presented, which was collected for post-GMA Florida. Compared to the state average, population growth in the six South Florida counties has been higher than other counties in the state. Perhaps this comparative difference caused the planners in these municipalities to allocate more land for future residential development, hoping to grab the future population and tax base that would come with it. Though this study dealt primarily with residential density since the 1985 GMA, it

contributes support to the case that future residential allocation in South Florida is uncontrolled.

Sprawl Reduction Planning Policies (SRPPs)

In 2006, Brody, Carrasco, and Highfield published a paper examining South Florida municipalities and the extent to which they exhibited Sprawl Reduction Planning Policies (SRPPs). Of interest here, they compared the counties according to how many and how intensely SRPPs were applied. The metric they developed ranked the counties, where the average was calculated as 5.761 within a range of 0 to 10 where 10 was the presence of many, strongly implemented SRPPs in the comprehensive plan of a municipality (Table 5-2). In some senses, residential future land use over-allocation can be seen as sprawl, as it encourages residential land uses to be developed wherever they may, as opposed to a specific area within a specifically proscribed plan. Although the Ratio method (Table 5-2), which is derived simply by dividing the Residential Percentage Allocated by the SRPP Index, is not the most accurate means of comparison (as it is influenced disproportionately by Residential Percentage Allocated), it is still another means of comparison that may glean some knowledge when ranked.

As such, it bears comparing the counties by ranking them by the amount of sprawl they may encourage (Table 5-3). When ranked in this fashion, some trends become apparent. Firstly, Glades County consistently ranks as the municipality with the most sprawl-encouraging FLUM. The FLUM of Collier County generally ranks lower, while Lee, Saint Lucie, and Martin generally fall in the middle (as arranged from most sprawl-encouraging FLUM to least). Broward County is difficult to determine, because its FLUM ranks as least spawl-encouraging according to the Residential Percentage Allocated

test (likely because that county has already reached the physical limits of development), and most sprawl-encouraging according to the SRPP Index.

Full Buildout Population Densities

The population densities that would result from full buildout are very high for this region. Table 5-4 displays the equivalent densities in people per acre for each county if their full buildout population projections are normalized over three different land areas: Buildable Land (the entire county excluding Conservation lands), Urban Land (which excludes Conservation and Agricultural lands, but includes Commercial/Office, Industrial, Institutional, Recreation/Open Space, Transportation, Unknown, Mixed Use, and all Residential), and just Residential and Mixed Use Lands. The resulting densities are very high and some highlight different aspects of each county's FLUM. For instance, when densities for Glades County are computed, it is apparent that much of that county is Agricultural land because the equivalent density of Buildable Land would be 1.00 people/acre. However, when considering only where the people would be living (Residential and Mixed Use Lands), the densities are very high (16.40 people/acre). Glades County, in addition to having the highest percentage allocated also has the highest projected density at full buildout, behind Miami-Dade County. Only Collier, Martin, Monroe, and Palm Beach Counties have projected densities below 10 people/acre; all other counties projected densities are in the teens or higher.

As a reference point, incorporated part of Jacksonville has 1.52 people/acre, Miami (city) has 15.88 people/acre, and Orlando has 3.11 people/acre. (U.S. Census, 2000). By comparison, if each currently adopted FLUM is developed at full buildout across all Urban Land, all counties except Monroe (which had non-reporting municipalities) will be more dense than Orlando. Residential and Mixed Use Land

densities within Broward, Glades, Lee, Miami-Dade, and Saint Lucie Counties will all be close to or exceeding the year 2000 density of Miami (city).

Even if the amount of development that occurs is only half of full buildout, the equivalent densities are very dense, especially in areas adjacent to environmentally sensitive lands, such as the Everglades. This development may occur in many diverse locations, spatially speaking, since the FLUMs allow residential development over vast areas of land. At what point does this become recognized as sprawl? Future research could spatially examine current densities and compare these to FLUM-allowable future densities to determine a sprawl index, similar to Lopez and Hynes (2003), for each county-aggregated FLUM.

Federally-Owned Land

It is important to note that in some counties (e.g. Broward, Collier, Monroe, Miami-Dade) there is a significant proportion of the county that is designated as Conservation. This is primarily because of the Everglades National Park and associated lands. It bears further exploration in these counties to determine what proportion not preserved in federal lands is actually destined for conservation-based land uses. This would help elucidate whether Conservation is a priority in these counties. Conservation lands serve a valuable role in ecosystem services provisions, such as groundwater recharge, air pollution mitigation, and fisheries and wildlife spawning grounds. This will be relevant in the maintenance of a consistent level of ecosystem services for these residents, as their populations grow.

Private Property Rights Legislation

As previously mentioned, legislation such as the Harris Act may have contributed significantly to the patterns of FLU in the FLUMs that are revealed here. This type of

legislation is of significant concern in areas with large vested developments, such as LeHigh Acres in Lee County, and could be a significant reason for local governments apparent reservation in maintaining more restrictive FLUMs. And since the current FLUMs have been in effect for quite some time, they are already fully established, so to speak, and many parties may have created vested developments in areas unsuitable for dense residential development. So that even to create more restrictive FLUMs now might bankrupt a local government because of the costs associated with buying out these new vested developments at fair market value.

Small Scale Comprehensive Plan Amendments

Although Florida's GMA 1985 allows only two major, DCA-reviewed comprehensive plan amendments per year for each local government, there are unlimited small-scale amendments allowable. Small-scale amendments are generally those that affect less than 10 acres, with some caveats (Florida Statutes 163.3187), and are not required to be reviewed by DCA. Although there are checks in place to keep these small-scale amendments from creating a large change in FLUMs, it is possible for that to occur. In effect, these small-scale amendments can create a moving target, as the FLUMs are ever-changing, and have no doubt changed between the time of this study and when this paper is published. These small-scale amendments may have a large repercussions in FLU over long term time frames. Research into the effect that small-scale amendments have on changes in FLUMs would be invaluable in determining the effect that these incremental, small-scale amendments have in long-term time frames.

A New Hierarchy

It is interesting to explore what would happen if we were to implement a scenario similar to this right now, using the currently approved FLUMs for the local governments discussed in this project. There exists enough data to conduct this exploration for Collier, Lee, Martin, and Saint Lucie Counties. Broward, Glades, Miami-Dade, and Monroe Counties do not have enough specific city FLUM data for this inquiry. As previously shown for Saint Lucie County, the implementation of this new county-city hierarchy would not change the over-allocation of that county much. Port Saint Lucie is the main offender in over-allocation of residential FLU (Table 12-4).

Table 5-5 shows the result of this exploration in the other three counties. Lee County would still be well over allocated for residential FLU; there is over 160% of the BEBR medium 2020 population projection accommodated in just Cape Coral and Fort Myers alone, although most of that is Fort Myers. No data was reported for the other cities in Lee County – Bonita Springs, Fort Myers Beach, and Sanibel – but the two largest cities are accounted for here. It is also important to remember that LeHigh Acres is a vested residential development in Lee County, and if it were incorporated in its current incarnation, it would also accommodate a significantly large population. In Collier and Martin Counties, this new hierarchy scenario would definitely lead to a less developed future, although it is difficult to make any conclusions with the data contained here. No data was collected for Everglades City and Marco Island, in Collier County, or for Jupiter Island, Ocean Breeze Park, or Sewall's Point, in Martin Island. The addition of these cities residential FLUM may change the outcome. And although the data collected from cities is incomplete for these counties, the same trend can begun to be seen in Miami-Dade and Palm Beach Counties (Tables 9-3 and 11-3). As expected,

when a county's policy priority is zero growth, and its cities continue to accommodate growth as it is describe in their FLUMs, there is a significant reduction in the amount of over-allocation of residential FLU. This study may be one of the first to suggest a relationship between over-allocation of residential FLU and sprawl.

Land values within the cities in this new hierarchy would be higher, as the decrease in supply affects an increase in demand. With the residential land supply in the county restricted, development would be encouraged in the city boundaries, where infrastructure exists to support it. This increase in city land demand would potentially create an increase in city tax revenue, some of which would be shared with the county and regional administrations for their continued role in protecting the higher-level planning interests of the city and state.

This new hierarchy between county and city governments would be a positive step toward curbing the current state of South Florida's residential FLU over-allocation and sprawl. However, a strong framework for cooperation and achievement, involving carrot-and-stick tactics, must be in place for such a hierarchy to work properly (May and Burby, 1996). A new funding framework for each governmental level would have to be created to ensure the capabilities of each could be performed properly (Bengston, Fletcher, and Nelson, 2004, Deyle and Smith, 1998). And "horizontal coordination is needed to help avoid situations in which growth management policies in one jurisdiction undermine policies or create burdens in neighboring communities" (Bengston, Fletcher, and Nelson, 2004, p.281). Some coercive ability is necessary for the state to ensure cooperation in state planning goals from local governments that may not support the state goals (May and Burby, 1996) and the ability to ensure that rests in the funding

support for the review process (Deyle and Smith, 1998), because “greater planning-agency capacity leads to stronger sprawl-mitigation measures within local comprehensive plans” (Brody, Carrasco, and Highlands, 2006, p.307).

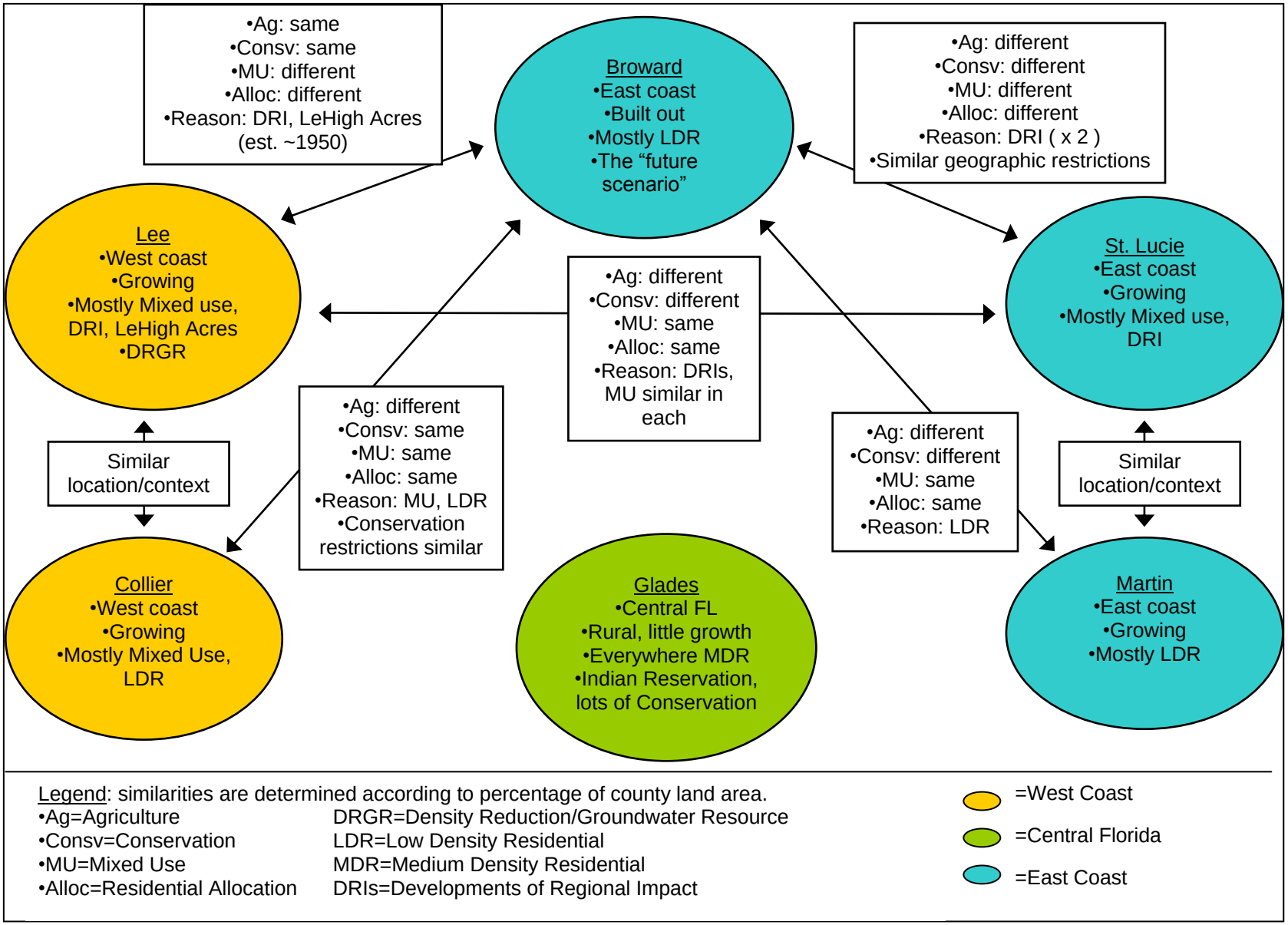

Figure 5-1. Comparison of counties and exploration for residential FLU over-allocation.

Table 5-1. Population change, as reported by Sanchez and Mandel (2007).

County	1990-2000 population change
Broward	2.9%
Collier	6.5%
Glades	3.9%
Lee	3.2%
Martin	2.6%
Saint Lucie	2.8%
Average	3.65%
Average of all other Florida counties	2.72%

Table 5-2. Comparison of sprawl by different methods.

County	Residential Percentage Allocated	SRPP Index	Ratio
Broward	120%	5	24
Collier	198%	8	24.8
Glades	4117%	5	823.4
Lee	656%	7	93.7
Martin	245%	7	35
Saint Lucie	521%	8	65.1
Average	976%	6.67	146.3

Table 5-3. Ranking of counties by amount of sprawl.

Method / Ranking	Residential Percentage Allocated	SRPP Index	Ratio
Least sprawl	Broward	Collier and Saint Lucie	Broward
	Collier		Collier
Moderate Sprawl	Martin	Lee and Martin	Martin
	Saint Lucie		Saint Lucie
	Lee		Lee
Most sprawl	Glades	Broward and Glades	Glades

Table 5-4. Equivalent densities across different FLUs in full buildout scenario.

County	Full buildout population projection	Buildable land (non-Conservation) (acres)	Equivalent density (people/acre)	Urban (non-Conservation, non-Agricultural) land (acres)	Equivalent density (people/acre)	Residential and Mixed Use land (acres)	Equivalent density (people/acre)
Broward	2,146,387	265,500	8.08	255,604	8.40	162,349	13.22
Collier	952,936	729,010	1.31	277,545	3.43	253,866	3.75
Glades	489,892	487,796	1.00	67,420	7.27	29,869	16.40
Lee	5,113,299	391,518	13.06	391,518	13.06	351,115	14.56
Martin	345,984	299,475	1.16	77,851	4.44	50,397	6.87
Miami-Dade*	4,737,571	375,237	12.63	295,849	16.01	164,434	28.81
Monroe*	157,195	51,797	3.03	51,776	3.04	29,009	5.42
Palm Beach*	1,720,752	769,323	2.24	270,620	6.36	211,871	8.12
Saint Lucie	1,825,668	339,004	5.39	148,580	12.29	117,865	15.49
Totals	17,489,684	3,708,659	5.32	1,836,764	8.26	1,370,774	12.52

* = A significant proportion of municipalities did not report data. Available data is shown. These calculations are an underestimate.

Table 5-5. Comparison of selected cities in full buildout population projection in new hierarchy scenario, where counties accommodate zero population.

			Currently allowable in adopted FLUM, at full buildout						
Municipality	SFWMD Generalized FLU Category	County	Acreage	Proj. dwelling units	Proj. dwelling units high	Pop. projection	Pop. projection high	BEBR Medium 2020 Pop. Projection (2010 report) for the whole county	Percentage allocated (as compared to BEBR Medium 2020 Pop. Projection (2010 report))
Naples	Residential & Mixed Use	Collier	4,680	37,418	37,418	89,429	89,429	406,500	22.0%
Cape Coral	Residential & Mixed Use	Lee	39,309	423,709	491,210	1,055,035	1,223,113	779,000	135.4%
Fort Myers	Residential & Mixed Use	Lee	15,486	105,121	119,155	252,290	285,973	779,000	32.4%
Stuart	Residential & Mixed Use	Martin	1,868	18,186	25,469	40,555	56,795	158,000	25.7%

CHAPTER 6
CONCLUSION

Although it may be better than what existed previously, our current system of residential Future Land Use (FLU) planning and allocation is not functioning properly. It is clear that South Florida counties, and I suspect all Florida counties, are still just preparing their counties for development wherever and whenever they can get it. There is no real evidence of coherent, intelligent residential FLU planning. We have in place a system that encourages counties and cities to compete for development; the more development, the higher the tax base, the more revenue generated. Anthony (2004) agrees that this land-grab mentality is pervasive in Florida's local governments and undermines the ability of the state to encourage intelligent local planning. This system is counter productive to the very intention of Florida's 1985 Growth Management Act (GMA).

It is also possible that the current comprehensive planning and concurrency requirements of the GMA are *not* better than what previously existed (Pendall, 1999). Indeed, by specifically designating the maximum allowable use of a given parcel, the local government is seen as vesting certain development rights within a parcel. In conjunction with U.S. Constitutional "takings law" and the Bert J. Harris Property Rights Act, this confers upon the property owner certain rights. Additionally, when a FLUM designates the best and most beneficial use of a property, it may force a rise in property taxes upon the owner. If the owner cannot pay the new, higher property taxes, they may be forced to sell the land, which, depending upon the location, may further the sprawling development pattern that can be created by over-allocated FLUMs. Clawson (1962) agrees that the type of speculative land market created in suburban areas creates an

incentive for land owners to cash in their land as soon as a development opportunity presents itself, regardless of location. With over-allocated Future Land Use Maps (FLUMs), the door is opened for many more landowners to sell, creating a spatially incongruent development pattern. Combined with the infrastructure construction and operation costs of sprawling development, which are higher per capita than a more compact development (Burchel et al, 1998, Clawson, 1962), it may be in a local government's best interest to avoid over-allocating FLUM categories and create a more spatially restricted FLUM.

Instead, we need to redesign the suite of functional relationships between the entities that determine local and regional planning. Changing one facet at a time cannot address the current failure in residential FLU planning. Understand that planning techniques are determined by the interrelationship of the entities that administer them; "The hallmark of *effective* growth management…is that these individual techniques are interlinked and coordinated in a synergistic manner rather than applied incrementally and individually", as stated by Porter (1997, p.13) becomes more relevant to this discussion. Coordination and cooperation between the state, counties, cities, and other regional planning entities is essential. The U.S. General Accounting Office has determined that local communities are more likely to support federal intervention in coordinating growth management (2000). This trend toward acceptance of centralized planning from higher-level government will continue as resources become scarcer (Bengston, Fletcher, and Nelson, 2004). Therefore, I propose a new structure of local government planning in Florida that aligns the goals of state, county, and city together,

instead of pitting them against each other in a race to court development, where only sprawl wins.

But before we embark on defining that structure, it is important to determine what Florida does in planning that sets it above other jurisdictions. Anthony identifies the following elements of a state growth management program that may help control sprawl:

> (1) a mandatory requirement for local planning (like in Florida)…; (2) encouraging actual implementation of local plans through requiring agencies to program and develop consistent with local plans (as in Washington [state] and California); (3) providing local governments financial incentives for growth management planning (as in Washington [state]); (4) limiting the number of amendments to local plans (as in Florida); and (5) integrating strong agricultural land preservation elements into their growth management programs (as in Hawaii). Having several of these features in a state growth management program may increase its effectiveness in checking sprawl. (Anthony, 2004, p.392).

From this analysis, we can see that Florida has implemented perhaps the most important condition: required comprehensive plans for all local governments. Additionally, Florida has streamlined the administrative burden by accepting only two major comprehensive plan amendments per year, although even this is still an enormous amount of burden on the state. Unlimited small-scale, local comprehensive plan amendments are allowed, which may have a large aggregate impact. And we see that Florida's growth management program could be strengthened by requiring local development to be consistent with local and state plans. This is especially apparent in light of the findings regarding residential FLU described in this project. And although the DCA can withhold state funds to ensure consistent local planning, it rarely does. Another part of the problem is that the implementation of the comprehensive plan is

nearly entirely left up to the local governments' discretion (Liou and Dicker, 1994). This further pits local governments against their neighbors in a develop-or-die paradigm.

With this in mind, perhaps Floridians should consider another way to encourage less sprawling development that is more consistent with expert population projections: restructuring the institutional hierarchy of local governments. We should encourage a new structure of planning, whereby counties seek to discourage all development, especially residential development, even at the border of cities, and cities should seek to become denser and encourage redevelopment and infill. In this new scenario, a new method of revenue-sharing between counties and cities would need to be determined. No longer would both be able to garner revenue from the development within their political boundaries, because the county would now be discouraging development. Counties would need to be funded, in part by the success of their own and surrounding cities.

All green-field development outside of city boundaries should cease permanently. This is a drastic approach, but is necessary when considering the current condition of FLU planning that encourages any and all growth, everywhere. Any development of a regional nature, which would be better suited to more rural parts of a county or inbetween larger metropolitan areas, should be relegated to the Regional Planning Councils (RPC), state, and adjacent counties for proper siting and allocation (Weitz and Seltzer, 1998). This way, developments that might be better suited for rural contexts could still locate, but in the appropriate location, consistent with state and regional planning goals. Of course, workforce housing and the objectives of the business would also play a role in the location negotiations of the business.

Furthermore, the current legal structure that places cities and counties FLU planning on even ground under the state, needs to be reformed. Counties should be hierarchically in between the state and cities, with regional planning entities between the state and counties. As such, counties would take over some large-scale service coordination, such as fire rescue, waste management, and police. Furthermore, cities should no longer have sovereign control over their ability to annex new areas. Some new political structure should be developed to approve the annexation request, consisting of the county and the state and other regional entities, all of whom should start their inquiry from a “denial-of-annexation” standpoint. In this new hierarchy, counties would be able to reject city annexation requests, and since there would be no significant new development outside of city boundaries, this would preserve the urban boundary and increase redevelopment, where infrastructure already exists.

Another alternative is for local governments to implement capped capacities for their FLUM designations. For instance, suppose a county has a future land use category called Medium Residential, which cover 10,000 acres county-wide and allows up to 8 dwelling units per acre. This would lead to a full buildout of 80,000 dwelling units, and an approximate future population of 184,000 residents (at 2.3 people per dwelling unit). If there were a maximum capacity for that FLUM category of 10,000 dwelling units during the period of the planning horizon, then we would only have the possibility of a full buildout condition of 23,000 residents. This is one way to curb the rampant expansion that is currently entrenched in these types of over allocated FLUMs. Although this would regulate overall growth in the county, it is not a spatially sensitive planning tool. Creating capped capacity would not be effective in reducing sprawling

development because it does not spatially designate appropriate areas as suitable for development, and preserve the rest of the area for other uses.

Other potential solutions are rate-of-growth controls and growth-phasing regulations (Kelly, 1993). These regulations typically slow development by placing a cap on the number of building permits issued annually. And although this may create a more reasonable residential FLU for the stated planning horizon, it still does not address the spatial component of these sprawling FLUMs. These types of regulations may be ideal for areas like LeHigh Acres, especially if combined with a Transfer of Development Rights program that seeks to increase density in currently developed areas.

Cities should be incentivizing infill and redevelopment (Bengston, Fletcher and Nelson, 2004). Especially in the wake of the burst of the housing bubble, and speculation of a commercial real estate bubble, infill development is a great way to encourage density and reuse of existing infrastructure. Some communities near Albuquerque, NM have encouraged infill development by waiving concurrency fees for developers that build within the existing infrastructure service boundary. Within five years, they have noticed an increase in building permits for lots served by existing infrastructure (Nelson, 2011). Many other communities have experimented successfully with waiver of development fees in selected infill areas (Lorentz and Shaw, 2000), tax exemptions, administrative zoning changes, subsidized land costs, and other incentivized methods (Bengston, Fletcher, and Nelson, 2004, and Porter, 1997). These approaches would work exceptionally well to reduce excessive, sprawling future residential development, especially when combined with the new county-city hierarchy proposed here.

Another method of reducing over-allocation of residential FLU, especially in rural areas of a county, is exclusive agricultural or forestry zoning based on soil and/or climate characteristics (Bengston, Fletcher, and Nelson, 2004). The protection of agricultural land and associated domestic food production capacity based on inherent landscape characteristics provides a legal nexus for legislation. Land is zoned restricted to uses other than the cultivation of agricultural or silvicultural products, with some small amount of accessory buildings allowed. The downfall of this approach is that it can potentially be challenged in court as a takings (Gillham, 2002). Additionally, for this method to work best the land zoned as such must stay that way in perpetuity. Otherwise, it will be re-designated to some other urban land use in future FLUMs. Right-to-farm laws also provide a similar type of protection, but they rely on a willing farmer to participate, and do not prevent the selling of the land for residential conversion. Since agricultural land is where people get their domestic food and is one of the most susceptible land uses to urban conversion, it is important to address this issue in FLU planning.

Of course there are assumptions within this study that bear further examination. The county as the unit of analysis can be seen as fairly arbitrary, but when considering the nature and scale of the data collected, and the number of reporting local governments it becomes more justifiable. This is a regional analysis, and since all municipalities within a county share a similar rural policy framework (i.e. the county's comprehensive plan), it seems reasonable to use this grouping. Also, the nature of this analysis presented in this study mean that the results are more accurate when analyzed over a larger area. The concept of "full buildout" is, of course, an idealized scenario.

Often times, infrastructure and rights-of-way requirements imposed on developers in building and land development regulations prevent them from ever achieving the maximum density allowable in a given zoning category. However, that is the legal limit and the letter of the law governing those areas, and is therefore possible in many cases. And, as stated before, the method for calculating full buildout population projections is a gross method that glosses over some of the intricacies of land development in the interest of a large scale picture. The converse argument stands that if a local government does not ever expect all of the areas in their FLUM to be developed to the maximum extent, then why are they designated as such in the first place.

It was beyond the scope of this project to analyze the difference between the current population and extent of these local governments and the designations within their FLUMs. However, it would be most interesting to compare not only the acreages and equivalent populations of each, but also the spatial distribution of population. Spatial statistics could be used to determine a measurement of comparison for different future scenarios. A more accurate knowledge of each local communities exact densities in each zoning category would also help to refine the full buildout population projections presented herein, and would perhaps exonerate some of the local planning entities for their generous FLU allocations.

And finally, we must ask ourselves if the planning horizon in a FLUM means anything at all. For instance, the idea of a planning horizon is to plan growth up to a certain time period in the future. But as we approach that horizon, we set another horizon even farther in the future, with increased development potential. Is there ever an end to the development? Do we ever reach a limit to a region’s developable land

conversion? So far, the answer is no. The comprehensive plan fails to address issues of carrying capacity. Some regional entities, like the South Florida Water Management District (SFWMD), have begun to ask these questions, but only from the limited point of view of their own mission statement. For instance, the SFWMD has started to restrict growth in certain areas where communities seek to withdraw water from the aquifers for their water source. The SFWMD has the authority to do this to protect the future water resources for the region by protecting the aquifers. But the SFWMD does not have the jurisdiction to limit local governments growth supported by developing other sources of water, such as desalinization or water conservation efforts. And with property rights laws as they are in the United States, it may be beyond even the purview of the state or even federal government to limit development in perpetuity.

APPENDIX A
SOUTH FLORIDA WATER MANAGEMENT DISTRICT GENERALIZED FUTURE LAND USE METHODOLOGY

(internal document, SFWMD, Intergovernmental Policy and Planning Division, 2010)

Obtain Future Land Use maps and the FLU Goals, Objectives, and Policies for each jurisdiction. Regional planning councils should have generally up-to-date information here, as should FDOT districts – if there are organizational restrictions that prevent loaning hard-copy maps to be taken from the office, additional time will need to be allocated to ensure that the most current maps can be obtained.

The Goals, Objectives, and Policies in each Future Land Use element should be reviewed to determine which original FLU categories are used for each jurisdiction. Concurrently, a crosswalk table (spreadsheet) should be developed showing to which generalized FLU category each original FLU category corresponds – we strongly recommend this spreadsheet also include a field where text from or a brief summary of the original Future Land Use category can be documented (for example, Low Density Residential in Jurisdiction X is 1 to 3 dwelling units per acre).

(Optional: Also, early in the process the organization developing the files should obtain digital parcel data where available. This is important in that it allows for data from the various jurisdictions to be aligned to the same base, so that major gaps and overlaps are eliminated early in the process.)

For jurisdictions where digital Future Land Use data can not be obtained, we recommend creating individual shapefiles for each such jurisdiction. As these jurisdictions are typically small municipalities, such files average approximately several

hours when created over a parcel base. Larger jurisdictions without GIS could take much longer.

Create standardized tables based upon the fields delivered by the TBRPC. Once table standardization is complete, the generalized FLU categories need to be applied.

The Statewide Generalized Categories and Definitions are listed below. The categories within each generalized land use are to be used when classifying the land uses. It is imperative that the jurisdictional DEFINITION be reviewed to determine the correct Generalized Landuse as some jurisdictions may have the same name for a landuse but the types of uses included may vary, thus determining which general land use it will fall under.

Using the crosswalk table, each modified FLU category receives a generalized FLU. In some cases, a Future Land Use category not found in a municipal comprehensive plan will actually be a county FLU category for a recently annexed area – in these cases, a generalized FLU can be obtained from the rows of the spreadsheet pertaining to the county.

* Residential classifications should be determined individually for each local government to ensure the best fit with the generalized categories. For example, if City X has categories for 1 – 3 units per acre, 3+ - 9 units per acre, and 9+ - 22 units per acre, these would be classified as Low Density Residential, Medium Density Residential, and High Density Residential. If City Y has categories for 1 – 4 units per acre, 4.0+ - 7 units per acre, and 7+ – 12 units per acre, these would be classified as Low Density Residential, Medium Density Residential, and Medium Density Residential – there would be no High Density Residential for this city.

Please note that each jurisdiction may include various land uses in one category. For example, one may have Central Business District in which the land uses are professional and commercial, thus to be classified as Commercial. Another may include residential in the Central Business District, therefore causing this jurisdictions CBD to be classified as Mixed Use.

A review of boundaries is necessary to be performed. The process involves pulling all shapefiles for a county together and evaluating gaps and overlaps. A final general review/quality control check of sample areas is performed.

Table A-1. SFWMD generalized future land use categories

Category	Additional Information
Very High Density Residential	Residential development where the maximum allowable density exceeds approximately 25 units per acre *
High Density Residential	Residential development up to approximately 25 units per acre, but generally greater than that allowed in the Medium Density Residential category *
Medium Density Residential	Residential development up to approximately 12 units per acre, but generally greater than that allowed in the Low Density Residential category *
Low Density Residential	Residential development up to approximately 5 units per acre, but greater than that allowed in the Very Low Density Residential category *
Very Low Density Residential	Residential development of less than one unit per acre*
Unknown Density Residential	Residential development of which the density is unknown.
Agricultural	Land specifically designated as Agricultural in the comprehensive plan. May include silvicultural uses.
Recreation / Open Space	Public or privately owned/operated recreational sites or facilities to include both active and passive recreational opportunities {All Recreation, Open Space, Parks, Public Active, Water Dependent uses (beach), Institutional/Recreational, recreational/public mixed use, Golf course, corridor open space, Multi purpose open space, greenbelt, commercial recreation (low intensity outdoor rec uses-campgrounds, fish camps, etc), natural resources/rec/openspace, rural recreation and other recreational or open space categories.
Conservation	Areas known to require environmental protection from development, areas being preserved wich contain wetlands and/or habitats which serve to protect valuable threatened species and natural resources{Private and public conservation lands, Wetlands categories, passive recreation, institutional/conservation, marsh, conservation open space, public resource, wetland conservation, natural resource, conservation/floodplains, resource management/recreation, resource protection, passive park/buffer area, potential environmentally significant, preserve, environmentally sensitive lands, environmental systems corridor, conservation/protected, conservation/restricted, }
Institutional	Property designated as City, county, state, federal or other gov't, private or institutional entities {Institutional, governmental, public/semi public, public facilities, public land (except parks), Federal, Military, church use/religious, educational/schools, private wellfield, public grounds (except park), hospitals, utilities (treatment plants, water wells, quasi public}

Table A-1. Continued.

Category	Additional Information
Mining / Extractive	Mining and mineral extraction
Industrial	Indoor manufacturing, assembling, fabricating, and warehouse activities conducted indoors, mini-storage {heavy, light and medium industrial, planned industrial, industrial, industrial park, planned industrial park, general industrial, industrial employment center, wholesale commercial, commercial/industrial, airport industrial}
Commercial/Office	Property designated as stores, offices or other establishments used to serve the needs of the public {General Commercial, Commercial, Neighborhood Commercial, commercial/manufacturing, low intensity commercial, general commercial development, limited commercial development, downtown business, marine commercial, high intensity commercial, commercial and services (including lodging), historical resources, marina, tourist commercial, local convenience center, mixed commercial industrial, central business district, office/commercial, office, wholesale, community commercial, highway commercial, mixed use commercial, water oriented commercial, business, retail services, historic commercial, lakefront commercial, business district overlay, regional commercial, integrated office commercial, limited interchange, commercial village, Lodging, hotel/resort, RV Park, tourist accommodations.}
Mixed Use	PUDs (except where it is locally known the PUD is strictly residential or commercial or another land use), Mixed Use, regional activity center, Commercial/Residential, commercial/industrial, shoreline mixed use, residential/recreation, regional mixed use, residential/professional, downtown mixed use, mixed use planning district, residential/business, community mixed development, mixed use neighborhood, urban village, town center, redevelopment area, DRIS, Coordinated Development District, Planned Community}
Transportation	ROWs, Airports, Transportation Utilities, Etc
Water Body	Not all Future Land Use Maps include water as a category. In these cases, water bodies include a land use for an adjacent use.
Unknown	Information not available

APPENDIX B
KEY TO UNDERSTANDING THE FLUM ATLAS TABLES

This appendix contains all the data that was collected for each FLUM in this study. It is intended to be used as a reference for the condition of each FLUM at the time it was collected (June-August 2010). The first table contains a legend for understanding the atlas tables.

Table B-1. Explanation of fields present in the "Atlas of FLUM data" for each county

Field name	Description/Information	Source
LOCAL GOVT NAME	Local government name	Local government
LOCAL GOVT FLU DESIGNATION	FLUM designation	Local government comprehensive plan
SFWMD GEN FLU	SFWMD Generalized Future Land Use Category	SFWMD Generalized Future Land Use Categories (See Appendix A)
TOTAL ACREAGE	Acreage for that Future Land Use category	Calculated in ArcGIS
DENSITY	FLUM maximum density in dwelling units per acre (DU/acre)	Local government comprehensive plan
DENSITY HIGH	FLUM alternative maximum density (DU/acre); an exceptionally high density often available as a bonus for including workforce housing or meeting other criteria within a specific development.	Local government comprehensive plan
COMMENT FROM GOVT FLUM	Additional information relevant to the local FLUM category	Local government FLUM GIS file or local government Comprehensive Plan (often from the Future Land Use Element).
BUILDOUT DWELLING UNITS	The total number of dwelling units allowable under the current adopted comprehensive plan for this FLU, if all areas were built out at full capacity	This value is equal to DENSITY times TOTAL ACREAGE
BUILDOUT DWELLING UNITS HIGH	The total number of dwelling units allowable under the current adopted comprehensive plan for this FLU, if all areas were built out at full capacity, using all available density bonuses.	This value is equal to DENSITY HIGH times TOTAL ACREAGE

Table B-1. Continued.

Field name	Description/Information	Source
BUILDOUT POPULATION PROJECTION	The estimated population that could be accommodated, if all areas were built out at full capacity	This value is equal to BUILDOUT DWELLING UNITS multiplied by the appropriate U.S. Census persons per household.
BUILDOUT POPULATION PROJECTION HIGH	The estimated population that could be accommodated, if all areas were built out at full capacity, using all available density bonuses.	This value is equal to BUILDOUT DWELLING UNITS HIGH multiplied by the appropriate U.S. Census persons per household.

APPENDIX C
FUTURE LAND USE ATLAS FOR BROWARD COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table C-1. Atlas of FLUM data for Broward County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
BROWARD COUNTY	AGRICULTURAL	Agricultural	9,895	0.0	0.0		0	0	0	0
BROWARD COUNTY	COMMERCIAL	Commercial/Office	14,205	0.0	0.0		0	0	0	0
BROWARD COUNTY	COMMERCIAL RECREATION	Commercial/Office	4,327	0.0	0.0		0	0	0	0
BROWARD COUNTY	EMPLOYMENT CENTER - HIGH	Commercial/Office	1,812	0.0	0.0		0	0	0	0
BROWARD COUNTY	EMPLOYMENT CENTER - LOW	Commercial/Office	17	0.0	0.0		0	0	0	0
BROWARD COUNTY	OFFICE PARK	Commercial/Office	749	0.0	0.0		0	0	0	0
BROWARD COUNTY	TRANSIT ORIENTED CORRIDOR	COMMERCIAL/ OFFICE	2,721	0.0	0.0		0	0	0	0
BROWARD COUNTY	TRANSIT ORIENTED DEVELOPMENT	COMMERCIAL/ OFFICE	128	0.0	0.0		0	0	0	0
BROWARD COUNTY	CONSERVATION - NATURAL RESERVATIONS	CONSERVATION	2,753	0.0	0.0		0	0	0	0
BROWARD COUNTY	CONSERVATION - RESERVE WATER SUPPLY AREAS	CONSERVATION	78	0.0	0.0		0	0	0	0
BROWARD COUNTY	EVERGLADES	CONSERVATION	511,643	0.0	0.0	POLYGON INTERPOLATED BASED ON COUNTY BOUNDARY	0	0	0	0
BROWARD COUNTY	INDUSTRIAL	INDUSTRIAL	11,126	0.0	0.0		0	0	0	0
BROWARD COUNTY	COMMUNITY FACILITIES	INSTITUTIONAL	5,564	0.0	0.0		0	0	0	0
BROWARD COUNTY	ELECTRICAL GENERATION FACILITIES	INSTITUTIONAL	563	0.0	0.0		0	0	0	0

Table C-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
BROWARD COUNTY	UTILITIES	INSTITUTIONAL	1,755	0.0	0.0		0	0	0	0
BROWARD COUNTY	LOCAL ACTIVITY CENTER	MIXED USE	985	0.0	0.0		0	0	0	0
BROWARD COUNTY	REGIONAL ACTIVITY CENTER	MIXED USE	8,481	0.0	0.0		0	0	0	0
BROWARD COUNTY	RECREATION AND OPEN SPACE	RECREATION/OPEN SPACE	8,167	0.0	0.0		0	0	0	0
BROWARD COUNTY	MEDIUM (16) RESIDENTIAL	RESIDENTIAL, HIGH DENSITY	9,578	16.0	16.0		153,253	153,253	375,470	375,470
BROWARD COUNTY	MEDIUM-HIGH (25) RESIDENTIAL	RESIDENTIAL, HIGH DENSITY	4,144	25.0	25.0		103,605	103,605	253,832	253,832
BROWARD COUNTY	LOW (2) RESIDENTIAL	RESIDENTIAL, LOW DENSITY	3,030	2.0	2.0		6,060	6,060	14,847	14,847
BROWARD COUNTY	LOW (3) RESIDENTIAL	RESIDENTIAL, LOW DENSITY	17,952	3.0	3.0		53,855	53,855	131,946	131,946
BROWARD COUNTY	LOW (5) RESIDENTIAL	RESIDENTIAL, LOW DENSITY	41,382	5.0	5.0		206,910	206,910	506,931	506,931
BROWARD COUNTY	LOW-MEDIUM (10) RESIDENTIAL	RESIDENTIAL, MEDIUM DENSITY	11,318	10.0	10.0		113,177	113,177	277,283	277,283
BROWARD COUNTY	RESIDENTIAL IN IRREGULAR AREAS	RESIDENTIAL, UNKNOWN DENSITY	41,132	1.4	37.0	FLEXIBLE DENSITY UNSPECIFIED; DEPENDS ON NEIGHBORING LAND USES.	182,225	182,225	446,452	446,452
BROWARD COUNTY	HIGH (50) RESIDENTIAL	RESIDENTIAL, VERY HIGH DENSITY	1,194	50.0	50.0		59,684	59,684	146,226	146,226
BROWARD COUNTY	ESTATE (1) RESIDENTIAL	RESIDENTIAL, VERY LOW DENSITY	15,052	1.0	1.0		15,052	15,052	36,876	36,876
BROWARD COUNTY	PALM BEACH COUNTY - RURAL RESIDENTIAL 10	RESIDENTIAL, VERY LOW DENSITY	2,014	0.1	0.1		201	201	493	493

Table C-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
BROWARD COUNTY	RURAL ESTATES	RESIDENTIAL, VERY LOW DENSITY	1,254	1.0	1.0		1,254	1,254	3,073	3,073
BROWARD COUNTY	RURAL RANCHES	RESIDENTIAL, VERY LOW DENSITY	4,832	0.3	0.3		1,208	1,208	2,959	2,959
BROWARD COUNTY	RIGHT-OF-WAY	TRANSPORTATION	30,415	0.0	0.0		0	0	0	0
BROWARD COUNTY	TRANSPORTATION	TRANSPORTATION	11,707	0.0	0.0		0	0	0	0
BROWARD COUNTY	<UNSPECIFIED>	UNKNOWN	0.00033	0.0	0.0		0	0	0	0
BROWARD COUNTY	WATER	WATER BODY	7,555	0.0	0.0		0	0	0	0

APPENDIX D
FUTURE LAND USE ATLAS FOR COLLIER COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table D-1. Atlas of FLUM data for Collier County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
COLLIER COUNTY	Agricultural / Rural Designation	AGRICULTURAL	266,498	0.2	0.2		53,300	53,300	127,386	127,386
COLLIER COUNTY	Agricultural / Rural Mixed Use District	AGRICULTURAL	184,966	0.2	0.2		36,993	36,993	88,414	88,414
COLLIER COUNTY	Corkscrew Island Neighborhood Commercial Subdist	COMMERCIAL/OFFICE	161	0.0	0.0		0	0	0	0
COLLIER COUNTY	Goodlette/Pine Ridge Commercial Infill Subdistrict	COMMERCIAL/OFFICE	98	0.0	0.0		0	0	0	0
COLLIER COUNTY	Livingston Road Commercial Infill Subdistrict	COMMERCIAL/OFFICE	15	0.0	0.0		0	0	0	0
COLLIER COUNTY	Livingston/ Eatonwood Ln Commercial Infill Subdist	COMMERCIAL/OFFICE	20	0.0	0.0		0	0	0	0
COLLIER COUNTY	Livingston/Pine Ridge Commercial Infill Subdistric	COMMERCIAL/OFFICE	65	0.0	0.0		0	0	0	0
COLLIER COUNTY	Livingston/Radio Rd Commercial Infill Subdistrict	COMMERCIAL/OFFICE	5	16.0	16.0		87	87	209	209
COLLIER COUNTY	Livingston/Veterans Mem Commercial Infill Subdist	COMMERCIAL/OFFICE	11	0.0	0.0		0	0	0	0
COLLIER COUNTY	Vanderbilt Beach Rd Neighborhood Commercial Subdis	COMMERCIAL/OFFICE	17	0.0	0.0		0	0	0	0
COLLIER COUNTY	Vanderbilt Beach/Coller Blvd Commercial Subdist	COMMERCIAL/OFFICE	47	16.0	16.0		750	750	1,791	1,791
NAPLES	COMMERCIAL	COMMERCIAL/OFFICE	631	0.0	0.0		0	0	0	0
COLLIER COUNTY	Conservation Designation	CONSERVATION	857,563	0.0	0.0		0	0	0	0

Table D-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
COLLIER COUNTY	RF-Sending	CONSERVATION	42,580	0.0	0.0		0	0	0	0
NAPLES	CONSERVATION	CONSERVATION	837	0.0	0.0		0	0	0	0
COLLIER COUNTY	Industrial District	INDUSTRIAL	2,173	0.0	0.0		0	0	0	0
COLLIER COUNTY	Rural Industrial District	INDUSTRIAL	584	0.0	0.0		0	0	0	0
NAPLES	INSTITUTIONAL	INSTITUTIONAL	215	0.0	0.0		0	0	0	0
COLLIER COUNTY	Bayshore/Gateway Triangle Redevelopment	MIXED USE	1,770	0.0	0.0		0	0	0	0
COLLIER COUNTY	Buckley Mixed Use Subdistrict	MIXED USE	55	15.0	15.0		822	822	1,966	1,966
COLLIER COUNTY	Collier Blvd Community Facility Subdistrict	MIXED USE	80	0.0	0.0		0	0	0	0
COLLIER COUNTY	Davis Blvd / County Barn Rd Mixed Use Subdistrict	MIXED USE	27	4.0	4.0		106	106	254	254
COLLIER COUNTY	Henderson Creek Mixed Use Subdistrict	MIXED USE	82	0.0	0.0		360	360	860	860
COLLIER COUNTY	Interchange Activity Center Subdistrict	MIXED USE	454	26.0	26.0		11,798	11,798	28,198	28,198
COLLIER COUNTY	Mixed Use Activity Center Subdistrict	MIXED USE	2,600	4.0	16.0		10,400	41,601	24,857	99,426
COLLIER COUNTY	Orange Blossom Mixed Use District	MIXED USE	45	0.0	0.0		0	0	0	0
COLLIER COUNTY	Rural Settlement Area District	MIXED USE	2,813	0.0	0.0		0	0	0	0
COLLIER COUNTY	Urban Residential Fringe Subdistrict	MIXED USE	5,378	16.0	16.0		86,049	86,049	205,657	205,657
COLLIER COUNTY	Urban Residential Subdistrict	MIXED USE	76,978	1.5	1.5		115,467	115,467	275,967	275,967
NAPLES	DOWNTOWN	MIXED USE	394	0.0	0.0		0	0	0	0
NAPLES	WATERFRONT	MIXED USE	62	0.0	0.0		0	0	0	0

Table D-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
NAPLES	RECREATION	RECREATION/OPEN SPACE	1,064	0.0	0.0		0	0	0	0
NAPLES	RESIDENTIAL	RESIDENTIAL, HIGH DENSITY	4,170	25.0	25.0		37,382	37,382	89,343	89,343
COLLIER COUNTY	Urban Coastal Fringe Subdistrict	RESIDENTIAL, LOW DENSITY	12,102	4.0	4.0		48,408	48,408	115,696	115,696
COLLIER COUNTY	Residential Density Bands	RESIDENTIAL, UNKNOWN DENSITY	13,668	3.0	29.0		41,003	396,362	97,997	947,306
COLLIER COUNTY	Estates Desingation	RESIDENTIAL, VERY LOW DENSITY	101,289	0.4	0.4		40,515	40,515	96,832	96,832
COLLIER COUNTY	RF-Neutral	RESIDENTIAL, VERY LOW DENSITY	9,395	0.2	0.2		1,879	1,879	4,491	4,491
COLLIER COUNTY	RF-Receiving	RESIDENTIAL, VERY LOW DENSITY	22,451	0.2	1.0		4,490	22,451	10,732	53,658
NAPLES	BEACH FRONT ESTATES	RESIDENTIAL, VERY LOW DENSITY	54	0.7	0.7		36	36	86	86
NAPLES	AIRPORT	TRANSPORTATION	622	0.0	0.0		0	0	0	0
NAPLES	RUNWAY	TRANSPORTATION	28	0.0	0.0		0	0	0	0
COLLIER COUNTY	Incorporated Area	UNKNOWN	17,922	0.0	0.0		0	0	0	0

APPENDIX E
FUTURE LAND USE ATLAS FOR GLADES COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table E-1. Atlas of FLUM data for Glades County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
GLADES COUNTY	Agriculture	AGRICULTURAL	404,136	0.1	0.1		20,207	20,207	50,719	50,719
GLADES COUNTY	Agriculture/Residential	AGRICULTURAL	16,240	0.2	0.2		3,248	3,248	8,153	8,153
GLADES COUNTY	Commerical	COMMERCIAL/OFFICE	1,061	0.0	0.0		0	0	0	0
GLADES COUNTY	Conservation Overlay	CONSERVATION	100,131	0.1	0.1		5,007	5,007	12,566	12,566
GLADES COUNTY	Institution	INSTITUTIONAL	596	0.0	0.0		0	0	0	0
GLADES COUNTY	Landfill	INSTITUTIONAL	41	0.0	0.0		0	0	0	0
GLADES COUNTY	Industrial	MINING/EXTRACTIVE	1,789	0.0	0.0	Mostly includes sand mines at this time.	0	0	0	0
GLADES COUNTY	Transitional	MIXED USE	11,339	7.0	7.0	Allows a mix of uses, residential maximum density is 7 units per acre	79,375	79,375	199,231	199,231
GLADES COUNTY	Park	RECREATION/OPEN SPACE	499	0.0	0.0		0	0	0	0
GLADES COUNTY	American Prime	RESIDENTIAL, LOW DENSITY	988	1.6	1.6	1.58 dwelling units per acre	1,561	1,561	3,919	3,919
GLADES COUNTY	Muse Village	RESIDENTIAL, LOW DENSITY	1,268	2.8	2.8	2.76 dwelling units per acre, but limited to 324 due to the level of service on SR 29	324	324	813	813
GLADES COUNTY	Residential	RESIDENTIAL, MEDIUM DENSITY	16,274	7.0	7.0		113,916	113,916	285,929	285,929
GLADES COUNTY	Muse Airpark	TRANSPORTATION	58	0.6	0.6		35	35	87	87
GLADES COUNTY	Brighton Indian Reservation	UNKNOWN	35,295	0.0	0.0	Not within Glades County Jurisdiction	0	0	0	0

Table E-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
GLADES COUNTY	Lake Okeechobee	WATER BODY	134,504	0.0	0.0	Not landuse classification	0	0	0	0

APPENDIX F
FUTURE LAND USE ATLAS FOR LEE COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table F-1. Atlas of FLUM data for Lee County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH)	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
CAPE CORAL	COMMERCIAL ACTIVITY CENTER	COMMERCIAL/OFFICE	442	4.4	4.4	OVERALL DENSITY IS REGULATED.	1,945	1,945	4,842	4,842
CAPE CORAL	COMMERCIAL/PROFESSIONAL	COMMERCIAL/OFFICE	1,465	0.0	0.0		0	0	0	0
CAPE CORAL	HIGHWAY COMMERCIAL	COMMERCIAL/OFFICE	1	0.0	0.0		0	0	0	0
FORT MYERS	COMMERCIAL GENERAL	COMMERCIAL/OFFICE	1	0.0	0.0		0	0	0	0
FORT MYERS	COMMERCIAL INTENSIVE	COMMERCIAL/OFFICE	34	0.0	0.0		0	0	0	0
FORT MYERS	General Commercial	COMMERCIAL/OFFICE	2,347	0.0	0.0		0	0	0	0
FORT MYERS	Intensive Commercial	COMMERCIAL/OFFICE	2,753	0.0	0.0		0	0	0	0
FORT MYERS	Professional Office	COMMERCIAL/OFFICE	616	0.0	0.0		0	0	0	0
LEE COUNTY	Commercial	COMMERCIAL/OFFICE	143	0.0	0.0		0	0	0	0
LEE COUNTY	General Commercial Interchange	COMMERCIAL/OFFICE	61	0.0	0.0		0	0	0	0
LEE COUNTY	General Interchange	COMMERCIAL/OFFICE	1,383	0.0	0.0		0	0	0	0
CAPE CORAL	NATURAL RESOURCES/PRESERVATION	CONSERVATION	9,868	0.0	0.0		0	0	0	0
FORT MYERS	CONSERVATION LANDS	CONSERVATION	1,063	0.0	0.0		0	0	0	0
LEE COUNTY	Conservation Lands Upland	CONSERVATION	25,432	0.0	0.0		0	0	0	0
LEE COUNTY	Conservation Lands Wetland	CONSERVATION	43,228	0.0	0.0		0	0	0	0
LEE COUNTY	Wetlands	CONSERVATION	51,289	0.0	0.0		0	0	0	0
CAPE CORAL	INDUSTRIAL	INDUSTRIAL	752	0.0	0.0		0	0	0	0

Table F-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH)	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
FORT MYERS	Heavy Industrial	INDUSTRIAL	1,065	0.0	0.0		0	0	0	0
FORT MYERS	LIGHT INDUSTRIAL	INDUSTRIAL	13	0.0	0.0		0	0	0	0
FORT MYERS	Light Industrial	INDUSTRIAL	1,193	0.0	0.0		0	0	0	0
LEE COUNTY	Industrial Commercial Interchange	INDUSTRIAL	377	0.0	0.0		0	0	0	0
LEE COUNTY	Industrial Development	INDUSTRIAL	4,865	0.0	0.0		0	0	0	0
LEE COUNTY	Industrial Interchange	INDUSTRIAL	165	0.0	0.0		0	0	0	0
LEE COUNTY	Tradeport	INDUSTRIAL	3,120	0.0	0.0		0	0	0	0
LEE COUNTY	University Village Interchange	INDUSTRIAL	63	0.0	0.0		0	0	0	0
CAPE CORAL	PUBLIC FACILITY	INSTITUTIONAL	2,119	0.0	0.0		0	0	0	0
FORT MYERS	CIVIC	INSTITUTIONAL	71	0.0	0.0		0	0	0	0
LEE COUNTY	Public Facilities	INSTITUTIONAL	6,401	0.0	0.0		0	0	0	0
CAPE CORAL	DOWNTOWN MIXED FLEXIBLE	MIXED USE	285	40.0	40.0		11,383	11,383	28,344	28,344
CAPE CORAL	DEVELOPMENT OVERLAY DISTRICT	MIXED USE	5	0.0	0.0		0	0	0	0
CAPE CORAL	MIXED USE	MIXED USE	2,000	4.4	4.4	DENSITY BONUS AVAILABLE.	8,798	8,798	21,908	21,908
CAPE CORAL	MIXED USE PRESERVE	MIXED USE	1,004	4.4	4.4		4,419	4,419	11,004	11,004
CAPE CORAL	MIXED USE PRESERVE DISTRICT	MIXED USE	161	4.4	4.4		711	711	1,769	1,769
CAPE CORAL	PINE ISLAND ROAD DISTRICT	MIXED USE	2,503	24.0	24.0		60,070	60,070	149,575	149,575

Table F-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH)	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
CAPE CORAL	SUB-DISTRICTS	MIXED USE	794	0.0	0.0	LOCATION-SPECIFIC CAPPED DENSITIES AND INTENSITIES APPLY.	0	0	0	0
FORT MYERS	EASTWOOD VILLAGE MIXED USE	MIXED USE	850	0.0	0.0	MAX 2600 DWELLING UNITS.	2,600	2,600	6,240	6,240
FORT MYERS	MASTER DEVELOPMENT PLAN	MIXED USE	1,824	20.0	20.0		36,489	36,489	87,575	87,575
FORT MYERS	Mixed Use	MIXED USE	2,411	0.0	0.0		0	0	0	0
FORT MYERS	Mixed Use Residential	MIXED USE	499	3.0	3.0		1,497	1,497	3,593	3,593
FORT MYERS	NeighborHood Redevelopment District	MIXED USE	82	0.0	0.0		0	0	0	0
FORT MYERS	SPECIAL DEVELOPMENT AREA	MIXED USE	2,706	0.0	0.0		0	0	0	0
FORT MYERS	URBAN CENTER	MIXED USE	266	30.0	60.0		7,982	15,964	19,156	38,313
FORT MYERS	URBAN CORE	MIXED USE	113	50.0	100.0		5,643	11,286	13,543	27,086
FORT MYERS	URBAN GENERAL	MIXED USE	68	6.0	12.0		410	820	984	1,968
LEE COUNTY	Burnt Store Marina Village	MIXED USE	19	0.0	0.0	160 RESIDENTIAL UNITS ALLOWED	160	160	370	370
LEE COUNTY	Central Urban	MIXED USE	33,098	15.0	15.0		496,473	496,473	1,146,854	1,146,854
LEE COUNTY	Destination Resort Mixed Use Water Dependent	MIXED USE	30	9.4	9.4	ALSO COMMERCIAL, INDUSTRIAL, AND RESORT USES.	281	281	650	650
LEE COUNTY	Intensive Development	MIXED USE	6,013	22.0	22.0		132,286	132,286	305,580	305,580

Table F-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH)	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
LEE COUNTY	New Community	MIXED USE	2,498	0.0	0.0		0	0	0	0
LEE COUNTY	University Community	MIXED USE	2,501	2.5	15.0	CLUSTERED DENSITIES OF 15 DU/ACRE.	6,252	37,512	14,442	86,652
LEE COUNTY	Urban Community	MIXED USE	66,030	10.0	10.0		660,298	660,298	1,525,288	1,525,288
CAPE CORAL	OPEN SPACE	RECREATION/OPEN SPACE	87	0.0	0.0		0	0	0	0
CAPE CORAL	PARKS AND RECREATION	RECREATION/OPEN SPACE	1,932	0.0	0.0		0	0	0	0
FORT MYERS	CIVIC RECREATION	RECREATION/OPEN SPACE	14	0.0	0.0		0	0	0	0
FORT MYERS	Recreation & Open Space	RECREATION/OPEN SPACE	860	0.0	0.0		0	0	0	0
CAPE CORAL	MULTIPLE FAMILY RESIDENTIAL	RESIDENTIAL, HIGH DENSITY	16,875	16.0	20.0	DENSITY BONUS UP TO 20 DU/ACRE POSSIBLE.	270,005	337,506	672,312	840,390
FORT MYERS	High Density Multi-Family (Max Density 16 du/ac)	RESIDENTIAL, HIGH DENSITY	588	16.0	16.0		9,405	9,405	22,573	22,573
CAPE CORAL	SINGLE FAMILY RESIDENTIAL	RESIDENTIAL, LOW DENSITY	15,496	4.4	4.4		68,182	68,182	169,772	169,772
FORT MYERS	HERITAGE LAKES SINGLE FAMILY DISTRICT	RESIDENTIAL, LOW DENSITY	273	1.0	1.0	MAX 185 DWELLING UNITS.	185	185	444	444
FORT MYERS	Low Density Single Family (Max Density 1.36 du/ac)	RESIDENTIAL, LOW DENSITY	197	1.4	1.4		267	267	642	642
LEE COUNTY	Outlying Suburban	RESIDENTIAL, LOW DENSITY	25,796	3.0	3.0		77,388	77,388	178,767	178,767
LEE COUNTY	Sub-Outlying Suburban	RESIDENTIAL, LOW DENSITY	3,459	2.0	2.0		6,918	6,918	15,980	15,980

Table F-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH)	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
FORT MYERS	Low Density Single Family (Max Density 5.45 du/ac)	RESIDENTIAL, MEDIUM DENSITY	550	5.5	5.5		2,997	2,997	7,194	7,194
FORT MYERS	Low Density Single-Family (Max Density 6.22 du/ac)	RESIDENTIAL, MEDIUM DENSITY	1,955	6.2	6.2		12,157	12,157	29,177	29,177
FORT MYERS	Medium Density Multi-Family (Max Density 12 du/ac)	RESIDENTIAL, MEDIUM DENSITY	622	12.0	12.0		7,467	7,467	17,920	17,920
FORT MYERS	Medium Density Single Family / Duplex (Max Density 7.26 du/ac)	RESIDENTIAL, MEDIUM DENSITY	361	7.3	7.3		2,623	2,623	6,296	6,296
FORT MYERS	Medium Density Single-Family (Max Density 7.26 du/ac)	RESIDENTIAL, MEDIUM DENSITY	2,121	7.3	7.3		15,398	15,398	36,955	36,955
LEE COUNTY	Suburban	RESIDENTIAL, MEDIUM DENSITY	36,356	6.0	6.0		218,138	218,138	503,900	503,900
CAPE CORAL	LOW DENSITY RESIDENTIAL I	RESIDENTIAL, VERY LOW DENSITY	65	0.5	0.5		30	30	75	75
CAPE CORAL	LOW DENSITY RESIDENTIAL II	RESIDENTIAL, VERY LOW DENSITY	120	0.9	0.9		111	111	276	276
LEE COUNTY	Coastal Rural	RESIDENTIAL, VERY LOW DENSITY	6,927	0.1	1.0	HIGHER DENSITY (1 DU/ACRE) POSSIBLE IF NATIVE HABITAT PRESERVED.	693	6,927	1,600	16,002
LEE COUNTY	Density Reduction / Groundwater Resource	RESIDENTIAL, VERY LOW DENSITY	59,262	0.1	0.1		5,926	5,926	13,689	13,689
LEE COUNTY	Open Lands	RESIDENTIAL, VERY LOW DENSITY	12,819	0.1	0.2	CLUSTERED DENSITIES OF 0.2 DU/ACRE.	1,282	2,564	2,961	5,922

Table F-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH)	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
LEE COUNTY	Outer Island	RESIDENTIAL, VERY LOW DENSITY	761	1.0	1.0		761	761	1,758	1,758
LEE COUNTY	Rural	RESIDENTIAL, VERY LOW DENSITY	31,830	1.0	1.0		31,830	31,830	73,527	73,527
LEE COUNTY	Rural Community Preserve	RESIDENTIAL, VERY LOW DENSITY	8,921	1.0	1.0		8,921	8,921	20,608	20,608
CAPE CORAL	PRIVATELY OWNED ROADWAYS WITH A STRAP NUMBER	TRANSPORTATION	121	0.0	0.0	THIS IS NOT A LOCAL GOVT FLUM CATEGORY.	0	0	0	0
LEE COUNTY	Airport	TRANSPORTATION	5,914	0.0	0.0		0	0	0	0
CAPE CORAL	RECENTLY ANNEXED LAND	UNKNOWN	1,608	0.0	0.0		0	0	0	0
FORT MYERS	NA	UNKNOWN	418	0.0	0.0		0	0	0	0
CAPE CORAL	PRIVATELY OWNED LAKES WITH A STRAP NUMBER	WATER BODY	220	0.0	0.0	THIS IS NOT A LOCAL GOVT FLUM CATEGORY.	0	0	0	0

APPENDIX G
FUTURE LAND USE ATLAS FOR MARTIN COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table G-1. Atlas of FLUM data for Martin County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DEN SITY	DENSI TY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATI ON PROJECTIO NS	BUILDOUT POPULATI ON PROJECTIO NS HIGH
MARTIN COUNTY	AGRICULTURAL	AGRICULTURAL	191,251	0.1	0.1		9,563	9,563	21,324	21,324
MARTIN COUNTY	AGRICULTURE RANCHETTE	AGRICULTURAL	29,990	0.2	0.2		5,998	5,998	13,376	13,376
MARTIN COUNTY	RURAL HERITAGE	AGRICULTURAL	382	0.5	0.5		191	191	426	426
MARTIN COUNTY	COMMERCIAL GENERAL	COMMERCIAL/OFFIC E	1,677	0.0	0.0		0	0	0	0
MARTIN COUNTY	COMMERCIAL LIMITED	COMMERCIAL/OFFIC E	355	0.0	0.0		0	0	0	0
MARTIN COUNTY	CONSERVATION	CONSERVATION	43,636	0.0	0.0		0	0	0	0
MARTIN COUNTY	INDUSTRIAL	INDUSTRIAL	4,870	0.0	0.0		0	0	0	0
MARTIN COUNTY	POWER GENERATION	INDUSTRIAL	11,510	0.0	0.0		0	0	0	0
MARTIN COUNTY	GENERAL INSTITUTIONAL	INSTITUTIONAL	3,308	0.0	0.0		0	0	0	0
MARTIN COUNTY	COMMERCIAL WATERFRONT	MIXED USE	462	10.0	10.0		4,622	4,622	10,306	10,306
MARTIN COUNTY	COMMERCIAL/OFFIC E/RESIDENTIAL	MIXED USE	678	10.0	10.0		6,784	6,784	15,128	15,128
MARTIN COUNTY	RECREATIONAL	RECREATION/OPEN SPACE	1,639	0.0	0.0		0	0	0	0
MARTIN COUNTY	ESTATE DENSITY 2UPA	RESIDENTIAL, LOW DENSITY	13,245	2.0	2.0		26,489	26,489	59,071	59,071
MARTIN COUNTY	LOW DENSITY	RESIDENTIAL, LOW DENSITY	14,407	5.0	5.0		72,036	72,036	160,641	160,641
MARTIN COUNTY	HIGH DENSITY	RESIDENTIAL, MEDIUM DENSITY	594	10.0	10.0		5,943	5,943	13,252	13,252
MARTIN COUNTY	MEDIUM DENSITY	RESIDENTIAL, MEDIUM DENSITY	2,516	8.0	8.0		20,124	20,124	44,877	44,877
MARTIN COUNTY	MOBILE HOME	RESIDENTIAL, MEDIUM DENSITY	1,314	8.0	8.0		10,515	10,515	23,449	23,449
MARTIN COUNTY	ESTATE DENSITY 1UPA	RESIDENTIAL, VERY LOW DENSITY	1,961	1.0	1.0		1,961	1,961	4,372	4,372

Table G-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DEN SITY	DENSI TY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATI ON PROJECTIO NS	BUILDOUT POPULATI ON PROJECTIO NS HIGH
MARTIN COUNTY	RURAL DENSITY	RESIDENTIAL, VERY LOW DENSITY	13,351	0.5	0.5		6,675	6,675	14,886	14,886
MARTIN COUNTY	<BLANK>	UNKNOWN	143	0.0	0.0		0	0	0	0
MARTIN COUNTY	NO DATA	UNKNOWN	2,454	0.0	0.0		0	0	0	0
MARTIN COUNTY	LAKE OKEECHOBEE	WATER BODY	60,844	0.0	0.0	INTERPOLATED FROM ORIGINAL COUNTY FLUM SHAPEFILE	0	0	0	0
MARTIN COUNTY	WATER	WATER BODY	292	0.0	0.0		0	0	0	0
STUART	COMMERCIAL	COMMERCIAL/OFFIC E	967	10.0	15.0	DENSITY AND INTENSITY VARY IF WITHIN CRA BOUNDARIES	9,672	14,507	21,568	32,351
STUART	CONSERVATION	CONSERVATION	251	0.0	0.0		0	0	0	0
STUART	INDUSTRIAL	INDUSTRIAL	94	0.0	0.0		0	0	0	0
STUART	PRIVATE INSTITUTIONAL	INSTITUTIONAL	151	10.0	10.0		1,512	1,512	3,373	3,373
STUART	PUBLIC	INSTITUTIONAL	44	0.0	0.0		0	0	0	0
STUART	PUBLIC INSTITUTIONAL	INSTITUTIONAL	197	0.0	0.0		0	0	0	0
STUART	DOWNTOWN REDEVELOPMENT	MIXED USE	270	15.0	30.0		4,056	8,112	9,045	18,090
STUART	EAST STUART	MIXED USE	56	15.0	15.0		840	840	1,872	1,872
STUART	MARINE/INDUSTRIA L	MIXED USE	13	15.0	15.0		191	191	426	426
STUART	NEIGHBORHOOD/SP ECIAL DISTRICT	MIXED USE	58	15.0	15.0	DENSITY AND INTENSITY VARY IF WITHIN CRA BOUNDARIES	866	866	1,931	1,931

Table G-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DEN SITY	DENSI TY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATI ON PROJECTIO NS	BUILDOUT POPULATI ON PROJECTIO NS HIGH
STUART	OFFICE/RESIDENTIAL	MIXED USE	143	10.0	15.0	DENSITY AND INTENSITY VARY IF WITHIN CRA BOUNDARIES	1,431	2,146	3,190	4,786
STUART	RECREATION	RECREATION/OPEN SPACE	47	0.0	0.0		0	0	0	0
STUART	MULTI-FAMILY RESIDENTIAL	RESIDENTIAL, HIGH DENSITY	502	10.0	15.0	DENSITY AND INTENSITY VARY IF WITHIN CRA BOUNDARIES	5,023	7,534	11,200	16,801
STUART	LOW DENSITY RESIDENTIAL	RESIDENTIAL, MEDIUM DENSITY	826	7.0	7.0		5,780	5,780	12,890	12,890

APPENDIX H
FUTURE LAND USE ATLAS FOR MIAMI-DADE COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table H-1. Atlas of FLUM data for Miami-Dade County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
MIAMI DADE COUNTY	AGRICULTURE	AGRICULTURAL	79,388	0.0	0.0		0	0	0	0
CORAL GABLES	COMMERCIAL HIGH-RISE INTENSITY	COMMERCIAL/OFFICE	111	0.0	0.0	ADDITIONAL 25% FAR AVAILABLE FOR TDRs. RESIDENTIAL USES PERMITTED AS PART OF MIXED-USE DEVELOPMENT.	0	0	0	0
CORAL GABLES	COMMERCIAL LOW-RISE INTENSITY	COMMERCIAL/OFFICE	112	0.0	0.0	ADDITIONAL 25% FAR AVAILABLE FOR TDRs. RESIDENTIAL USES PERMITTED AS PART OF MIXED-USE DEVELOPMENT.	0	0	0	0
CORAL GABLES	COMMERCIAL MID-RISE INTENSITY	COMMERCIAL/OFFICE	61	0.0	0.0	ADDITIONAL 25% FAR AVAILABLE FOR TDRs. RESIDENTIAL USES PERMITTED AS PART OF MIXED-USE DEVELOPMENT.	0	0	0	0
MIAMI DADE COUNTY	BUSINESS AND OFFICE	COMMERCIAL/OFFICE	20,222	0.0	0.0		0	0	0	0
NORTH MIAMI BEACH	BUSINESS	COMMERCIAL/OFFICE	462	0.0	0.0	15 STORIES OR 150 FEET	0	0	0	0
SURFSIDE	GENERAL RETAIL/SERVICES	COMMERCIAL/OFFICE	6	0.0	0.0		0	0	0	0
CORAL GABLES	CONSERVATION AREAS	CONSERVATION	1,188	0.0	0.0	FAR 0.0, EXCEPT FOR DESIGNATED AREAS SPECIFIED FOR LIMITED SUPPORT FACILITIES	0	0	0	0
MIAMI DADE COUNTY	ENVIRONMENTAL PROTECTION	CONSERVATION	333,951	0.0	0.0		0	0	0	0

Table H-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
MIAMI DADE COUNTY	ENVIRONMENTALLY PROTECTED PARKS	CONSERVATION	528,789	0.0	0.0		0	0	0	0
MIAMI DADE COUNTY	INDUSTRIAL AND OFFICE	INDUSTRIAL	22,753	0.0	0.0		0	0	0	0
MIAMI DADE COUNTY	RESTRICTED INDUSTRIAL AND OFFICE	INDUSTRIAL	3,318	0.0	0.0		0	0	0	0
NORTH MIAMI BEACH	INDUSTRIAL	INDUSTRIAL	66	0.0	0.0	4 STORIES OR 45 FEET.	0	0	0	0
CORAL GABLES	EDUCATION	INSTITUTIONAL	76	0.0	0.0		0	0	0	0
CORAL GABLES	HOSPITAL	INSTITUTIONAL	10	0.0	0.0		0	0	0	0
CORAL GABLES	PUBLIC BUILDINGS AND GROUNDS	INSTITUTIONAL	27	0.0	0.0		0	0	0	0
CORAL GABLES	RELIGIOUS/INSTITUTIONAL	INSTITUTIONAL	161	0.0	0.0		0	0	0	0
CORAL GABLES	UNIVERSITY	INSTITUTIONAL	229	0.0	0.0	0.5 FAR IS FOR ENTIRE CAMPUS AS A PLANNED DEVELOPMENT SITE.	0	0	0	0
MIAMI DADE COUNTY	INSTITUTIONS, UTILITIES AND COMMUNICATION	INSTITUTIONAL	11,279	0.0	0.0		0	0	0	0
NORTH MIAMI BEACH	PUBLIC AND QUASI-PUBLIC	INSTITUTIONAL	104	0.0	0.0		0	0	0	0
SURFSIDE	COMMUNITY FACILITIES	INSTITUTIONAL	1	0.0	0.0		0	0	0	0
SURFSIDE	PUBLIC BUILDINGS AND GROUNDS	INSTITUTIONAL	2	0.0	0.0		0	0	0	0

Table H-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
MIAMI DADE COUNTY	OFFICE/RESIDENTIAL	MIXED USE	2,826	0.0	0.0	DENSITY ALLOWED AT OR 1 CATEGORY HIGHER THAN ADJACENT LAND USE.	0	0	0	0
MIAMI BEACH NORTH	MIXED USE	MIXED USE	24	32.0	32.0	18 STORIES AND 210 FEET.	755	755	2,181	2,181
MIAMI BEACH NORTH	MU/12-40 MIXED USE RESIDENTIAL	MIXED USE	20	40.0	40.0	12 STORIES AND 160 FEET.	789	789	2,280	2,280
MIAMI BEACH NORTH	MU/18-75 MIXED USE RESIDENTIAL	MIXED USE	8	75.0	75.0	18 STORIES AND 210 FEET.	600	600	1,735	1,735
MIAMI BEACH	MU/TC MIXED USE TOWN CENTER	MIXED USE	115	75.0	75.0	15 STORIES AND 150 FEET	8,649	8,649	24,997	24,997
CORAL GABLES	OPEN SPACE	RECREATION/OPEN SPACE	22	0.0	0.0		0	0	0	0
CORAL GABLES	PARKS AND RECREATION	RECREATION/OPEN SPACE	1,007	0.0	0.0		0	0	0	0
MIAMI DADE COUNTY	MIAMI METRO ZOO ENTERTAINMENT AREA	RECREATION/OPEN SPACE	172	0.0	0.0		0	0	0	0
MIAMI DADE COUNTY	OPEN LAND	RECREATION/OPEN SPACE	39,339	0.0	0.0		0	0	0	0
MIAMI DADE COUNTY	PARKS AND RECREATION	RECREATION/OPEN SPACE	13,165	0.0	0.0		0	0	0	0
MIAMI BEACH NORTH	RECREATION AND OPEN SPACE	RECREATION/OPEN SPACE	352	0.0	0.0		0	0	0	0
SURFSIDE	PRIVATE RECREATION	RECREATION/OPEN SPACE	5	0.0	0.0		0	0	0	0

Table H-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
SURFSIDE	PUBLIC RECREATION	RECREATION/OPEN SPACE	40	0.0	0.0		0	0	0	0
CORAL GABLES	RESIDENTIAL (MULTI-FAMILY) LOW DENSITY	RESIDENTIAL, HIGH DENSITY	57	20.0	25.0		1,138	1,423	2,630	3,287
MIAMI DADE COUNTY	LOW DENSITY RESIDENTIAL with DENSITY INCREASE 1	RESIDENTIAL, HIGH DENSITY	637	13.0	20.8	17% TO 60% DENSITY INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING.	8,277	13,243	23,505	37,609
MIAMI DADE COUNTY	LOW MEDIUM DENSITY RESIDENTIAL W/ DENSITY INCREASE 1	RESIDENTIAL, HIGH DENSITY	271	25.0	40.0	GOV_DU_HI2 REPRESENTS THE 17% TO 60% DENSITY INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING.	6,784	10,854	19,266	30,826
MIAMI DADE COUNTY	LOW-MEDIUM DENSITY RESIDENTIAL (LMDR) 5-13 DU/AC	RESIDENTIAL, HIGH DENSITY	25,975	13.0	20.8	GOV_DU_HI2 REPRESENTS THE 17% TO 60% DENSITY INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING.	337,675	540,280	958,996	1,534,394
MIAMI DADE COUNTY	MEDIUM DENSITY RESIDENTIAL (MDR) 13-25 DU/AC	RESIDENTIAL, HIGH DENSITY	12,083	25.0	40.0	GOV_DU_HI2 REPRESENTS THE 17% TO 60% DENSITY INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING.	302,084	483,335	857,920	1,372,671
NORTH MIAMI BEACH	RESIDENTIAL MEDIUM DENSITY	RESIDENTIAL, HIGH DENSITY	91	17.0	17.0		1,550	1,550	4,480	4,480
MIAMI DADE COUNTY	ESTATE DENSITY RESIDENTIAL (EDR) 1-2.5 DU/AC	RESIDENTIAL, LOW DENSITY	24,596	2.5	4.0	17% TO 60% DENSITY INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING.	61,491	98,385	174,634	279,414
CORAL GABLES	RESIDENTIAL (MULTI-FAMILY) DUPLEX DENSITY	RESIDENTIAL, MEDIUM DENSITY	69	9.0	9.0		621	621	1,435	1,435

Table H-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
CORAL GABLES	RESIDENTIAL (SINGLE-FAMILY) LOW DENSITY	RESIDENTIAL, MEDIUM DENSITY	3,398	6.0	6.0		20,386	20,386	47,091	47,091
MIAMI DADE COUNTY	ESTATE DENSITY RESIDENTIAL with DENSITY INCREASE 1	RESIDENTIAL, MEDIUM DENSITY	159	6.0	9.6	17% TO 60% DENSITY INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING.	956	1,529	2,714	4,343
MIAMI DADE COUNTY	LOW DENSITY RESIDENTIAL (LDR) 2.5-6 DU/AC	RESIDENTIAL, MEDIUM DENSITY	86,141	6.0	10.0	VARIOUS DENSITY BONUSES AVAILABLE, FROM 10 DU/ACRE TO 60% INCREASE.	516,844	861,407	1,467,838	2,446,397
NORTH MIAMI BEACH	RESIDENTIAL LOW DENSITY	RESIDENTIAL, MEDIUM DENSITY	1,658	8.0	8.0		13,267	13,267	38,342	38,342
SURFSIDE	LOW DENSITY RESIDENTIAL	RESIDENTIAL, MEDIUM DENSITY	175	8.0	8.0		1,400	1,400	3,976	3,976
CORAL GABLES	RESIDENTIAL (MULTI-FAMILY) HIGH DENSITY	RESIDENTIAL, VERY HIGH DENSITY	27	60.0	75.0		1,644	2,055	3,798	4,748
CORAL GABLES	RESIDENTIAL (MULTI-FAMILY) MEDIUM DENSITY	RESIDENTIAL, VERY HIGH DENSITY	88	40.0	50.0		3,500	4,375	8,086	10,107
MIAMI DADE COUNTY	HIGH DENSITY RESIDENTIAL (HDR) 50-125 DU/AC	RESIDENTIAL, VERY HIGH DENSITY	474	125.0	200.0	17% TO 60% DENSITY INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING. GOV_DU_HI2 REPRESENTS THE 17% TO 60% DENSITY	59,292	94,867	168,389	269,423
MIAMI DADE COUNTY	MEDIUM DENSITY RESIDENTIAL W/ DENSITY INCREASE 1	RESIDENTIAL, VERY HIGH DENSITY	7	60.0	96.0	INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING. GOV_DU_HI2 REPRESENTS THE 17% TO 60% DENSITY	391	625	1,109	1,774
MIAMI DADE COUNTY	MEDIUM-HIGH DENSITY RESIDENTIAL (MHDR) 25-60 DU/AC	RESIDENTIAL, VERY HIGH DENSITY	5,160	60.0	96.0	INCREASE POSSIBLE WITH AFFORDABLE, WORKFORCE, OR NON-PROFIT HOUSING.	309,612	495,379	879,297	1,406,876

Table H-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
NORTH MIAMI BEACH	RESIDENTIAL HIGH DENSITY	RESIDENTIAL, VERY HIGH DENSITY	326	32.0	32.0		10,429	10,429	30,141	30,141
SURFSIDE	HIGH DENSITY RESIDENTIAL/TOURIST	RESIDENTIAL, VERY HIGH DENSITY	26	109.0	109.0		2,859	2,859	8,120	8,120
SURFSIDE	MODERATE DENSITY RESIDENTIAL	RESIDENTIAL, VERY HIGH DENSITY	3	58.0	108.0	GOV_DU_HI2 REPRESENTS HOTEL UNITS/ACRE.	179	333	508	946
SURFSIDE	MODERATE DENSITY RESIDENTIAL/TOURIST	RESIDENTIAL, VERY HIGH DENSITY	5	58.0	108.0	GOV_DU_HI2 REPRESENTS HOTEL UNITS/ACRE.	274	510	778	1,448
SURFSIDE	MODERATE-HIGH DENSITY RESIDENTIAL	RESIDENTIAL, VERY HIGH DENSITY	15	79.0	109.0	GOV_DU_HI2 REPRESENTS HOTEL UNITS/ACRE.	1,170	1,615	3,323	4,585
CORAL GABLES	RIGHT OF WAYS	TRANSPORTATION	30	0.0	0.0		0	0	0	0
MIAMI DADE COUNTY	TERMINALS	TRANSPORTATION	7,408	0.0	0.0		0	0	0	0
MIAMI DADE COUNTY	TRANSPORTATION (ROW, RAIL, METRORAIL, ETC.)	TRANSPORTATION	10,796	0.0	0.0		0	0	0	0
SURFSIDE	PARKING	TRANSPORTATION	4	0.0	0.0		0	0	0	0
CORAL GABLES	<BLANK>	UNKNOWN	11	0.0	0.0		0	0	0	0
MIAMI DADE COUNTY	WATER	WATER BODY	28,705	0.0	0.0		0	0	0	0
CORAL GABLES		UNKNOWN	65	0.0	0.0		0	0	0	0

APPENDIX I
FUTURE LAND USE ATLAS FOR MONROE COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table I-1. Atlas of FLUM data for Monroe County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
MONROE COUNTY	Agriculture	AGRICULTURAL	21	0.0	0.0		0	0	0	0
MONROE COUNTY	Airport District	TRANSPORTATION	42	0.0	0.0		0	0	0	0
MONROE COUNTY	Conservation	CONSERVATION	581,026	0.0	0.0	MOSTLY EVERGLADES	0	0	0	0
MONROE COUNTY	Education	INSTITUTIONAL	61	0.0	0.0		0	0	0	0
MONROE COUNTY	Industrial	INDUSTRIAL	416	1.0	1.0	DENSITY BONUS AVAILABLE WITH TDR	416	416	927	927
MONROE COUNTY	Institutional	INSTITUTIONAL	131	0.0	0.0		0	0	0	0
MONROE COUNTY	Military	INSTITUTIONAL	4,840	6.0	12.0	DENSITY BONUS 12 DU/ACRE AVAILABLE WITH TDR	29,043	58,086	64,765	129,531
MONROE COUNTY	Mixed Use/Commercial	COMMERCIAL/OFFICE	2,029	6.0	18.0	DENSITY BONUS 18 DU/ACRE AVAILABLE WITH TDR	12,171	36,514	27,142	81,426
MONROE COUNTY	Mixed Use/Commercial Fishing	COMMERCIAL/OFFICE	228	8.0	12.0	DENSITY BONUS 12 DU/ACRE AVAILABLE WITH TDR	1,826	2,738	4,071	6,107
MONROE COUNTY	Public Buildings/Grounds	INSTITUTIONAL	47	0.0	0.0		0	0	0	0
MONROE COUNTY	Public Facilities	TRANSPORTATION	140	0.0	0.0		0	0	0	0
MONROE COUNTY	Recreation	RECREATION/OPEN SPACE	2,014	0.3	0.3		503	503	1,123	1,123
MONROE COUNTY	Residential Conservation	RESIDENTIAL, VERY LOW DENSITY	18,535	0.3	0.3		4,634	4,634	10,333	10,333
MONROE COUNTY	Residential High	RESIDENTIAL, HIGH DENSITY	1,332	16.0	16.0	DENSITY BONUS 12 DU/ACRE AVAILABLE WITH TDR	21,314	21,314	47,530	47,530

Table I-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
MONROE COUNTY	Residential Low	RESIDENTIAL, VERY LOW DENSITY	3,811	0.5	0.5	DENSITY BONUS 5 DU/ACRE AVAILABLE WITH TDR	1,906	1,906	4,250	4,250
MONROE COUNTY	Residential Medium	RESIDENTIAL, MEDIUM DENSITY	5,330	8.0	8.0		42,638	42,638	95,082	95,082
MONROE COUNTY	Undesignated	UNKNOWN	12,819	0.0	0.0		0	0	0	0

APPENDIX J
FUTURE LAND USE ATLAS FOR PALM BEACH COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table J-1. Atlas of FLUM data for Palm Beach County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PALM BEACH COUNTY	AGRICULTURAL ENCLAVE	AGRICULTURAL	3,804	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	AGRICULTURAL PRODUCTION	AGRICULTURAL	473,807	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	Agricultural RESERVE	AGRICULTURAL	21,081	1.0	1.0		21,081	21,081	49,328	49,328
PALM BEACH COUNTY	AGRICULTURAL RESERVE, WITH AN UNDERLYING CL	AGRICULTURAL	5	1.0	1.0		5	5	11	11
PALM BEACH COUNTY	SPECIAL AGRICULTURE	AGRICULTURAL	7	0.0	0.0		0	0	0	0
BOYNTON BEACH	General Commercial	COMMERCIAL/OFFICE	25	0.0	0.0		0	0	0	0
BOYNTON BEACH	Local Retail Commercial	COMMERCIAL/OFFICE	554	11.0	11.0	Multifamily residential allowed	6,098	6,098	13,780	13,780
BOYNTON BEACH	Office Commercial	COMMERCIAL/OFFICE	68	0.0	0.0		0	0	0	0
JUPITER	COMMERCIAL	COMMERCIAL/OFFICE	593	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL HIGH	COMMERCIAL/OFFICE	271	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL HIGH OFFICE	COMMERCIAL/OFFICE	65	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL HIGH OFFICE, WITH AN UNDERLYING HR-8	COMMERCIAL/OFFICE	10	8.0	8.0		83	83	195	195

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PALM BEACH COUNTY	COMMERCIAL HIGH OFFICE, WITH AN UNDERLYING LR-3	COMMERCIAL/OFFICE	6	3.0	3.0		18	18	43	43
PALM BEACH COUNTY	COMMERCIAL HIGH OFFICE, WITH AN UNDERLYING MR-5	COMMERCIAL/OFFICE	44	5.0	5.0		220	220	514	514
PALM BEACH COUNTY	COMMERCIAL HIGH WITH CROSS-HATCHING	COMMERCIAL/OFFICE	6	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL HIGH WITH CROSS-HATCHING, WITH AN UNDERLYING HR-8	COMMERCIAL/OFFICE	3	8.0	8.0		28	28	64	64
PALM BEACH COUNTY	COMMERCIAL HIGH WITH CROSS-HATCHING, WITH AN UNDERLYING MR-5	COMMERCIAL/OFFICE	2	5.0	5.0		9	9	21	21
PALM BEACH COUNTY	COMMERCIAL HIGH, WITH AN UNDERLYING HR-12	COMMERCIAL/OFFICE	32	12.0	12.0		388	388	908	908
PALM BEACH COUNTY	COMMERCIAL HIGH, WITH AN UNDERLYING HR-18	COMMERCIAL/OFFICE	3	18.0	18.0		61	61	142	142
PALM BEACH COUNTY	COMMERCIAL HIGH, WITH AN UNDERLYING HR-8	COMMERCIAL/OFFICE	1,991	8.0	8.0		15,925	15,925	37,266	37,266
PALM BEACH COUNTY	COMMERCIAL HIGH, WITH AN UNDERLYING IND	COMMERCIAL/OFFICE	317	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL HIGH, WITH AN UNDERLYING LR-1	COMMERCIAL/OFFICE	31	1.0	1.0		31	31	71	71
PALM BEACH COUNTY	COMMERCIAL HIGH, WITH AN UNDERLYING LR-2	COMMERCIAL/OFFICE	23	2.0	2.0		45	45	106	106

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PALM BEACH COUNTY	COMMERCIAL HIGH, WITH AN UNDERLYING LR-3	COMMERCIAL/OFFICE	141	3.0	3.0		424	424	992	992
PALM BEACH COUNTY	COMMERCIAL HIGH, WITH AN UNDERLYING MR-5	COMMERCIAL/OFFICE	763	5.0	5.0		3,817	3,817	8,931	8,931
PALM BEACH COUNTY	COMMERCIAL LOW	COMMERCIAL/OFFICE	34	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL LOW OFFICE	COMMERCIAL/OFFICE	35	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL LOW OFFICE, WITH AN UNDERLYING HR-8	COMMERCIAL/OFFICE	35	8.0	8.0		277	277	649	649
PALM BEACH COUNTY	COMMERCIAL LOW OFFICE, WITH AN UNDERLYING LR-2	COMMERCIAL/OFFICE	3	2.0	2.0		6	6	14	14
PALM BEACH COUNTY	COMMERCIAL LOW OFFICE, WITH AN UNDERLYING LR-3	COMMERCIAL/OFFICE	21	3.0	3.0		63	63	148	148
PALM BEACH COUNTY	COMMERCIAL LOW OFFICE, WITH AN UNDERLYING MR-5	COMMERCIAL/OFFICE	45	5.0	5.0		224	224	523	523
PALM BEACH COUNTY	COMMERCIAL LOW OFFICE, WITH AN UNDERLYING RR-10	COMMERCIAL/OFFICE	27	0.1	0.1		3	3	6	6
PALM BEACH COUNTY	COMMERCIAL LOW OFFICE, WITH AN UNDERLYING RR-5	COMMERCIAL/OFFICE	12	0.2	0.2		2	2	6	6
PALM BEACH COUNTY	COMMERCIAL LOW WITH CROSS-HATCHING	COMMERCIAL/OFFICE	14	0.0	0.0		0	0	0	0

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PALM BEACH COUNTY	COMMERCIAL LOW WITH CROSS-HATCHING, WITH AN UNDERLYING LR-2	COMMERCIAL/OFFICE	1	2.0	2.0		2	2	4	4
PALM BEACH COUNTY	COMMERCIAL LOW WITH CROSS-HATCHING, WITH AN UNDERLYING LR-3	COMMERCIAL/OFFICE	1	3.0	3.0		3	3	7	7
PALM BEACH COUNTY	COMMERCIAL LOW WITH CROSS-HATCHING, WITH AN UNDERLYING MR-5	COMMERCIAL/OFFICE	8	5.0	5.0		40	40	93	93
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING AGR	COMMERCIAL/OFFICE	86	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING HR-12	COMMERCIAL/OFFICE	2	12.0	12.0		28	28	65	65
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING HR-8	COMMERCIAL/OFFICE	66	8.0	8.0		528	528	1,234	1,234
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING IND	COMMERCIAL/OFFICE	41	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING LR-1	COMMERCIAL/OFFICE	59	1.0	1.0		59	59	138	138
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING LR-2	COMMERCIAL/OFFICE	127	2.0	2.0		255	255	596	596
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING LR-3	COMMERCIAL/OFFICE	189	3.0	3.0		567	567	1,327	1,327
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING MR-5	COMMERCIAL/OFFICE	143	5.0	5.0		713	713	1,668	1,668

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING RR-10	COMMERCIAL/OFFICE	102	0.1	0.1		10	10	24	24
PALM BEACH COUNTY	COMMERCIAL LOW, WITH AN UNDERLYING RR-2.5	COMMERCIAL/OFFICE	53	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL, WITH AN UNDERLYING HR-8	COMMERCIAL/OFFICE	28	8.0	8.0		224	224	524	524
PALM BEACH COUNTY	COMMERCIAL, WITH AN UNDERLYING LR-2	COMMERCIAL/OFFICE	19	2.0	2.0		37	37	87	87
PALM BEACH COUNTY	COMMERCIAL, WITH AN UNDERLYING MR-5	COMMERCIAL/OFFICE	26	5.0	5.0		131	131	306	306
PALM BEACH COUNTY	COMMERCIAL, WITH AN UNDERLYING RR-10	COMMERCIAL/OFFICE	4	0.1	0.1		0	0	1	1
WELLINGTON	Community Commercial	COMMERCIAL/OFFICE	186	0.0	0.0		0	0	0	0
WELLINGTON	Neighborhood Commercial	COMMERCIAL/OFFICE	16	0.0	0.0		0	0	0	0
WELLINGTON	Office Commercial	COMMERCIAL/OFFICE	48	0.0	0.0		0	0	0	0
WEST PALM BEACH	COMMERCIAL	COMMERCIAL/OFFICE	784	0.0	0.0		0	0	0	0
WEST PALM BEACH	COMMERCIAL INCENTIVE DISTRICT	COMMERCIAL/OFFICE	14	32.3	32.3		439	439	992	992
WEST PALM BEACH	SPECIAL IMPACT ZONE/COMMERCIAL	COMMERCIAL/OFFICE	491	0.0	0.0		0	0	0	0
WEST PALM BEACH	URBAN CENTRAL BUSINESS DISTRICT	COMMERCIAL/OFFICE	581	0.0	0.0		0	0	0	0

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
JUPITER	CONSERVATION	CONSERVATION	881	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	CONSERVATION	CONSERVATION	356,094	0.0	0.0		0	0	0	0
WELLINGTON	Conservation	CONSERVATION	151	0.0	0.0		0	0	0	0
WEST PALM BEACH	CONSERVATION	CONSERVATION	16,483	0.0	0.0		0	0	0	0
WEST PALM BEACH	SPECIAL IMPACT ZONE/CONSERVATION	CONSERVATION	445	0.0	0.0		0	0	0	0
BOYNTON BEACH	Industrial	INDUSTRIAL	1,188	0.0	0.0		0	0	0	0
JUPITER	GENERAL INDUSTRIAL	INDUSTRIAL	447	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	INDUSTRIAL	INDUSTRIAL	12,990	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	INDUSTRIAL, WITH AN UNDERLYING AGR	INDUSTRIAL	82	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	INDUSTRIAL, WITH AN UNDERLYING MR-5	INDUSTRIAL	506	5.0	5.0		2,530	2,530	5,920	5,920
WELLINGTON	Industrial	INDUSTRIAL	119	0.0	0.0		0	0	0	0
WEST PALM BEACH	INDUSTRIAL	INDUSTRIAL	527	0.0	0.0		0	0	0	0
WEST PALM BEACH	SPECIAL IMPACT ZONE/INDUSTRIAL	INDUSTRIAL	345	0.0	0.0		0	0	0	0

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
JUPITER	PUBLIC/INSTITUTIONAL	INSTITUTIONAL	462	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	INSTITUTIONAL	INSTITUTIONAL	2,367	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	INSTITUTIONAL, WITH AN UNDERLYING HR-8	INSTITUTIONAL	93	8.0	8.0		747	747	1,749	1,749
PALM BEACH COUNTY	INSTITUTIONAL, WITH AN UNDERLYING IND	INSTITUTIONAL	37	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	INSTITUTIONAL, WITH AN UNDERLYING LR-1	INSTITUTIONAL	20	1.0	1.0		20	20	47	47
PALM BEACH COUNTY	INSTITUTIONAL, WITH AN UNDERLYING LR-3	INSTITUTIONAL	18	3.0	3.0		53	53	125	125
PALM BEACH COUNTY	INSTITUTIONAL, WITH AN UNDERLYING MR-5	INSTITUTIONAL	57	5.0	5.0		287	287	673	673
WELLINGTON	Institutional/Public Facilities/Utilities	INSTITUTIONAL	559	0.0	0.0		0	0	0	0
WELLINGTON	Medical Commercial	INSTITUTIONAL	59	0.0	0.0		0	0	0	0
WEST PALM BEACH	COMMUNITY SERVICE	INSTITUTIONAL	2,399	0.0	0.0		0	0	0	0
WEST PALM BEACH	SPECIAL IMPACT ZONE/COMMUNITY SERVICE	INSTITUTIONAL	1,286	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	SPOIL	MINING/EXTRACTIVE	43	0.0	0.0		0	0	0	0
JUPITER	INLET VILLAGE FLEX	MIXED USE	38	12.0	12.0		459	459	1,066	1,066

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
JUPITER	MIXED USE	MIXED USE	2,040	8.0	8.0		16,322	16,322	37,868	37,868
JUPITER	RIVERWALK FLEX ECONOMIC	MIXED USE	9	12.0	12.0		110	110	255	255
PALM BEACH COUNTY	DEVELOPMENT CENTER	MIXED USE	339	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	ECONOMIC DEVELOPMENT CENTER, WITH UNDERLYING MR-5	MIXED USE	10	5.0	5.0		49	49	115	115
PALM BEACH COUNTY	INDIANTOWN ROAD OVERLAY ZONE	MIXED USE	5	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	MULTIPLE LAND USE	MIXED USE	149	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	URBAN CENTER	MIXED USE	291	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	URBAN INFILL	MIXED USE	522	0.0	0.0		0	0	0	0
WELLINGTON	Mixed Use	MIXED USE	118	2.0	16.0	USES AND DENSITIES VARY BY DEVELOPMENT SIZE.	236	1,890	697	5,575
WELLINGTON	Regional Commercial/LSMU	MIXED USE	413	6.0	6.0		2,476	2,476	7,304	7,304
WEST PALM BEACH	MIXED USE	MIXED USE	113	0.0	0.0		0	0	0	0
JUPITER	RECREATION	RECREATION/OPEN SPACE	518	0.0	0.0		0	0	0	0

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PALM BEACH COUNTY	COMMERCIAL RECREATION	RECREATION/OPEN SPACE	9	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL RECREATION, WITH AN UNDERLYING HR-8	RECREATION/OPEN SPACE	53	8.0	8.0		425	425	996	996
PALM BEACH COUNTY	COMMERCIAL RECREATION, WITH AN UNDERLYING IND	RECREATION/OPEN SPACE	284	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	COMMERCIAL RECREATION, WITH AN UNDERLYING LR-1	RECREATION/OPEN SPACE	115	1.0	1.0		115	115	270	270
PALM BEACH COUNTY	COMMERCIAL RECREATION, WITH AN UNDERLYING LR-2	RECREATION/OPEN SPACE	5	2.0	2.0		9	9	22	22
PALM BEACH COUNTY	COMMERCIAL RECREATION, WITH AN UNDERLYING MR-5	RECREATION/OPEN SPACE	463	5.0	5.0		2,314	2,314	5,414	5,414
PALM BEACH COUNTY	COMMERCIAL RECREATION, WITH AN UNDERLYING RR-10	RECREATION/OPEN SPACE	683	0.1	0.1		68	68	160	160
PALM BEACH COUNTY	COMMERCIAL RECREATION, WITH AN UNDERLYING UT	RECREATION/OPEN SPACE	297	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	PARK	RECREATION/OPEN SPACE	5,801	0.0	0.0		0	0	0	0
WELLINGTON	Commercial Recreation	RECREATION/OPEN SPACE	1,744	0.0	0.0		0	0	0	0
WELLINGTON	Park	RECREATION/OPEN SPACE	210	0.0	0.0		0	0	0	0
BOYNTON BEACH	Special High Density Residential	RESIDENTIAL, HIGH DENSITY	125	20.0	20.0		2,505	2,505	5,661	5,661

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PALM BEACH COUNTY	HIGH RESIDENTIAL, 18 UNITS PER ACRE	RESIDENTIAL, HIGH DENSITY	1,874	18.0	18.0	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	33,736	33,736	78,942	78,942
WELLINGTON	Residential G -- MF Medium 12.01 - 18.0 DU/AC	RESIDENTIAL, HIGH DENSITY	48	18.0	18.0		873	873	2,575	2,575
WELLINGTON	Residential H -- MF High 18.01 - 22.0 DU/AC	RESIDENTIAL, HIGH DENSITY	19	22.0	22.0		408	408	1,205	1,205
WEST PALM BEACH	MULTIFAMILY MEDIUM DENSITY	RESIDENTIAL, HIGH DENSITY	99	20.0	20.0		1,978	1,978	4,470	4,470
WEST PALM BEACH	SINGLE FAMILY	RESIDENTIAL, HIGH DENSITY	3,237	13.4	13.4		43,371	43,371	98,020	98,020
WEST PALM BEACH	SPECIAL IMPACT ZONE/SINGLE FAMILY	RESIDENTIAL, HIGH DENSITY	597	13.4	13.4		8,001	8,001	18,083	18,083
BOYNTON BEACH	Low Density Residential	RESIDENTIAL, LOW DENSITY	3,355	5.0	5.0		16,773	16,773	37,907	37,907
JUPITER	LOW DENSITY RESIDENTIAL	RESIDENTIAL, LOW DENSITY	3,671	2.0	2.0		7,342	7,342	17,033	17,033
JUPITER	MEDIUM DENSITY RESIDENTIAL	RESIDENTIAL, LOW DENSITY	1,242	4.0	4.0		4,970	4,970	11,530	11,530
PALM BEACH COUNTY	LOW RESIDENTIAL, 2 UNITS PER ACRE	RESIDENTIAL, LOW DENSITY	13,919	2.0	2.0	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	27,839	27,839	65,142	65,142
PALM BEACH COUNTY	LOW RESIDENTIAL, 3 UNITS PER ACRE	RESIDENTIAL, LOW DENSITY	20,634	3.0	3.0	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	61,901	61,901	144,848	144,848
PALM BEACH COUNTY	MEDIUM RESIDENTIAL, 5 UNITS PER ACRE	RESIDENTIAL, LOW DENSITY	23,806	5.0	5.0		119,029	119,029	278,528	278,528

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
WELLINGTON	Residential C - SF Large Lot 1.01 - 3.0 DU/AC	RESIDENTIAL, LOW DENSITY	2,505	3.0	3.0		7,516	7,516	22,173	22,173
WELLINGTON	Residential C - SF Large Lot Limited to 2 DU/AC	RESIDENTIAL, LOW DENSITY	1,890	2.0	2.0		3,779	3,779	11,149	11,149
WELLINGTON	Residential D -- SF Small Lot 3.01 - 5.0 DU/AC	RESIDENTIAL, LOW DENSITY	1,269	5.0	5.0		6,344	6,344	18,714	18,714
WEST PALM BEACH	SPECIAL IMPACT ZONE/SINGLE FAMILY LOW DENSITY	RESIDENTIAL, LOW DENSITY	1,252	3.0	3.0		3,755	3,755	8,486	8,486
WEST PALM BEACH	SPECIAL IMPACT ZONE/SINGLE FAMILY MEDIUM DENSITY	RESIDENTIAL, LOW DENSITY	241	5.0	5.0		1,204	1,204	2,721	2,721
BOYNTON BEACH	High Density Residential	RESIDENTIAL, MEDIUM DENSITY	831	11.0	11.0		9,140	9,140	20,656	20,656
BOYNTON BEACH	Medium Density Residential	RESIDENTIAL, MEDIUM DENSITY	253	10.0	10.0		2,533	2,533	5,724	5,724
BOYNTON BEACH	Moderate Density Residential	RESIDENTIAL, MEDIUM DENSITY	933	7.5	7.5		6,996	6,996	15,810	15,810
JUPITER	HIGH DENSITY RESIDENTIAL	RESIDENTIAL, MEDIUM DENSITY	2,623	6.0	6.0		15,740	15,740	36,517	36,517
PALM BEACH COUNTY	HIGH RESIDENTIAL, 12 UNITS PER ACRE	RESIDENTIAL, MEDIUM DENSITY	4,208	12.0	12.0	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	50,497	50,497	118,163	118,163
PALM BEACH COUNTY	HIGH RESIDENTIAL, 8 UNITS PER ACRE	RESIDENTIAL, MEDIUM DENSITY	21,419	8.0	8.0	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	171,356	171,356	400,972	400,972

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
WELLINGTON	Residential E - Mixed Medium 5.01 - 8.0 DU/AC	RESIDENTIAL, MEDIUM DENSITY	603	8.0	8.0		4,820	4,820	14,219	14,219
WELLINGTON	Residential F -- MF Low 8.01 - 12.0 DU/AC	RESIDENTIAL, MEDIUM DENSITY	269	12.0	12.0		3,230	3,230	9,530	9,530
WEST PALM BEACH	PLANNED COMMUNITY	RESIDENTIAL, MEDIUM DENSITY	3,481	10.0	10.0		34,807	34,807	78,664	78,664
WEST PALM BEACH	MULTIFAMILY	RESIDENTIAL, VERY HIGH DENSITY	924	32.3	32.3		29,830	29,830	67,416	67,416
WEST PALM BEACH	SPECIAL IMPACT ZONE/MULTIFAMILY	RESIDENTIAL, VERY HIGH DENSITY	53	32.3	32.3		1,696	1,696	3,832	3,832
PALM BEACH COUNTY	LOW RESIDENTIAL, 1 UNIT PER ACRE	RESIDENTIAL, VERY LOW DENSITY	9,688	1.0	1.0	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	9,688	9,688	22,670	22,670
PALM BEACH COUNTY	RURAL RESIDENTIAL, 1 UNIT PER 10 ACRES	RESIDENTIAL, VERY LOW DENSITY	37,909	0.1	0.1	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	3,791	3,791	8,871	8,871
PALM BEACH COUNTY	RURAL RESIDENTIAL, 1 UNIT PER 2.5 ACRES	RESIDENTIAL, VERY LOW DENSITY	24,849	0.4	0.4	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	9,940	9,940	23,259	23,259
PALM BEACH COUNTY	RURAL RESIDENTIAL, 1 UNIT PER 20 ACRES	RESIDENTIAL, VERY LOW DENSITY	2,283	0.1	0.1	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	114	114	267	267
PALM BEACH COUNTY	RURAL RESIDENTIAL, 1 UNIT PER 5 ACRES	RESIDENTIAL, VERY LOW DENSITY	8,550	0.2	0.2	DENSITY BONUS FOR PLANNED DEVELOPMENTS.	1,710	1,710	4,001	4,001

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
WELLINGTON	Residential A -- Rural 0 - .10 DU/AC	RESIDENTIAL, VERY LOW DENSITY	4,274	0.1	0.1		427	427	1,261	1,261
WELLINGTON	Residential B -- Ranchette .21 - 1.0 DU/AC	RESIDENTIAL, VERY LOW DENSITY	4,151	1.0	1.0		4,151	4,151	12,247	12,247
WELLINGTON	Residential B -- Ranchette No development order	RESIDENTIAL, VERY LOW DENSITY	741	1.0	1.0		741	741	2,186	2,186
PALM BEACH COUNTY	UTILITIES AND TRANSPORTATION	TRANSPORTATION	7,361	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	UTILITIES AND TRANSPORTATION, WITH AN UNDERLYING LR-3	TRANSPORTATION	4	3.0	3.0		11	11	25	25
PALM BEACH COUNTY	UTILITIES AND TRANSPORTATION, WITH AN UNDERLYING MR-5	TRANSPORTATION	5	5.0	5.0		26	26	60	60
WELLINGTON	Major Roads	TRANSPORTATION	816	0.0	0.0		0	0	0	0
BOYNTON BEACH	<BLANK>	UNKNOWN	19	0.0	0.0		0	0	0	0
JUPITER	NOT DESIGNATED	UNKNOWN	2,257	0.0	0.0		0	0	0	0
WELLINGTON	Future Annex Areas	UNKNOWN	4,297	0.0	0.0		0	0	0	0
PALM BEACH COUNTY	LAKE OKEECHOBEE	WATER BODY	149,794	0.0	0.0		0	0	0	0
WELLINGTON	Major Water Bodies	WATER BODY	1,877	0.0	0.0		0	0	0	0

Table J-1. Continued

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
WEST PALM BEACH	WATER	WATER BODY	3	0.0	0.0		0	0	0	0
BOYNTON BEACH		UNKNOWN	2,001	0.0	0.0		0	0	0	0

APPENDIX K
FUTURE LAND USE ATLAS FOR SAINT LUCIE COUNTY, FL

The following table represents the compiled FLU data for all reporting local governments in this county. It clearly records local government FLU density maximums, which were used to calculate full buildout population projections. The table also displays which SFWMD Generalized FLU Category was used to categorize each local government FLU designation.

Table K-1. Atlas of FLUM data for Saint Lucie County.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
SAINT LUCIE COUNTY	AGRICULTURE-2.5	AGRICULTURAL	3,628	0.4	0.4		1,451	1,451	3,584	3,584
SAINT LUCIE COUNTY	AGRICULTURE-5	AGRICULTURAL	186,796	0.2	0.2		37,359	37,359	92,277	92,277
FORT PIERCE	CBD COMMERCIAL	COMMERCIAL/ OFFICE	44	15.0	30.0		658	1,316	1,684	3,368
FORT PIERCE	GENERAL COMMERCIAL	COMMERCIAL/ OFFICE	1,928	8.0	18.0		15,428	34,713	39,495	88,864
FORT PIERCE	OFFICES - PROFESSIONAL AND BUSINESS SERVICES	COMMERCIAL/ OFFICE	109	10.0	18.0		1,090	1,962	2,791	5,023
PORT SAINT LUCIE	General Commercial	COMMERCIAL/ OFFICE	1,630	0.0	0.0	80% max. impervious surface	0	0	0	0
PORT SAINT LUCIE	Highway Commercial	COMMERCIAL/ OFFICE	282	0.0	0.0	80% max. impervious surface	0	0	0	0
PORT SAINT LUCIE	Limited Commercial	COMMERCIAL/ OFFICE	204	0.0	0.0	80% max. impervious surface	0	0	0	0
PORT SAINT LUCIE	Service Commercial	COMMERCIAL/ OFFICE	882	0.0	0.0	80% max. impervious surface	0	0	0	0
SAINT LUCIE COUNTY	COMMERCIAL	COMMERCIAL/ OFFICE	1,649	0.0	0.0		0	0	0	0
FORT PIERCE	CONSERVATION OPEN SPACE	CONSERVATION	600	0.0	0.0		0	0	0	0
PORT SAINT LUCIE	Open Space Conservation	CONSERVATION	2,228	0.0	0.0	20% max. impervious surface	0	0	0	0

Table K-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PORT SAINT LUCIE	Open Space Preservation	CONSERVATION	2,959	0.0	0.0	20% max. impervious surface	0	0	0	0
SAINT LUCIE COUNTY	CONSERVATION-PUBLIC	CONSERVATION	11,889	0.0	0.0		0	0	0	0
FORT PIERCE	HEAVY INDUSTRIAL	INDUSTRIAL	363	0.0	0.0		0	0	0	0
FORT PIERCE	INDUSTRIAL	INDUSTRIAL	541	0.0	0.0	COULD ALSO BE INSTITUTIONAL	0	0	0	0
PORT SAINT LUCIE	Heavy Industrial	INDUSTRIAL	178	0.0	0.0	80% max. impervious surface	0	0	0	0
PORT SAINT LUCIE	Light Industrial	INDUSTRIAL	980	0.0	0.0	80% max. impervious surface	0	0	0	0
SAINT LUCIE COUNTY	INDUSTRIAL	INDUSTRIAL	2,658	0.0	0.0		0	0	0	0
FORT PIERCE	INSTITUTIONAL	INSTITUTIONAL	551	0.0	0.0		0	0	0	0
PORT SAINT LUCIE	Institutional	INSTITUTIONAL	1,227	0.0	0.0	80% max. impervious surface	0	0	0	0
PORT SAINT LUCIE	Utility	INSTITUTIONAL	2,292	0.0	0.0	80% max. impervious surface	0	0	0	0
SAINT LUCIE COUNTY	HISTORIC	INSTITUTIONAL	8	0.0	0.0		0	0	0	0
SAINT LUCIE COUNTY	PUBLIC FACILITIES	INSTITUTIONAL	1,382	0.0	0.0		0	0	0	0
FORT PIERCE	MARINE COMMERCIAL	MIXED USE	62	15.0	18.0		933	1,120	2,388	2,866
FORT PIERCE	NEIGHBORHOOD COMMERCIAL	MIXED USE	32	8.0	12.0		258	387	661	991

Table K-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PORT SAINT LUCIE	New Community District	MIXED USE	14,658	20.0	20.0	80%/90% max. impervious surface. Applies to DRIs only.	293,169	293,169	762,238	762,238
PORT SAINT LUCIE	Residential, Office, and Institutional	MIXED USE	2,624	11.0	11.0	80% max. impervious surface	28,860	28,860	75,037	75,037
SAINT LUCIE COUNTY	MIXED USE DEVELOPMENT	MIXED USE	5,131	0.0	0.0		0	0	0	0
SAINT LUCIE COUNTY	SPECIAL DISTRICT	MIXED USE	8,030	0.2	15.0		1,606	120,453	3,967	297,518
SAINT LUCIE COUNTY	TOWNS, VILLAGES, & COUNTRYSIDE	MIXED USE	13,661	0.0	0.0		0	0	0	0
FORT PIERCE	GENERAL OPEN SPACE	RECREATION/OPEN SPACE	580	0.0	0.0		0	0	0	0
FORT PIERCE	RECREATIONAL OPEN SPACE	RECREATION/OPEN SPACE	328	0.0	0.0		0	0	0	0
PORT SAINT LUCIE	Open Space Recreation	RECREATION/OPEN SPACE	2,626	0.0	0.0	80% max. impervious surface	0	0	0	0
FORT PIERCE	HIGH DENSITY RESIDENTIAL	RESIDENTIAL, HIGH DENSITY	120	17.9	17.9		2,156	2,156	5,520	5,520
PORT SAINT LUCIE	High density residential	RESIDENTIAL, HIGH DENSITY	978	15.0	15.0		14,663	14,663	38,124	38,124
SAINT LUCIE COUNTY	RESIDENTIAL HIGH	RESIDENTIAL, HIGH DENSITY	524	15.0	15.0		7,865	7,865	19,425	19,425
PORT SAINT LUCIE	Low Density Residential	RESIDENTIAL, LOW DENSITY	37,113	5.0	5.0		185,566	185,566	482,472	482,472
SAINT LUCIE COUNTY	RESIDENTIAL SUBURBAN	RESIDENTIAL, LOW DENSITY	6,373	2.0	2.0		12,746	12,746	31,483	31,483

Table K-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
SAINT LUCIE COUNTY	RESIDENTIAL URBAN	RESIDENTIAL, LOW DENSITY	14,066	5.0	5.0		70,329	70,329	173,713	173,713
FORT PIERCE	LOW DENSITY RESIDENTIAL	RESIDENTIAL, MEDIUM DENSITY	2,561	6.5	6.5		16,647	16,647	42,616	42,616
FORT PIERCE	MEDIUM DENSITY RESIDENTIAL	RESIDENTIAL, MEDIUM DENSITY	2,602	12.0	12.0		31,225	31,225	79,935	79,935
FORT PIERCE	MEDIUM DENSITY RESIDENTIAL HUTCHINSON ISLAND	RESIDENTIAL, MEDIUM DENSITY	255	8.0	8.0		2,038	2,038	5,216	5,216
FORT PIERCE	MEDIUM DENSITY RESIDENTIAL HUTCHINSON ISLAND/COMMERCIAL GENERAL	RESIDENTIAL, MEDIUM DENSITY	169	11.0	11.0		1,860	1,860	4,760	4,760
PORT SAINT LUCIE	Medium density residential	RESIDENTIAL, MEDIUM DENSITY	1,757	11.0	11.0		19,331	19,331	50,261	50,261
SAINT LUCIE COUNTY	RESIDENTIAL MEDIUM	RESIDENTIAL, MEDIUM DENSITY	1,788	9.0	9.0		16,088	16,088	39,737	39,737
SAINT LUCIE COUNTY	RESIDENTIAL ESTATE	RESIDENTIAL, VERY LOW DENSITY	2,776	1.0	1.0		2,776	2,776	6,856	6,856
SAINT LUCIE COUNTY	RESIDENTIAL/CONSERVATION	RESIDENTIAL, VERY LOW DENSITY	2,585	0.2	0.2		517	517	1,277	1,277
SAINT LUCIE COUNTY	RIGHT OF WAY	TRANSPORTATION	6,911	0.0	0.0		0	0	0	0
SAINT LUCIE COUNTY	TRANSPORTATION /UTILITIES	TRANSPORTATION	2,928	0.0	0.0		0	0	0	0

Table K-1. Continued.

LOCAL GOVT NAME	LOCAL GOVT FLU DESIGNATION	SFWMD GENERALIZED FLU CATEGORY	TOTAL ACREAGE	DENSITY	DENSITY HIGH	COMMENT FROM GOVT FLUM	BUILDOUT DWELLING UNITS	BUILDOUT DWELLING UNITS HIGH	BUILDOUT POPULATION PROJECTIONS	BUILDOUT POPULATION PROJECTIONS HIGH
PORT SAINT LUCIE	TBD	UNKNOWN	150	0.0	0.0		0	0	0	0
PORT SAINT LUCIE	UNINCOPORATED	UNKNOWN	272	0.0	0.0		0	0	0	0
SAINT LUCIE COUNTY	SPOIL ISLANDS	UNKNOWN	11	0.0	0.0		0	0	0	0
SAINT LUCIE COUNTY	SUBMERGED LANDS	WATER BODY	21	0.0	0.0		0	0	0	0

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BIOGRAPHICAL SKETCH

The author was born in Gainesville, FL. He grew up on a pecan farm in rural Alachua County, and spent most of his formative years engaged in nature and nature-based recreation. He attended college initially at Santa Fe and Tallahassee Community Colleges, and then at Florida State University in Tallahassee, FL, where he received a bachelor's degree in biological science. That led five years of working as a field tech in the desert southwest, and one summer hiking on the Appalachian Trail. He received his master's degree in biology at the University of Louisville, KY. While there he focused his studies on urban ecology: how ecological systems are affected by the built/human environment. The ultimate goal was to apply this knowledge to change the way cities are designed, integrating ecological systems with the human urban experience.

The world has a way of spinning, and he moved back to Gainesville to continue his education. First enrolling in landscape architecture at the University of Florida, and then changing to urban and regional planning. This combination of expertise in science (urban ecology) and policy (urban planning) and design (landscape architecture) will help provide a new paradigm to facilitate the ecological revolution that is being realized around the world. This thesis represents one of the many milestones in the completion of this second master's degree, and it will hopefully propel the author toward a future in greenways and green infrastructure planning and design, integrating people and the built environment once again with the natural fabric in which they are interwoven.