CONSERVATION ELEMENT

TABLE OF CONTENTS

LIST OF MAPS

CONSERVATION ELEMENT

OF THE COMPREHENSIVE PLAN

CITY OF DELRAY BEACH

BACKGROUND

The text of the Element is a summary of the complete inventory, analysis, and recommendations which are contained in the following source documents:

- ❑ Conservation Element (Post, Buckley, Schuh & Jernigan, Inc., 1989)
- ❑ 1996 Evaluation and Appraisal Report (City of Delray Beach, 1996)
- ❑ 2006 Evaluation and Appraisal Report (City of Delray Beach, 2006)
- ❑ 2015 10-Year Water Supply Facilities Work Plan (Kimley-Horn and Associates, 2015)

The source documents, and other documents which are cited in the Element, are available for public review at the Planning and Zoning Department offices located at 100 N.W. 1st Avenue, Delray Beach, Florida.

INVENTORY

The following summary is prepared to facilitate review with the requirements of ~~Administrative Rule 9J-5~~F.S. 163.3177(6)(d). As a summary, only significant items are highlighted. The source documents should be referred to for more information.

The following natural resources, as listed in ~~9J-5~~F.S.163.3177(6)(d), are found within the Delray Beach Planning Area:

- ❑ Surface Waters
  - ♦ The Intracoastal Waterway
  - ♦ Lake Ida (80 acres)
  - ♦ South Florida Water Management District (SFWMD) Canal C-15
  - ♦ Several Lake Worth Drainage District (LWDD) equalizer and lateral canals
  - ♦ Private water bodies used primarily as water retention areas (drainage requirements)
  - ♦ The Atlantic Ocean

- Ground Water

  - Surficial Aquifer System, an unconfined unit, is the primary source of the City potable water supply through municipal wells.

  - Intermediate Confining Unit (Hawthorn formation).

  - Floridan Aquifer System, a confined unit, is currently used to supplement the Surficial Aquifer System for potable water supply and is a potential long-term water supply resource with reverse osmosis treatment.

- There are no wetlands in the Planning Area (South Florida Water Management District mapping program).

- There are no hazardous waste sites in the Planning Area.

- There are no commercially valuable minerals being mined or extracted in the Planning Area (Florida Mining Atlas and local knowledge). Some concentrations of coquina, dolomite, and sand exist below the surface but are located in developed areas.

- Four types of soil erosion are discussed in the PBS&J report. Three pertain to development activities and are now controlled by the City's Erosion Control Ordinance. The fourth is beach erosion which is addressed by the City's Beach Renourishment Program (see the Coastal Management Element for a full description of this program). Other than beach erosion, none of the erosion situations are significant.

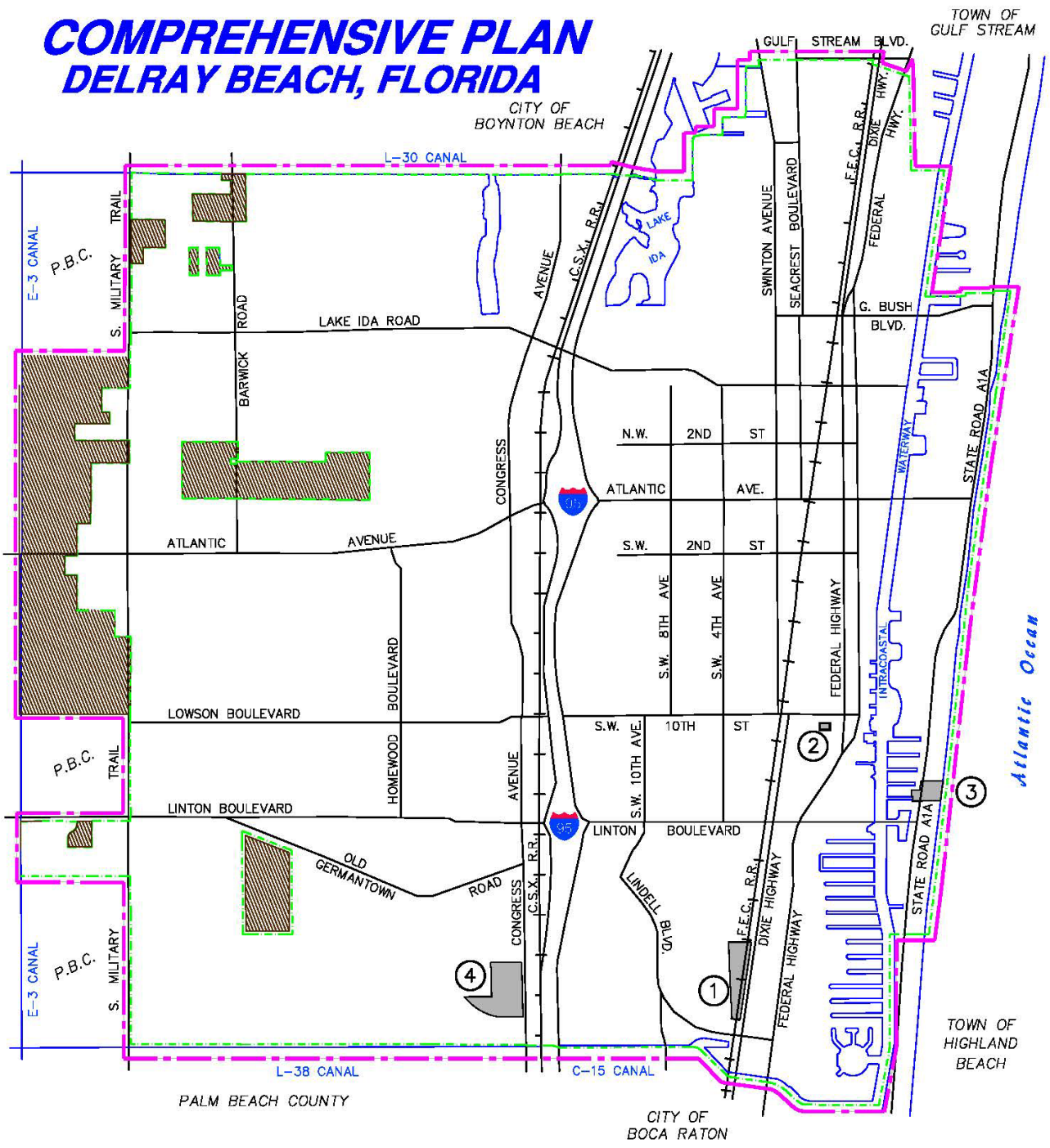
- Vegetative Communities identified as native ecosystems in the "Inventory of Native Ecosystems in Palm Beach County, Phase III" report, include: (see Map #10)

Leon Weekes Environmental Preserve	12 acres, Florida Scrub
Hurricane Pines	0.4 acres, Florida Scrub
Atlantic Dunes Park	4 acres, Beach Strand Community
Delray Oaks	24 acres, Low (Oak) Hammock

Additional environmentally sensitive sites identified locally include:

Donnelley Tract	2 acres, Mangroves
FIND Parcel MSA 645	8 acres, Mangroves
FIND Parcel MSA 650 (Mangrove Park)	4 acres, Mangroves
Hammock Reserve Preserve Area	4 acres, Oak Hammock

COMPREHENSIVE PLAN
DELRAY BEACH, FLORIDA



LOCATION OF NATIVE ECOSYSTEMS
MAP #10

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MILE

GRAPHIC SCALE

CITY OF DELRAY BEACH, FLORIDA
PLANNING & ZONING DEPARTMENT

MARCH 2008

LEGEND:

1. LEON WEEKES ENVIRONMENTAL PRESERVE
2. HURRICANE PINES
3. ATLANTIC DUNES PARK
4. DELRAY OAKS

PLANNING AREA (ULTIMATE CITY BOUNDARY)

CITY LIMITS

COUNTY JURISDICTION

- ❑ A complete list of endangered, threatened, or species of special concern whose range includes the Planning Area are listed in the PBS&J report. The manatee is frequently seen in the Intracoastal Waterway and the C-15 Canal. Several species of sea turtles nest upon the City's extensive coastal beach. The City has enacted a "Turtle Nesting Protection" ordinance.

ANALYSIS

KNOWN POLLUTION PROBLEMS

Water Quality

The City's major surface water bodies, which include the Intracoastal, Lake Ida, SFWMD and LWDD drainage canals, and private water retention bodies have shown no degradation in water quality. There is a continuing concern with the quality of Lake Ida in that swimming has not been allowed in the past and continues to be prohibited. A study was completed by Palm Beach County in 1997, entitled "State of the Lakes, A report on the State of the Lakes of the Coastal Ridge in Palm Beach County and a Plan for their Management." This report details the condition of Lake Ida in the context of the chain of interconnected lakes, and proposes a program of management to protect, restore and enhance the natural resource values the lakes provide. The lakes and the associated LWDD E-4 Canal are used extensively for boating, fishing and other recreation activities. However, the lakes are not included in the designated public bathing areas, by the Palm Beach County Health Department, primarily due to bacteriological concerns. The Chain-of-Lakes are also an integral part of the drainage system for central and southern Palm Beach County. While they are lakes, the hydrology is atypical of a lake/watershed regime, due to the interconnection with the Central and Southern Flood Control Project and the LWDD.

The 2002 Palm Beach County Chain-of-Lakes Water Quality and Pollutant Loading Evaluation ERD Report, provided an in-depth assessment of the pollutant sources for the lakes. The sources of pollutant loading were identified as; tributary inflow (canals), seepage inflow (groundwater), precipitation and miscellaneous stormwater outfall inputs (drainage pipes). Tributary inflow from the LWDD tributary canals was identified as the primary pollutant loading source for Lake Ida. In January 2006, Palm Beach County Department of Resource Management (ERM) initiated the Chain-of-Lakes Water Quality Monitoring Program. Water quality data from this program was used to develop the Chain-of-Lakes Water Quality Update dated May 2008.

A TMDL is the maximum amount of a given pollutant that a water body, such as a canal, river or an estuary, can absorb and still maintain its designated uses. Designated uses include; drinking, fishing, recreation, and shellfish harvesting. The purpose of a TMDL is to limit pollutant loading to water bodies that are not meeting their intended uses and therefore determined to be impaired by Rule, based on water quality monitoring. Pollutant loading reductions are placed on known pollutant sources such as drainage systems and other permitted discharges.

Currently, the Florida Department of Environmental Protection has included Lake Ida in the list of water bodies within Palm Beach County that are verified as impaired for a particular pollutant. Lake Ida was identified as having excessive nutrients with a Trophic State Index (TSI) of 61. This exceeds the Florida Impaired Waters Rule threshold of 60, for listing as an impaired water body. High and/or increasing TSI levels result in an abundance of plant and algae growth and widely ranging dissolved oxygen concentrations, which can have a detrimental effect on native plants and animals. The year 2010 is the implementation date for development of these TMDLs, although in 2009 a reassessment shall be conducted which may likely change the status of the water bodies listed as impaired.

There continues to be nuisance problems with litter, improper dumping and wastes from boats and boaters. The water quality in the Intracoastal Waterway is listed as fair (Palm Beach County Health Department). Although the Regional Wastewater Treatment Plant currently discharges through an ocean outfall, the Atlantic Ocean and beach area do not show any indications of pollution. Additionally, with the conversion to effluent reuse and deep well injection in 2008, this outfall will be phased out except for emergency situations and DEP permitted exceptions.

Ground Waters

The point source problem identified in 1988 in the Series 20 Wellfield (Aero Dry site) ~~c~~ was mitigated through the use of air scrubbers at the water treatment plant. Water quality has improved to the extent that the air scrubbers are no longer in use, although water quality testing continues. No further water quality problems are noted with ground water.

Air Quality

The air quality within Delray Beach and Palm Beach County as a whole continues to be in compliance with all National Ambient Air Quality Standards. In late 1993, the Florida Department of Environmental Protection (DEP) submitted a request to the US Environmental Protection Agency (EPA) to redesignate the Southeast Florida Area (Dade, Broward, and Palm Beach County) from non-attainment to a maintenance area for ozone. The EPA approved the request and the redesignation was effective April 25, 1995. Continued compliance with air quality standards is anticipated and has been achieved to date through new control methods including less evaporative gasoline, vapor controls for retail gasoline fueling, and replacement of older vehicles with less polluting ones. In addition, gasoline dispensing facilities within the City have been outfitted with vapor recovery systems, and all underground corrosive (steel) storage tanks have been replaced. It is also noted the Florida Department of Environment Protection deadline for replacement of all single-wall non-corrosive underground storage tanks and piping with double-wall systems is December 31, 2009.

Soil Erosion

Soil erosion is not a concern except beach erosion which is mitigated by the City's Beach Renourishment Program.

EXISTING USE AND THE POTENTIAL FOR CONSERVATION, OR PROTECTION

Surface Waters

The Intracoastal Waterway has three commercial marinas (Delray Harbor Club, Delray Beach Yacht Club, and Marina Delray) and one municipally operated marina. Three City parks, two of which also provides boat launching facilities, are located along the Waterway. Other public access points along the Waterway are via street ends. There is extensive boat traffic which originates from private marinas and waterfront properties within the City and locations (both private and commercial) outside the City.

Lake Ida has no commercial use. The west side of the lake is a regional park operated by Palm Beach County, and a City neighborhood park is located on the east side. While swimming is not allowed, there is extensive boat usage. There is potential to improve the water quality and weed control in Lake Ida as proposed in the County's "State of the Lakes" report.

There is no commercial usage of the South Florida Water Management Canal (C-15) nor of the several Lake Worth Drainage District laterals and equalizer canals. The only recreational use of the canals is for small craft.

There is no commercial use of the private water bodies, nor is there significant recreational use since they are used primarily as water retention areas and use is restricted by SFWMD and LWDD regulations.

There is no commercial usage along the beaches of the Atlantic Ocean within the City, except for concessions renting cabanas and recreational equipment such as surfboards, and windsurfers. However, the one and one-half miles of municipal beach is a major recreational center.

Vegetative Communities

Atlantic Dunes Park, Leon Weekes Environmental Preserve, and Delray Oaks sites are in public ownership. Interpretive trails exist in Atlantic Dunes Park, and in the Delray Oaks and Leon Weekes preserves.

Hurricane Pines (3 acres) continues in private ownership and the site was developed as part the Herritage Club development. Three portions of the site, totaling 0.4 acres were preserved as part of the open space of the development.

The oak hammock in the Hammock Reserve development has been preserved through conditions of a development order and set aside as a preservation area through zoning (Open Space) and platting.

The Donnelly Tract is a small (1.65 acre) mangrove tract owned by the City. The property is located on the west side of the Intracoastal Waterway approximately one-quarter mile north of George Bush Boulevard. The site is to be preserved and

maintained as a mangrove wetland. The only potential site improvement is a boardwalk for passive use, although there are no current plans developed.

The City is continuing to negotiate with Florida Inland Navigational District (FIND) for utilization and eventual ownership of MSA parcels 650 and 645. Parcel 650 (south of Knowles Park) is a 4.5 acre site, originally a spoil area for Intracoastal Waterway dredging. The City negotiated a long term lease on the site to take over management and maintenance and is currently developing Mangrove Park on the site. Parcel MSA 645 is a 8.5 acre mangrove site located on the east side of the Intracoastal just south of George Bush Blvd. The City is negotiating with FIND to acquire control of the site through a long term lease.

There are no other commercial or recreational uses of identified natural resources.

Endangered, Threatened, and Species of Special Concern

Species of special concern include the Florida Manatee which continues to be subject to danger from boat traffic. Boat speed restrictions have been established for the Intracoastal Waterway throughout the City. In addition, several species of sea turtles nest on the municipal beach and are protected through the City's Sea Turtle Conservation Program and lighting restrictions.

A complete list of endangered, threatened, or species of special concern whose habitats include the Planning Area are listed in the PBS&J report prepared for the 1989 Conservation Element.

CURRENT AND PROJECTED WATER SOURCES AND NEEDS

Reductions in per capita water consumption have been accomplished through implementation of various water conservation and public education programs. The City currently has a consumptive use permit through SFWMD which allows a maximum of 19.10 million gallons per day capacity. This is distributed among the City's four wellfields with the following SFWMD permit allocations; 2,300 million gallons per year from the series 20 wellfield, 3,051 million gallons per year from the golf course wellfields, 5.8 million gallons per day from the eastern wellfields, 478 million gallons per year from the Morikami wellfield. The City's projected 2015 average potable day water demand of 16.36 mgd and projected 2030 average day water demand of 18.37 can be accommodated by the existing permitted raw water wells. These are the net projected demands assuming that the City continues to expand its reclaimed water distribution system (Water Supply Plan, 2015, Table 3.5.1).

Significant improvements to the water treatment operations have been achieved through the addition of a lime softening process; and installation of three wells at Morikami, providing an additional capacity of 5.6 mgd. The City has also converted its Aquifer Storage and Recovery Well in the upper Floridan Aquifer to public water supply well to supplement withdrawals from the Surficial Aquifer. Withdrawals from the Floridan are limited to 1.5 MGD in order to keep the chloride level in the blended water to within the water quality requirements.

The City and the South Central Wastewater Treatment Facility Board have initiated a program of wastewater effluent reuse for irrigation to address water conservation and the reduction in demand for water. This program is projected to result in total reductions of 3.79 mgd. currently withdrawn from the aquifer for irrigation and 0.34 mgd. in potable water currently used for irrigation on the barrier island.

Both the City and South Florida Water Management District promote water conservation through public education. However, in times of crisis both entities may impose restrictions on the outdoor use of water (irrigation, car washing, etc.). While such efforts have been sufficient in the past, greater demands upon the area's water resources dictate that additional water conservation measures, particularly those directed toward reduction in normal consumption, be continued.

There is no special need for agricultural water in the next ten years based upon the projection that the few remaining agricultural operations will have been abandoned in favor of development.

There are no special needs for industrial water as intensification of industrial uses is not anticipated. The overall demand for water by commercial and industrial uses is calculated as a part of the per capita demand upon which water needs are projected.

FLOOD PRONE AREAS

Flood prone areas are identified upon Community Panel Numbers 125102-0001-0006, revised January 5, 1989, of the Federal Emergency Management Agency's National Flood Insurance Program. The City has a flood damage protection program which is certified by FEMA.

NEEDS AND RECOMMENDATIONS

Summarizing from the above, the following needs and recommendations are identified in the Conservation Element:

- Continuation of the beach erosion control program.
- Promotion of water quality and weed control improvements in Lake Ida and associated drainage canals.
- Continued pursuit of water conservation programs.
- Promotion of water conservation through public education.
- Development and/or implementation of programs for the preservation of Delray Oaks, the Donnelley Tract, and FIND parcels 645 and 650.

GOALS, OBJECTIVES, AND POLICIES

GOAL AREA "A" WATER QUALITY AND QUANTITY

Objective A-1 **Protection of Water Sources**

Policy A-1.1 Monitoring of Groundwater
Policy A-1.2 Utilization of Cost-Effective Technology
Policy A-1.3 Preservation of Recharge Areas

Objective A-2 **Wellfield Protection Program**

Policy A-2.1 Performance Standard Requirement
Policy A-2.2 Inspection and Monitoring of Commercial Property
Policy A-2.3 Hazardous Waste Storage/Transfer/Generation Prohibited

Objective A-3 **Disposal of Hazardous Material**

Policy A-3.1 Maintain Existing Programs
Policy A-3.2 Public Education Programs
Policy A-3.3 Central Collection Site for Household Hazardous Waste

Objective A-4 **Water Conservation**

Policy A-4.1 Public Information
Policy A-4.2 Water Conserving Fixtures
Policy A-4.3 Water-Saving Irrigation Techniques
Policy A-4.4 City Use of Xeriscape
Policy A-4.5 Surface Water for Irrigation
Policy A-4.6 Reduction of Potable Water Use for Irrigation
Policy A-4.7 Effluent Reuse for Irrigation
Policy A-4.8 Sealing of Wells
Policy A-4.9 Emergency Water Conservation
Policy A-4.10 Storm Water for Irrigation
Policy A-4.11 Permitting of Innovative Pervious Surfaces to Reduce Runoff

Objective A-5 **Regional Water Supply**

Policy A-5.1 Water Supply Plan

GOAL AREA "B" CONSERVATION OF SENSITIVE LAND

Objective B-1 **Sensitive Lands to be Protected**

Policy B-1.1 Land Use Designation and Zoning of Sensitive Sites
Policy B-1.2 Hurricane Pines
Policy B-1.3 City-owned Park at Blood’s Grove

Policy B-1.4 Oak Hammock at the Hammock Reserve
Policy B-1.5 Natural Reservations/Historic Sites
Policy B-1.6 Invasive Exotic Plant Species

Objective B-2 **Regulation and Public Awareness**

Policy B-2.1 Biological Survey Requirement
Policy B-2.2 Preservation of Habitat
Policy B-2.3 Tree Permit Requirement
Policy B-2.4 Speed Limits on the Intracoastal

Objective B-3 **Erosion Protection**

Policy B-3.1 Soil Erosion Control Measures
Policy B-3.2 Lake Ida Shoreline Protection
Policy B-3.3 Intracoastal Seawall and Shoreline Protection

Objective B-4 **Beach Renourishment Program**

Policy B-4.1 Pedestrian Access Control
Policy B-4.2 Sea Turtle Conservation Program
Policy B-4.3 Dune Protection Programs
Policy B-4.4 Offshore Reefs and Marine Habitat

GOAL AREA "C" AIR QUALITY AND WATERWAYS

Objective C-1 **Air Quality**

Objective C-2 **Waterways Quality**

Policy C-2.1 Lake Ida Water Quality

GOAL AREA "D" RECYCLING

Objective D-1 Participation in Recycling Program

Policy D-1.1 Increase Materials Recycled
Policy D-1.2 Increase Participation
Policy D-1.3 Increase Participation By Low-performing Neighborhoods

GOAL AREA "E" SUSTAINABILITY

Objective E-1 Recommendations to City Commission ***[Revised by Amendment 10-1]***

Policy E-1.1 Green Implementation Advancement Board ***[Revised by Amendment 10-1]***

GOAL AREA "A" ***THE PROTECTION AND CONSERVATION OF THE CITY'S WATER SUPPLY IS OF THE UTMOST IMPORTANCE. ALL EFFORTS SHALL BE UNDERTAKEN TO PROTECT, CONSERVE, RECYCLE AND WISELY USE WATER AND TO EDUCATE THE PUBLIC IN THESE EFFORTS.***

Objective A-1

Efforts shall be undertaken which focus upon detecting and eliminating contamination and instituting preventative measures which protect our water supply sources, through the following specific policies.

Policy A-1.1 The practice of monitoring groundwater conditions through installation of monitoring wells shall be continued through implementation of the County's Wellfield Protection Ordinance and the City's Industrial Pretreatment Program, as well as applicable State and Federal requirements.

Policy A-1.2 The City shall continue to monitor developments in the field of water treatment technology, including desalinization, and shall utilize the most cost effective technology available to meet long-term demands.

Policy A-1.3 The City shall encourage the preservation of existing groundwater recharge areas through sensitive site planning, including maximizing open space, pretreatment of stormwater runoff, etc. In the case of environmentally sensitive lands, such preservation may include sensitive development under "planned development" concepts, exaction (public site dedication provisions of the Land Development Regulations), and acquisition (including the County Environmentally Sensitive Lands Acquisition Program).

Objective A-2

The concepts, principles, and regulations contained in the Palm Beach County Wellfield Protection Program shall be implemented and expanded upon by the City as specifically identified in the following policies.

Policy A-2.1 The City shall continue to assure compliance with the County Wellfield Protection Ordinance by including compliance as a performance standard for which a specific finding must be made upon approval of any site plan or conditional use action.

Policy A-2.2 Inspection and monitoring of business premises, to ascertain that facilities and procedures exist and are utilized to properly manage hazardous materials and wastes commonly occurring as a result of existing or proposed activities, shall be continued through current processes related to the Wellfield Protection Program, Industrial Pretreatment Program, and Fire department inspections.

Policy A-2.3 The City of Delray Beach shall prohibit the establishment of hazardous waste storage, transfer, or generating facilities.

Objective A-3

Specific programs shall be implemented to monitor, enforce, reduce, eliminate, and provide environmentally responsible disposal methods of materials which may be hazardous and contaminate our water supply.

Policy A-3.1 The current program of monitoring and inspection of industrial and commercial sites shall be maintained through the allocation of adequate staff to such duties.

Policy A-3.2 The City supports public education programs to provide awareness of the impacts of the improper disposal of household hazardous waste.

Policy A-3.3 The City supports the continuation of a central collection site, under the jurisdiction of the Solid Waste Authority, to which the public may bring and deposit household hazardous wastes on a daily basis.

Objective A-4

To mitigate against future water shortages, a series of innovative activities, which educate the public, reduce consumption, minimize waste, and generally protect water resources, shall continued to be undertaken. These activities shall be directed toward ~~a~~ the continued reduction of water use, and shall be evaluated annually. **[AMENDMENT ~~2008~~2015-WSP1]**

Policy A-4.1 The City's current water conservation regulations shall, on a regular basis, be brought to the attention of the public. Vehicles for public information shall include; posting of literature in City Hall and along major roads, utility bills, neighborhood newsletters, and press releases.

Policy A-4.2 The City shall continue to implement up-to-date building code requirements for water conserving fixtures in new construction.

Policy A-4.3 The City shall encourage a broad range of water-saving irrigation techniques through the continued enforcement of the landscape code.

Policy A-4.4 Wherever possible, the City shall use xeriscape instead of traditional landscaping on City property. As a part of the submittal of any landscape plan, a xeriscape approach must be considered.

Policy A-4.5 Water which flows in canals or drainage lakes, or reclaimed water shall be used wherever possible for irrigation of golf courses and open space areas. The possibility of such water use shall be explored during the review of any development plans which are in proximity of such a water source.

Policy A-4.6 The City shall continue its present policy of requiring a water source, other than City water, for irrigation purposes in geographically defined areas of the City.

Policy A-4.7 The City, through the Regional Wastewater Treatment Facility Board, shall continue to utilize and expand its use of reclaimed water from the wastewater treatment

plant. Priorities for effluent reuse should be on golf courses in the City, large homeowner associations with master meter systems, and in the Coastal Planning Area.

Policy A-4.8 Whenever water wells are discontinued from use, they shall be plugged and sealed as required by the Florida Department of Environmental Protection.

Policy A-4.9 The City of Delray Beach hereby supports the public education programs and emergency powers of the South Florida Water Management District with respect to the conservation of water sources and shall, when such programs and activities are imposed by the District, impose those similar restrictions which are available under the City's emergency water conservation powers.

Policy A-4.10 The City will encourage the directing of storm water into landscaped areas for use in irrigation throughout the city limits.

Policy A-4.11 The City shall work with South Florida Water Management District to permit innovative techniques of pervious paving/surfaces to reduce water runoff and promote percolation/stormwater recharge.

Objective A-5

To address the City's existing and projected potable water needs and sources in the context of the regional water supply, the following policy shall be implemented.

Policy A-5.1 The City adopts, by reference, the City of Delray Beach's 2015 Water Supply Facilities Work Plan.

GOAL AREA "B" ***NATURAL RESERVATIONS AND SENSITIVE LANDS WHICH PROVIDE HABITAT OR CONTAIN NATIVE VEGETATION WHICH IS VITAL TO THE ENVIRONMENTAL QUALITY OF THIS COMMUNITY SHALL BE CONSERVED, ENHANCED, REGENERATED, MAINTAINED AND PROTECTED.***

Objective B-1

The City shall protect and regenerate natural reservations and environmentally sensitive areas through the following policies.

Policy B-1.1 Publicly-owned environmentally sensitive areas have been identified on the Future Land Use Map by an "Open Space - Conservation" symbol. The FIND parcels 645 has been zoned into the conservation zone district and parcel 650 (Mangrove Park) has been zoned Open Space. These designations shall be maintained in order to further Objective B-1 as well as the Goals, Objectives and Policies of the Open Space and Recreation Element.

Policy B-1.2-With development of the Heritage Club project, a portion of the Hurricane Pines site has been preserved as part of the open space for the project. This area shall continue to be maintained by the homeowners association as preservation area.

Policy B-1.3 The City-owned park site in the Hammock Reserve area shall be developed with primarily passive uses to maximize retention of the existing native plant communities.

Policy B-1.4 The 4 acre oak hammock in the Hammock Reserve development shall continue to be preserved as a environmentally sensitive site.

Policy B-1.5 Natural reservations which exist as historic sites shall be protected through the continued implementation and enforcement of the City's Historic Preservation Ordinance.

Policy B-1.6 The City's Landscape Ordinance shall provide for the removal of existing invasive exotic species such as Australian Pine, Brazilian Pepper, and Melaleuca on private property as development and/or redevelopment occurs. It shall also prohibit the planting or cultivation of these species anywhere within the City.

Objective B-2

Educational programs shall be implemented to increase public awareness. Regulations shall provide for the protection of flora and fauna. All measures shall ensure the protection, preservation, enhancement, conservation, regeneration, and appropriate use of fisheries, wildlife and marine habitats which serve endangered, threatened and native plant and animal species.

Policy B-2.1 The submission of a biological survey and a habitat analysis shall accompany land use requests for plan amendments, rezonings, and site plan approval. However, the requirement shall not apply to small parcels, developed parcels, or where it is apparent that there are no such resources.

Policy B-2.2 Whenever and wherever significant or sensitive flora and fauna communities are identified, plans shall be required to preserve the habitat to the extent feasible, or provide for mitigation if preservation is infeasible or inappropriate.

Policy B-2.3 A tree permit shall be necessary to remove or destroy any tree which has a diameter of four inches or greater.

Policy B-2.4 The City supports the maintenance of speed limits on the Intracoastal Waterway in order to provide a degree of protection for the Manatee.

Objective B-3

The City shall implement programs and techniques to protect property from erosion and deterioration created by the impacts of wind and water.

Policy B-3.1 The City shall continue to control erosion from wind and flowing water through the building permit review and inspection process and the soil erosion control ordinance.

Policy B-3.2 The City supports Palm Beach County's program to restore and protect the shoreline of Lake Ida. In addition, the City supports continuing monitoring of boating activity in the lake to assure that this activity does not produce adverse impacts on the shoreline.

Policy B-3.3 A program to accommodate necessary repair, replacement, and maintenance of City-owned seawalls along the Intracoastal Waterway shall be retained.

Objective B-4

The City shall continue to implement its beach erosion control program and the environmental protection and enhancement aspects of its Beach Renourishment Program.

Policy B-4.1 As a part of the City's ongoing beach renourishment and protection program, the existence of pedestrian accesses to the beach shall be maintained and enhanced through the continuation of the dune management program. Where necessary to control erosion, accesses shall be enhanced in accordance with the Beach Access Study.

Policy B-4.2 The City shall continue to implement the Sea Turtle Conservation Program, which includes monitoring of nesting and hatching activity, and enforcement of lighting restrictions.

Policy B-4.3 The City shall continue to implement its dune protection and enhancement programs, which include management of the dunes at the municipal beaches and regulation of private development activities.

Policy B-4.4 The City shall maintain existing programs to protect offshore reefs and marine habitat through monitoring and management of beach renourishment construction activities.

GOAL AREA "C" ***THE QUALITY OF THE AIR AND THE WATERWAYS OF THE COMMUNITY ARE TO BE PROTECTED AND ENHANCED.***

Objective C-1

The City's fleet shall use fuel efficient or hybrid vehicles where appropriate.

Objective C-2

The City shall support and participate in regional efforts to protect and enhance the quality of waterways, including Lake Ida, the drainage canal system, and the Intracoastal Waterway.

Policy C-2.1 The City shall encourage continued monitoring and enhancement of the Lake Ida water quality by the responsible agencies, with the goal of achieving a level of water quality that will allow swimming.

GOAL AREA "D" ***THE CONSERVATION OF NATURAL RESOURCES SHALL BE ENCOURAGED THROUGH CITY SUPPORT OF WASTE MANAGEMENT PROGRAMS TO RECYCLE MATERIALS.***

Objective D-1

The City shall continue to participate in the Palm Beach County Solid Waste Authority recycling program.

Policy D-1.1 The City shall work with the Solid Waste Authority to increase the number of materials accepted for recycling to include items such as Styrofoam and plastic bags.

Policy D-1.2 The City shall continue to support the County's education program to increase participation in recycling.

Policy D-1.3 The City shall conduct an annual education program to encourage increased participation in the recycling program by low performing neighborhoods.

GOAL AREA "E" ***STRIVE TO BECOME MORE SUSTAINABLE CITY .***

Objective E-1

Annually, determine an actionable set of recommendations that enables the City of Delray Beach to implement its current environmental commitments in a timely, cost-effective, and citizen-centric manner, as well as explore new opportunities for sustainability. The City of Delray Beach encourages land use planning and development based on sustainability principles and practices. The City also, when applicable, recommends implementation of policies and programs that provide environmental, economic and social benefits to residents, businesses, visitors and other governmental agencies to strengthen Delray Beach's position as a model of sustainable practices. ***[Amended by Amendment 10-1]***

Policy E-1.1 By February 1st of each year, the Green Implementation Advancement Board (GIAB), shall review City operations and policies toward achieving Delray Beach's green and sustainability goals and providing a report of recommendation to the City Commission regarding:-***[Amended by Amendment 10-1]***

1. Ways to improve the environmental Sustainability of City programs, services, and equipment facilities.
2. Strategies for improving environmental sustainability of the community

3. Incentives for residents, businesses, and organizations to practice environmental conservation including recycling.
4. Proposed means to enhance water and energy conservation.
5. Ideas for promotion of tree planting and xeriscaping.
6. Best Practices for implementation in Delray Beach, including long-term strategies.
7. Proposed revisions to City Ordinances to address Green Technologies.
8. Strategies to address factors that affect energy conservation.

The GIAB will consider the cost and environmental implications related to any potential recommendation to the City . The GIAB's consideration will include the "Double Bottom Line" approach, which includes:

- Financial – Total cost, funding availability and is the payback within a reasonable timeframe (5-8 years)
- Environmental - Is the recommendation good for the environment within the City of Delray Beach and does it improve the City's overall quality of life.