



Planning Document



LOWER EAST COAST  
WATER SUPPLY PLAN UPDATE

2013

# Executive Summary

The South Florida Water Management District's (SFWMD) strategic goal for all of its water supply plans is to ensure an adequate supply of water to protect natural systems and to meet existing and future reasonable-beneficial uses, while sustaining water resources for future generations. This document is the second update to the *2000 Lower East Coast Regional Water Supply Plan* (2000 LEC Plan) (SFWMD 2000). The first update, the *2005–2006 Lower East Coast Water Supply Plan Update* (2005–2006 LEC Plan Update), was finalized in 2007 (SFWMD 2007). This update presents twenty-year population and water demand projections, a review of water supply issues and evaluations, and water source options; examines local and regional efforts completed since the previous update; and evaluates future water resource and proposed water supply development projects for 2010–2030.

The Lower East Coast (LEC) Planning Area covers 6,100 square miles, including Palm Beach, Broward, and Miami-Dade counties, most of Monroe County, and eastern Hendry and Collier counties. The Everglades Agricultural Area, located in the LEC Planning Area, is a portion of the Lake Okeechobee Service Area. However, the entire Lake Okeechobee Service Area, which includes portions of Martin, Okeechobee, Glades, and Lee counties, is considered in the LEC water supply planning process because of its reliance on Lake Okeechobee.

A number of factors distinguish the LEC Planning Area from others regions of the state, including population, spatial extent of natural systems, availability of fresh water, and an extensive network of canals and related water works. The LEC Planning Area boundary encompasses three of the state's five most populous counties. Extensive natural systems such as Lake Okeechobee, the Everglades, Florida and Biscayne bays, the Northwest Fork of the Loxahatchee River, and Lake Worth Lagoon are found in the LEC Planning Area. It includes two national parks and four national wildlife refuges. The area typically receives abundant fresh water seasonally, with volumes exceeding human and natural system needs. Water availability also varies annually, including periodic drought. The regional water management system, the Central and Southern Florida Project for Flood Control and Other Purposes (C&SF Project), is largely located in the LEC Planning Area. The C&SF Project plays a critical role in capturing wet season storm water and moving water between natural systems as well as delivering water to agricultural areas and the urbanized coastal communities.

Total water demand is projected to increase by 12 percent to 1,933 million gallons per day (MGD) by 2030. Public Water Supply (PWS) remains the LEC Planning Area's single largest water use category in 2030, representing 52 percent of the planning area's total water demand. It is followed by agriculture at 34 percent. The remaining four categories, domestic (residential) self-supply, recreation and landscaping, industrial, and power generation, account for the remaining 14 percent.

The LEC Planning Area traditionally has relied on fresh groundwater from the surficial aquifer system and surface water from Lake Okeechobee as primary water sources for urban, agricultural, and industrial uses. The Everglades provides groundwater and surface water recharge to the urban coastal communities, contributing to the water supply throughout most of this region. In 2010, fresh groundwater accounted for 94 percent of potable water produced by PWS utilities. The surficial aquifer system, including the Biscayne aquifer, provides more than 1 billion gallons a day for utilities, as well as agricultural production, landscape irrigation, and other uses. Since the last plan update, the SFWMD placed limitations on additional allocations from the freshwater sources in the region to protect the region's natural resources. As a result, use of alternative water sources has expanded.

This plan update was developed in an open public forum with water supply utilities, local governments, environmental organizations, agricultural interests, and other stakeholders through the SFWMD's Water Resources Advisory Commission. The process to develop the population and water demand projections began in 2010. Multiple meetings and workshops were held with water users, local governments, utilities, agriculture and other industry representatives, environmental representatives, and agencies to solicit input, provide information about planning results, and receive comments on draft sections of the plan.

## PUBLIC WATER SUPPLY

This plan update represents a departure from the demand projections in the 2000 LEC Plan and the 2005–2006 LEC Plan Update. Subsequent to approval of the 2005–2006 LEC Plan Update in February 2007, the nation's economy fell into a long recession that had significant impacts on regional water supply planning, lowering population and demand forecasts. The dramatic slowdown in population growth occurred at the same time that consumption of potable water declined as measured in gallons per person per day. Likely reasons for this decrease in PWS consumption include short-term water shortage restrictions in response to droughts, long-term water conservation projects including SFWMD's year-round landscape irrigation conservation measures, and increased use of reclaimed water. Local actions, such as implementation by Broward and Miami-Dade counties of ordinances limiting landscape irrigation to two days a week, the Broward County Water Conservation Partnership, and individual utility conservation programs, have been key in lowering the water use rate. An indication of the resulting trend is the LEC Planning Area's population grew by 600,000 people between 2000 and 2010, but total potable water use declined by 87 MGD (10 percent) during the same decade.

This plan's twenty-year population and PWS demand forecasts are lower than the two previous plans' projections. Projections developed for this update indicate the planning area's population will increase over 18 percent, from approximately 5.6 million residents in 2010 to slightly more than 6.6 million by 2030. In contrast, the 2005–2006 LEC Plan Update projected the planning area's population to increase over 31 percent, to 7.3 million by 2025. The projected population growth varies widely between the counties: Palm Beach County

(+25 percent), Broward County (+14 percent), Miami-Dade County (+18 percent), and Monroe County (-5 percent).

The projected gross water demand for 2030 for the region's PWS is 1,008 MGD, a 20 percent increase from the volume used in 2010. Because the 2010 PWS water use was lower than the historical demand of the previous decade, the projected growth is within the available capacities for most utilities. Also, many utilities have been planning for the higher population growth rates and have secured twenty-year water use permit allocations and built the necessary treatment capacity. The cumulative volume of water currently allocated for PWS slightly exceeds the total projected demand for 2030 and the majority of the PWS water providers appear to be able to meet their 2030 projected demand without additional allocation or infrastructure. A few utilities will likely face a potential deficit on an average daily or peak demand basis within the next 20 years and have proposed projects in this plan for the deficit.

Utilities have diversified their water supply sources with development of alternative water supplies, including treatment and storage technologies, and water conservation programs. These alternatives include constructing brackish Floridan aquifer wells and reverse osmosis treatment plants, reclaimed water treatment and distribution facilities, and aquifer storage and recovery systems. Between 2007 and 2009, 41 MGD of potable water supply capacity was added. From 2010 to 2013, nine utilities built potable water supply projects with a capacity of 49 MGD. Approximately 14 percent of the current PWS allocation is now from an alternative water source, primarily brackish groundwater.

In this plan update, 10 utilities have proposed 13 new potable water supply projects totaling 76 MGD. Based on the 2030 demand projections, two utilities each appear to need one of their proposed potable water supply projects during the planning period. The two projects total 26 MGD. Local governments, in coordination with utilities, will address the proposed projects as they revise their water supply facilities work plans, which must be submitted to the State of Florida Department of Economic Opportunity and reviewing agencies within 18 months of approval of this plan update.

In addition to the 13 potable water supply projects, this plan update incorporates 15 nonpotable water projects proposed by utilities to meet future needs. Twelve of the nonpotable water projects are reclaimed water projects, including several to comply with the 2008 Leah G. Schad Ocean Outfall Program. Implementation of this program is expected to result in 178 MGD of additional reuse by 2025. If population growth accelerates faster than forecasted, reuse and other alternative water source projects could become more urgent for some water providers.