

# **CONSERVATION ELEMENT – DATA AND ANALYSIS**

## **I. Introduction**

Programs, policies and standards related to environmental protection and conservation within the City of Fort Lauderdale are developed and implemented by federal, state, regional and county agencies. In addition, the City has adopted ordinances to conserve and enhance its natural amenities and resources.

The primary agencies charged with the enforcement of environmental regulations in Fort Lauderdale are the Florida Department of Environmental Protection (DEP) (DER), the South Florida Water Management District (SFWMD), the Broward County Environmental Protection Department (EDP), and the Broward County Office of Water and Wastewater Services (WWS) along with the City's Planning and Zoning, Building and Public Works Departments.

## **II. Existing Conditions and Analysis**

### **Water Needs and Sources**

The Biscayne Aquifer serves as the primary source of fresh groundwater to meet water needs. While the Biscayne Aquifer is capable of yielding considerable amounts of water, continued urbanization within the County will eventually tax this resource

As a general measure, less than one percent of the total water demanded is for industrial use. The remaining demand in Fort Lauderdale is for potable water as there are no agricultural uses in the City.

Water is supplied from 29 wells in the Prospect/Executive Wellfield area and 24 wells in the Peele/Dixie Wellfield. These 53 wells have an existing design capacity of 107 million gallons per day (MGD), well in excess of the 51.76 MGD projected water demand in 2010.

The Broward County Board of Commissioners adopted the Wellfield Protection Ordinance (County Ordinance 84-60) in August of 1984. The purpose of the Ordinance is to safeguard public health by providing criteria for the regulation of storage, handling, use, or production of hazardous or toxic substances within the zones of influence of water supply wells. The City has an excellent record of complying with the Ordinance. Enforcement of that Ordinance by the County has reduced the possibility of future chemical contamination of wells.

The BCEPD has sixty-one groundwater monitoring stations countywide, seven of which are located in the City with one adjacent to each wellfield. While no data has been gathered from these wells in approximately 10 years, Broward County is currently performing reconnaissance of these wells and may resume sampling in the near future.

Saltwater intrusion, the encroachment of saltwater into the freshwater Biscayne Aquifer, is one of the most serious threats to wellfields. Intrusion occurs when the balance between fresh and saltwater is disturbed by manmade actions such as the large-scale withdrawal of freshwater from wellfields along the coast. Droughts also provide a situation where saltwater will intrude westward. To keep this condition from spreading, the Public Services Department is attempting to modify groundwater gradients as a means to mitigate the spread of saltwater intrusion and prevent contamination of the wells.

Another serious problem is wellfield contamination by industrial/commercial pollution. The Peele/Dixie and Prospect Wellfields contain wells contaminated by chemical pollution from industrial activities. Future contamination of wells should be curtailed by compliance with and enforcement of the Wellfield Protection Ordinance.

In order to contain present or possible future industrial contamination, City wellfields are continually sampled and tested. Production wells in both Prospect and Peele-Dixie wellfields are sampled quarterly for numerous parameters (160 samples per year). In order to insure an adequate lead time, should future contamination occur, monitoring wells have been drilled and are tested monthly for an additional 88 samples per year. In order to monitor saltwater infiltration at wells used for irrigation at City parks, monthly samples are taken.

In 1996 the city installed a “water conservation rate” designed to reduce per capita consumption. In an effort to identify the best means of conserving water, Fort Lauderdale had contracted for several studies in past to examine the financial and environmental feasibility of initiating a reuse water program. In all cases, the studies concluded that such a program would be cost prohibitive for the City. Accordingly, in addition to enactment and enforcement of the Water Conservation Rate Ordinance in 1996, the City has pursued development of Aquifer Storage and Retrieval (ASR) wells to store treated water below surface.

The City has also enacted laws enabling City enforcement of any restrictions relating to water shortages declared by the South Florida Water Management District. (Ordinance 28-1) Through these measures, the City will continue to conserve water and meet the intent of Broward County Future Land Use Policies 6.01.04 and 8.03.09 (City of Fort Lauderdale Conservation Element Policies 9.7 and 9.8).

### **Surface Water**

There are approximately 84 miles of navigable waterways and canals in the City. Map 1 shows rivers, bays, lakes and estuarine systems within the City. All the surface waters of the City are designated by the Florida DEP, as Class III waters. Class III waters have recreation, and fish and wildlife propagation as priority uses. All navigable rivers within the City have been channelized. These include















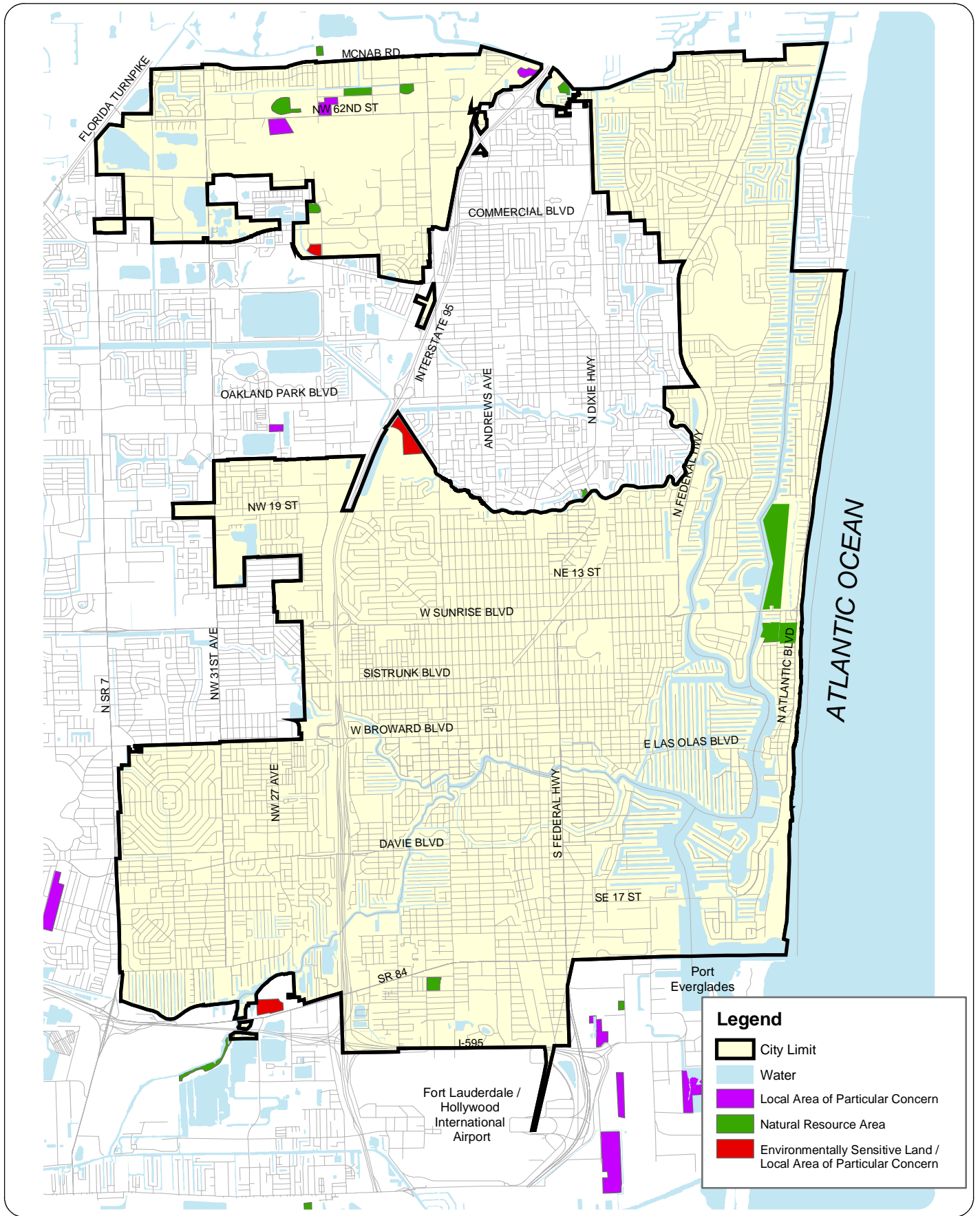












# LAPC, ESL, NRA & TREE RESOURCES

# MAP 4

DATA SOURCE: BROWARD COUNTY DEPARTMENT OF PLANNING & ENVIRONMENTAL PROTECTION  
 MAP SOURCE: CITY OF FORT LAUDERDALE PLANNING & ZONING DEPARTMENT - JULY, 2006

