

Southeast Florida and the Florida Keys

The Florida counties of Martin, Palm Beach, Broward, Miami-Dade, Monroe, and Collier are described in this chapter as Southeast Florida and the Florida Keys. The area of these combined counties totals approximately 24,050 square kilometers. Miami-Dade County, the most populated county in all of Florida with 2,485,095 residents in 2008, is home to the city of Miami. In the counties north of Miami-Dade—Broward, Palm Beach, and Martin—the population progressively decreases northward (49). The residents of the Southeast Florida coast are primarily concentrated along the Atlantic coastline. The western portions of these counties are mainly comprised of the Everglades and swampland.

Monroe County is the southernmost county in Florida and the least populated county in the study area, with just over 78,000 people in 2008 (49). The population of Monroe County primarily resides on the Florida Keys island chain. The remainder of the county is approximately 73% water, and includes parts of Everglades National Park and Big Cypress National Preserve. Collier County is located northwest of Monroe County at the southern end of Florida's Gulf Coast. Similar to the counties found on the southeastern portion of the study area, Collier's population is primarily found along its seaward half.

The Florida reef tract is an undeveloped coastal fringe that extends from Soldier Key (near Biscayne Key) to Tortugas Banks to the southwest. Coral habitats include extensive hardbottom, patch reefs, and bank reefs. Bank reefs are the most seaward of the reef habitats and are frequented by scuba divers and snorkelers. The Florida reef tract runs northward from Monroe County to Martin County (the furthest county north in the study area) (3). The extent of coral habitats surrounding the study area is summarized in Table 21 and illustrated in Figure 22.

Key Facts

6,283,671	Population (2008)
261	Population Density (2008) (persons per sq km)
56	Number of residents per square kilometer of potential coral reef habitat within the 180 meter depth curve. (2008)
2,098,741	Households (2000)
2,411,373	Housing Units (2000)

Habitat Type	Southeast Florida, Florida Keys
<i>Depth Curves (sq km)</i>	
18 Meter Line	30,801.5
180 Meter Line	113,091.9
<i>Mapped Coral Habitat¹ (sq km)</i>	
Coral Reef Hardbottom	1,526.3
Submerged Vegetation	3,468.6
Unconsolidated Sediment	381.1
Other Delineations	13.0

Table 21. Approximate area (in square kilometers) of coral reef habitat surrounding Southeast Florida and the Florida Keys.
Source: Rohmann et al., 2005.

Population

In 2000, the combined population of Southeast Florida and the Florida Keys reached almost 5.5 million; in 2008 it is estimated to be just under 6.3 million (35, 49). The population is concentrated in Miami-Dade and Broward Counties.

From 1970 to 2008, the population of the combined counties increased by over 3.9 million people. Broward County showed the greatest absolute increase during this period, growing by 1.25 million people, while Collier County exhibited the fastest rate of growth at 756% (49).

By 2015, the population is projected to increase by almost 968,000 people, with most of this growth occurring in Broward, Miami-Dade, and Palm



A snorkeler swims above a large stand of Elkhorn coral (*Acropora palmata*) in Key West.
Credit: © Wolcott Henry 2005/Marine Photobank

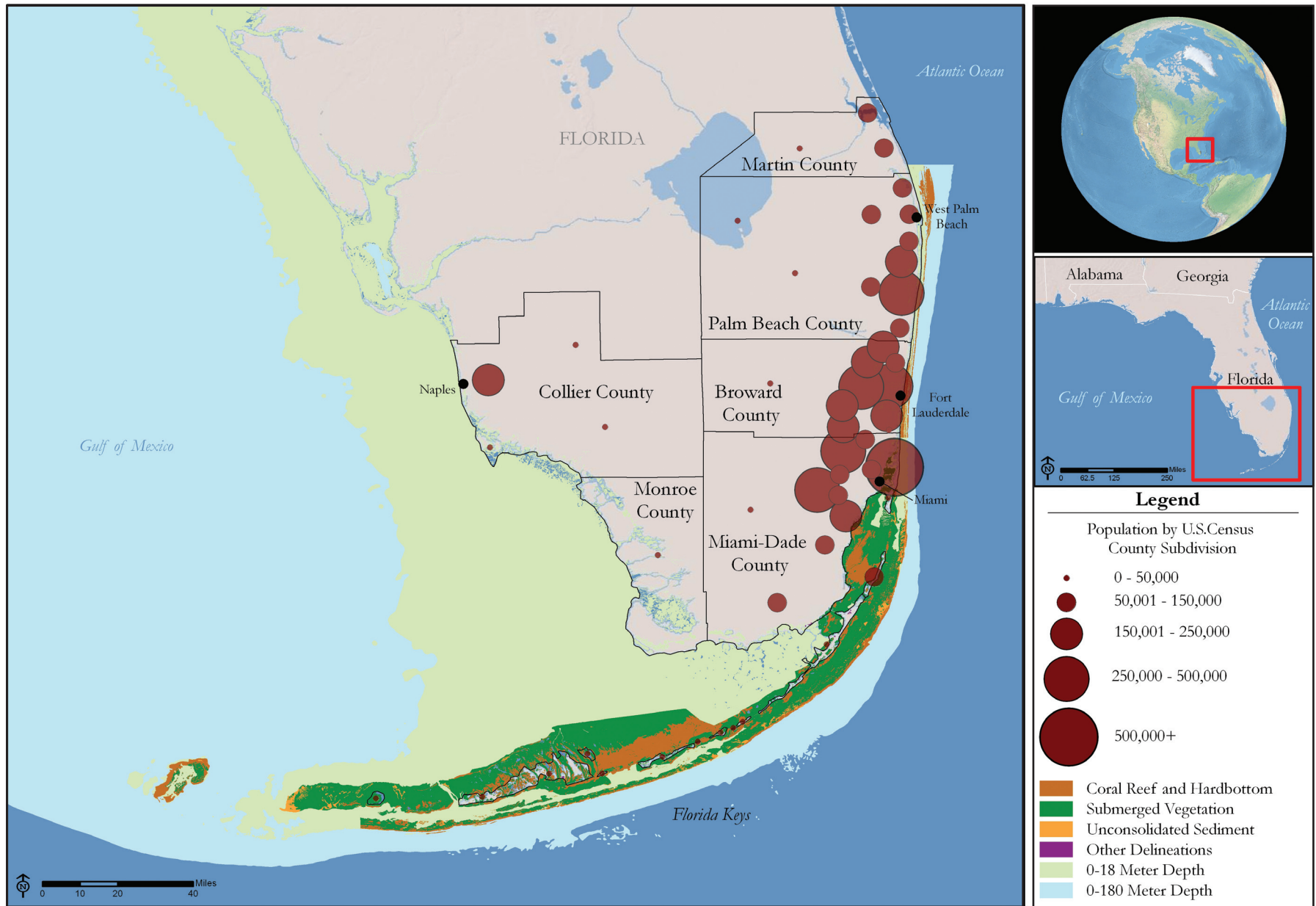


Figure 22. Population of Collier, Monroe, Miami-Dade, Broward, Palm Beach, and Martin Counties in southern Florida by U.S. Census county subdivision adjacent to coral reef habitat. The population markers are shown at the center of each subdivision and should not be interpreted as exactly where population resides. Source: U.S. Census Bureau, 2000; Rohmann et al., 2005.

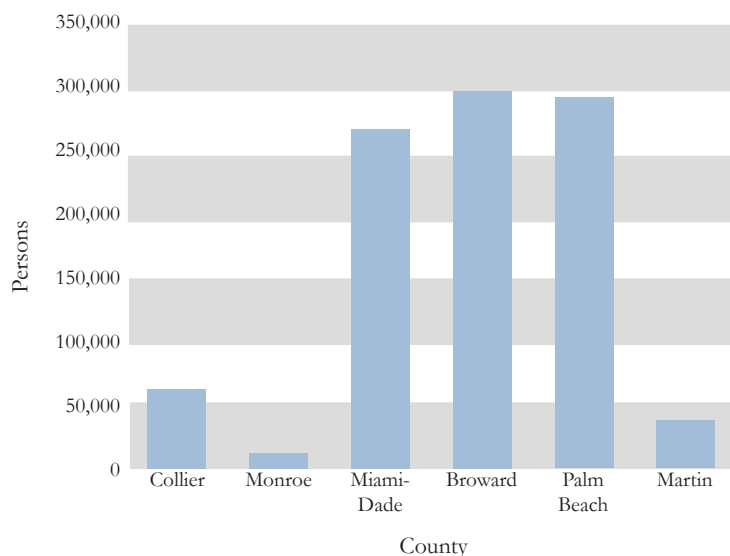


Figure 23. Expected population change in Southeast Florida and the Florida Keys from 2008 to 2015 by county.
Source: Woods and Poole Economics, Inc., 2007.

Beach Counties. Collier and Monroe Counties are expected to increase by over 73,000 people. Figure 23 presents this expected change by county (49).

In 2008, the population density of the combined counties averaged 261 persons per square kilometer. The most densely populated counties were Broward and Miami-Dade, with 602 and 493 persons per square kilometer, respectively (49). Figure 22 illustrates the concentrations of population in relation to adjacent coral reef habitat.

Table 22 presents the ratio of the area of potential coral reef habitat and mapped coral reef habitat to the number of residents in the study area. When compared to the other study areas, Southeast Florida and the Florida Keys have the second-lowest number of residents per square kilometer of potential coral reef habitat within the 0-180 meter depth curve (just above USVI).

Habitat Type	Area of Coral Reef Habitat in Southeast Florida and the Florida Keys (sq km)	Persons Per Sq Km of Potential Coral Reef Habitat in 2008
<i>Depth Curves (sq km)</i>		
18 Meter Line	30,801.5	204
180 Meter Line	113,091.9	56
<i>Mapped Coral Habitat¹ (sq km)</i>		
Coral Reef Hardbottom	1,526.3	4,117
Submerged Vegetation	3,468.6	1,812
Unconsolidated Sediment	381.1	16,488
Other Delineations	13.0	483,359

Table 22. Ratio of the area of potential coral reef habitat and mapped coral reef habitat to population in Southeast Florida and the Florida Keys.
Source: Woods and Poole Economics, Inc., 2007; Rohmann et al., 2005.

Gender

In 2000, the population was 52% females and 48% males. Although this ratio was relatively consistent across counties, it varied in Monroe, where females comprised 47% of the population. Of individuals greater than 15 years of age, 55% were married, 26% had never been married, 11% were divorced, and 8% were widowed (35).

Race/Ethnicity

In 2000, the population was comprised primarily of white individuals, who made up approximately 71% of the population. Most of the remaining



Recreational dive boats aggregate near a popular coral reef in Florida.
Credit: © Wolcott Henry 2005/Marine Photobank

population was black or African American (17%), followed by other (4%), two or more races (3%), and Asian (2%). Of all races, 32% identified themselves as Hispanic or Latino. In Miami-Dade County, the percentage was 57% (35).

Age

Twenty-three percent of the total population in 2000 ranged in age from 0-17, followed by the age groups 45-59(18%), 35-44 (16%), 25-34 (14%), 60-69 (9%), 18-24 (8%), 70-79 (8%), and 80+ (5%). Martin County had the highest percentage of individuals in the 70-79 and 80+ categories, 14% and 7%, respectively. Monroe County had the lowest percentage of persons in the 0 to 17 age range with 17%, and the highest percentage of individuals in the 45-59 age range with 25% (35).

Households

In 2000, the total number of households in the combined counties was 2,098,741. Sixty-six percent were family households; of these, 42% were two-person households. Collier and Martin counties had the highest percentage of two-person households with 59% and 60%, respectively. Most non-family households contained only one person (80%) (35).

Language

The primary language spoken in the home was English (58%), followed by Spanish (30%), Indo-European languages (9%), Asian and Pacific Island languages (1%), and other (1%) (35).

Place of Birth

Of the total population, 67% were born in the United States and 33% were foreign born. Of those born in the United States, 36% were born in a state other than Florida. The county with the highest percentage of foreign-born residents was Miami-Dade with 51% (35).

Income

In 2000, the average median household income across the counties was \$42,729 per year. This is shown in Figure 24. In 2000, 14% of the population lived below the poverty level (35).



Coastal development up to the water's edge in Miami-Dade County.
Credit: Chantal Collier, Florida Department of Environmental Protection

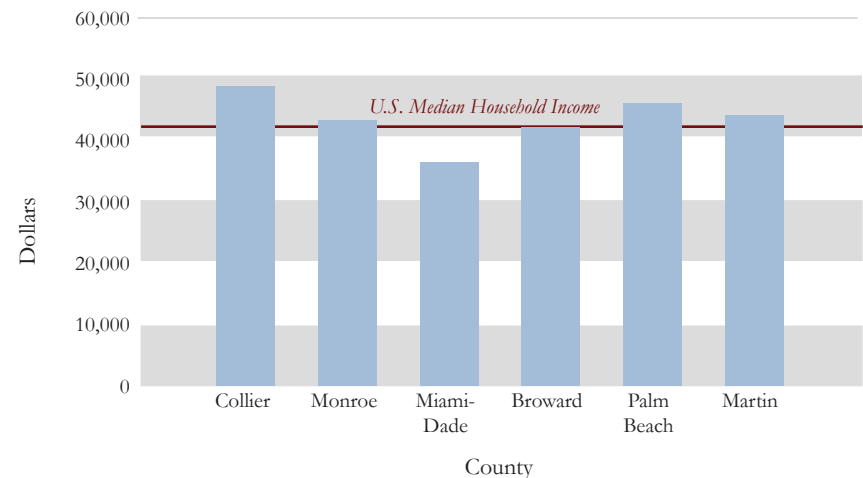
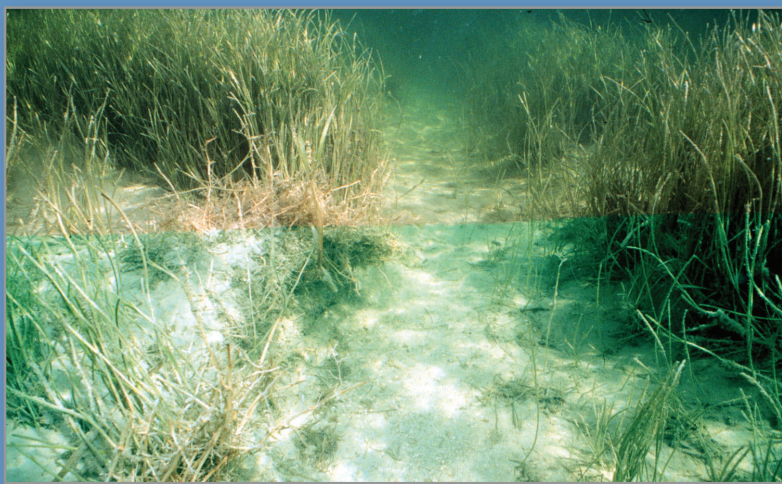


Figure 24. Median household income in Southeast Florida and the Florida Keys in 2000 by county.
Source: U.S. Census Bureau, 2000.

Highlighted Issue:
Boat Groundings, Propeller Damage and Anchor Drag

In southern Florida, over 30,000 acres of seagrass (an important component of coral reef habitat) have been scarred by boat propellers, primarily from use of small boats in shallow waters. Damage occurs when boat propellers come into contact with seagrasses (14). In 1993, an aerial study of Monroe County revealed that 15,000 acres of seagrass beds were moderately to severely damaged from boat propeller scarring (13). Boats are also known to cause damage by running aground on coral reefs, crushing and killing corals. Although the most noted groundings are that of large commercial ships, small recreational boat groundings can be just as destructive, with over 500 groundings reported in a single year in the Keys (14). Additionally, careless anchor dropping and dragging has been shown to cause considerable damage to coral reef habitat (47).



Damage due to recreational boaters operating in shallow water. Prop scars can take up to ten years to recover.

Credit: Harold Hudson, Florida Keys National Marine Sanctuary, NOAA.

Education

In 2000, 26% of the adult population (25 years of age and over) had a high school diploma. Twenty-seven percent had some college or an associate's degree, and 24% held a bachelor's degree or higher (35). This distribution is broken down by gender in Figure 25. In all education attainment categories, women outnumbered men, excluding the bachelor's degree or higher category.

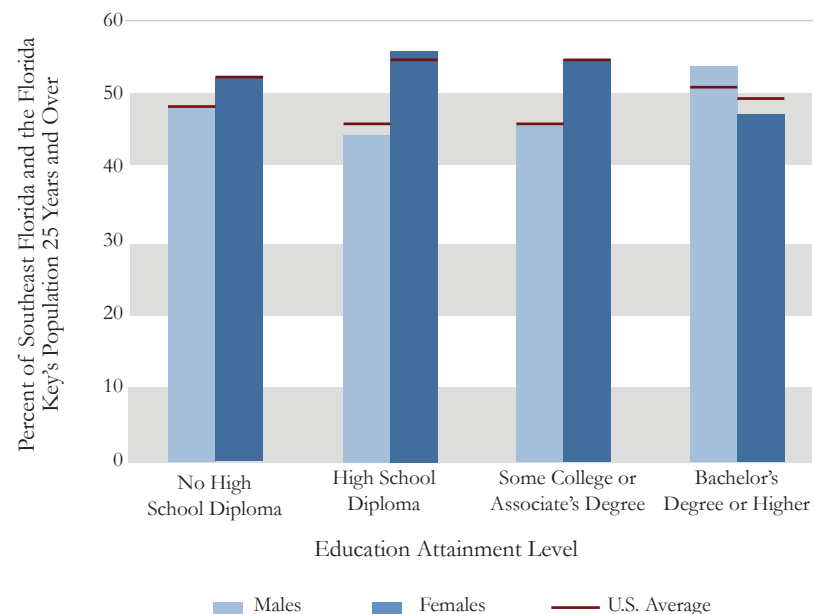


Figure 25. Education attainment by gender for the population 25 years and over in Southeast Florida and the Florida Keys in 2000.

Source: U.S. Census Bureau, 2000.

Employment

In 2000, 43% of the civilian population 16 years of age and over was employed. This percentage represents 2,362,578 people (35). The industries that employed the most people are listed in Table 23.

Commute to Work

For the civilian population over 16 years of age, 86% worked in their county of residence. The primary means of transportation to work were

Industry	Percent Employed
Educational; health and social services	18
Retail trade	13
Professional; scientific; management; administrative and waste management services	12
Arts; entertainment; recreation; accommodation and food services	10
Finance; insurance; real estate and rental and leasing	9
Construction	8
Manufacturing	7
Transportation and warehousing; and utilities	6
Other services (except public administration)	6
Wholesale trade	5
Public administration	4
Information	3
Agriculture; forestry; fishing and hunting; and mining	1

Table 23. Percent of the population 16 years of age and over that are employed by industry in Southeast Florida and the Florida Keys in 2000.

Source: U.S. Census Bureau, 2000.

driving alone in a private vehicle (77%) and carpooling in a private vehicle (13%). These were followed by public transportation (3%), working at home (3%), walking (2%), bicycle (1%), and other means (1%) (35).

Housing and Development

Housing Units

There were a total of 2,411,373 housing units in Southeast Florida and the Florida Keys in 2000. Miami-Dade, Broward, and Palm Beach Counties contained the majority of housing units (35%, 31%, and 23%, respectively). Of the total housing units, 58% were owner occupied, almost 29% were renter occupied, and 13% were reported as vacant (35).

Plumbing Facilities

In 2000, less than one percent of housing units lacked complete plumbing facilities in the study area (35).

Source of Water

The U.S. Census Bureau did not collect data on water sources for Florida in 2000 (35).

Sewage Disposal

The U.S. Census Bureau did not collect data on sewage disposal for Florida in 2000 (35).

*Building Permits*²

Between 2002 and 2006, an average of 28,077 building permits were issued for residential construction per year. Of those, 26,644 were for single-unit buildings and 1,433 were for multi-unit buildings. The total number of housing units averaged 49,487 per year (36, 37, 38, 39, 40).

Tourism

Approximately 30,573,992 tourists visited the study area from June 2000 through May 2001 (includes 2003 day trips for Martin County alone; does not include data for Collier County). Data for other years was not readily available. Miami-Dade County had the largest number of visitors at 12,613,645, followed by Broward County at 9,403,006 (19, 20).



Boating is among the most popular activities in the Florida Keys.
Credit: Florida Keys National Marine Sanctuary, NOAA