5. CONSERVATION ELEMENT
Data, Inventory, and Analysis

INTRODUCTION

The purpose of the Conservation Element is to promote the conservation, use, and protection of natural resources within the City of Altamonte Springs. The objective of the Conservation Element Data Inventory and Analysis (DIA) Report is to document the conditions for various natural resources found within the City and identify key community priorities for conservation strategies. The DIA Report also examines the current and projected water needs for the community over the 20-year planning horizon (2030) to ensure adequate water supply is available to support future demands. Together, this information serves as the foundation for goals, objectives, and policies prepared to guide future development within the City of Altamonte Springs.

DATA AND ANALYSIS

This section addresses the data inventory and analysis requirements of §9J-5.013(1), Florida Administrative Code (F.A.C.), supportive to the goals, objectives, policies and implementation programs for the Conservation Element. Natural resources may include water, wetlands, floodplains, groundwater, air, minerals, soil, wildlife, and vegetative resources.

Surface Water Quality

Surface water resources within the City of Altamonte Springs generally consist of the Little Wekiva River and several lakes.

Little Wekiva River

The Little Wekiva River flows north from Lake Lawne in Orange County through Lake Lotus and Trout Lake in Altamonte Springs. It continues to flow in a northerly direction at the City limits into one of the southern arms of the Wekiva Swamp and eventually on into the Wekiva River.

Extensive urban development along the Little Wekiva River has resulted in a host of problems including increased rate of flow and velocities, minimal upstream stormwater storage and treatment due to development occurring before current stormwater regulations, erosion and flooding, and degradation of the river's water quality from the movement and deposition of sediments.

The City of Altamonte Springs currently does not perform water quality sampling on a regular basis along the Little Wekiva River. Sampling is done at two points along the Little Wekiva River when the Crane's Roost stormwater pump station is activated in conjunction with the St. Johns River Water Management District (SJRWMD) permit.

The City is in the process of developing a sampling program of surface water bodies to evaluate pollutant loadings. As of March 2010, two City employees will be certified in surface water sampling. This program will fulfill requirements associated with the City's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Stormwater System (MS4) permit.

Although the City does not perform routine water quality samplings, several other organizations collect

water quality data along the Little Wekiva River. Seminole County, for example, collects data at three sampling sites: Weathersfield Avenue, Springs Landing Boulevard, and West SR 434. Water quality data for the Little Wekiva River is available through the Seminole County water atlas (http://www.seminole.wateratlas.usf.edu/).

Data collected at sampling locations are analyzed and compared to load concentration standards for each pollutant published in Chapter 62-302 F.A.C. to determine whether the Little Wekiva River exceeds established water quality standards.

The Little Wekiva River is designated as impaired by the Florida Department of Environmental Protection (FDEP). Parameters of concern include chlorophyll-a and mercury in fish. As a result of this impaired designation, Total Maximum Daily Load (TMDL) Programs must be developed for each parameter of concern. The Program determines the maximum amount of pollutants of concern that the Little Wekiva River can absorb and still meet acceptable water quality standards. Once a TMDL program is developed, the waterbody is delisted. A TMDL Program has been completed for chlorophyll a, but not for mercury, so the River remains on the impaired waters list. Additionally, waterbodies that feed into the Little Wekiva River and into which the River feeds are also listed as impaired. These include the Wekiva River and the Little Wekiva Canal.

After a TMDL Program is developed for an impaired waterbody, FDEP then develops a Basin Management Action Plan (BMAP). The City is an active stakeholder in the development of the Wekiva Basin Management Action Plan (BMAP). Development of this BMAP has just gotten underway and includes extensive local stakeholder input from the City. The BMAP will serve as a blueprint for restoring the Wekiva River (and its subbasins including the Little Wekiva River), establishing a comprehensive set of strategies designed to implement the pollutant reductions established by the TMDL. Once developed, the City must adopt and implement strategies set forth in the BMAP.

The City is also an active stakeholder in the Lake Jesup BMAP which FDEP is anticipating adopting this summer. A small portion of the City falls within this basin. The projects and sampling programs established in these BMAPs will become part of the NPDES permit for the City.

Several other plans have also been completed for the Little Wekiva River. In 1998, SJRWMD completed an erosion control plan to address the primary water quality issue confronting the River: erosion and sedimentation. To date, 15 of the 16 high priority projects described in the erosion control plan have been completed. Many of these project areas are contained within the City limits. These projects, and their status, are described below:

- Grade Control Structures (GCS) 6: The Florida Department of Transportation (FDOT) completed this project and it is located beneath the Rails to Trails crossing of the Little Wekiva, just north of SR 436 at the trailhead.
- Grade Control Structures (GCS) 7: This project was abandoned because of lack of participation and agreement upon the residents.
- Grade Control Structures (GCS) 8: The City completed this project with funding support by the SJRWMD.
- Riverbend Apartments Area (immediately north of SR 436): The City completed a portion of this project, but abandoned the remainder. FDOT has done a repair to stabilize the area. A full evaluation of the need for the original project has not been reassessed.

The final project of the plan is under design by Seminole County. The project includes construction of three grade control structures (GCS 9, 10, 11) downstream of Montgomery Road. The City has some

property of concern in the area and has participated in several meetings with the County to finalize easement agreements. Efforts are ongoing with plans going to construction in 2010.

Additionally, the City partnered with the City of Orlando, Orange and Seminole Counties, and the SJRWMD to develop a storm water master plan to supplement the erosion control plan. This plan, the Little Wekiva River Watershed Management Plan, was completed in November 2005.

In 2004 the Wekiva Parkway and Protection Act was adopted. In response to requirements of the Act, the City of Altamonte Springs partnered with multiple local governments and the SJRWMD to complete an additional Stormwater Master Plan for the Wekiva Study Area. This plan, entitled *Wekiva Parkway and Protection Act Master Stormwater Management Plan Support,* was completed in March 2006.

Together, these plans offer recommendations for water conservation and water quality improvements that can be implemented by the City when appropriate.

To determine the success of the projects instituted as a result of recommendations developed in the above plans, monitoring programs have also been instituted. Since 1999 the SJRWMD has performed macroinvertebrate monitoring to measure the impact of the erosion control work on the macroinvertebrate community. In 2000, the City, in cooperation with the SJRWMD, implemented a sediment monitoring program to record and evaluate the effectiveness of the countermeasures on the erosion of the Little Wekiva River. The sediment monitoring includes surveying six established cross sections in the Little Wekiva to track changes in the stream bed. Data from both of these efforts has been provided to the City on an annual basis since the start of the program.

Lakes

The City of Altamonte Springs has 16 lakes either wholly or partially within its limits. Lakes are used by the public for all types of water recreation. A list of the City's lakes is provided in Table 5.1.

Table 5.1
Lakes Wholly or Partially within Altamonte Springs

Name	Surface Area (Acres)	Name	Surface Area (Acres)
Cranes Roost	35	Lake Maltbie	3
Lake Adelaide	23	Pearl Lake	29
Lake Destiny	33	Pot Lake	2
Lake Florida	25	Prairie Lake	123
Lake Harriet	4	Lake Ruby	2
Lake Lotus	110	Spring Lake	84
Lake Tillie	<1	Spring Wood Lake	8
Lake Orienta	141	Trout Lake	16

Source: http://www.altamonte.org/department/works/pw_Stormwater/LakeMgmt.asp

The City of Altamonte Springs currently does not perform routine water quality samplings of its lakes. Lakes will be sampled as a part of the surface water sampling program under development (for details of the program see the Little Wekiva River section of this Element.)

Currently, some of the City's lakes are monitored by the County and the Florida LAKEWATCH program described in detail in the Citizen Participation Efforts section of this Element. Water quality data for these lakes is available through the Seminole County water atlas (http://www.seminole.wateratlas.usf.edu/) and is summarized in Table 5.2.

Table 5.2
Selected Altamonte Springs Yearly Average Lake Water Quality Data

Lake	Latest Sample Date	Latest Value	Limited Nutrient	Total Nitrogen (ug/l)	Total Phosphorus (ug/l)	Chlorophyll a, uncorrected for pheophytin (ug/l)	Chlorophyll a, corrected for pheophytin (ug/l)
Adelaide	Aug-09	FAIR-64	balanced	1,063.30	48.3	39.7	No data
Cranes Roost	Dec-07	GOOD-51	nitrogen	1,740.00	730.0	21.3	3.5
Florida	Jul-09	FAIR-67	balanced	836.70	54.3	51.7	No data
Harriet	Aug-09	GOOD-35	phosphorus	544.00	17.0	0.6	2.1
Lotus	Aug-09	FAIR-60	balanced	906.70	39.0	26.3	No data
Orienta	Aug-09	GOOD-57	phosphorus	750.00	24.0	25.0	60
Prairie	Aug-09	GOOD-32	phosphorus	1,647.80	9.2	4.2	No data
Spring Lake	Aug-09	FAIR-61	phosphorus	1,204.00	30.0	14.7	33

Source: http://www.seminole.wateratlas.usf.edu/
GOOD 0-59 Fully supports designated use.
FAIR 60-69 Partially supports designated use.
POOR 70-100 Does not support designated use.

Seven of the City's lakes are considered impaired by the FDEP: Lake Adelaide, Lake Florida, Lake Orienta, Lake Pearl, Lake Harriet, Spring Lake, and Crane's Roost Outlet associated with Cranes Roost Lake. In 2009, TMDL Reports were completed for Lake Florida, Lake Adelaide, Lake Orienta, and Spring Lake and FDEP is in the process of removing them from the impaired waters list. TMDL Reports have not yet been completed for Lake Pearl, Lake Harriet, or Crane's Roost Outlet.

Regulations that Impact Lake Water Quality

Due to the urbanized setting of these lakes, the primary impact to surface water quality typically results from stormwater runoff. Many developments around the lakes are older and were developed before stormwater regulations were enacted in the City. It is expected that redevelopment of these areas will improve surface water quality through the installation of stormwater quality control facilities. The SJRWMD requires developers to use erosion and sediment control best management practices to retain sediment on-site during construction. Moreover, the City of Altamonte Springs requires that all new developments include stormwater facilities which provide retention or detention with filtration of specified amounts of the first flush of runoff. These requirements are included in the City of Altamonte Springs Land Development Code, Section 6.1.11, Stormwater Requirements. The City also governs improvements made to lake shorelines and embankments through its Waterfront Improvement Control ordinance (Article XIII of the Land Development Code). The City requires any person engaging in the construction and/or maintenance of any waterfront improvement activity to obtain a permit and also prohibits certain activities along the shoreline. The City coordinates permitting approval with the appropriate state agencies on waterfront activities to avoid conflicts with permitting.

Additional Efforts to Improve Lake Water Quality

Seminole County has a planting program that performs plantings on two of the City's lakes twice a year:

Prairie Lake and Spring Lake. This program helps to "jump-start" revegetation efforts along lakeshores, preserving and restoring buffers and improving water quality.

The City has also implemented a Lake Management Program on lakes that are City owned or where the City owns lakefront property using funds generated by the stormwater utility fee (for details on the stormwater utility fee see the Stormwater section of this Element.) These lakes include Lake Florida (City owned), Crane's Roost, Lotus, Orienta, Maltbie, and Adelaide (City owns lakefront property). Activities in this program include public education, promotion of lake enhancement techniques, conservation of native vegetation around lakes, and the use of herbicides to control nuisance/invasive aquatic vegetation along the lakeshore.

Florida LAKEWATCH

In 1996, the City began actively participating in Florida LAKEWATCH, one of the largest lake monitoring programs in the nation. Florida LAKEWATCH is a volunteer citizen lake monitoring program that facilitates "hands-on" citizen participation in the management of the lakes through monthly monitoring activities. The program is coordinated through the University of Florida's Institute of Food and Agricultural Sciences/Department of Fisheries and Aquatic Sciences. The program provides citizens with educational material to foster better understanding of Florida lakes. Each citizen volunteer attends a training session hosted by the University on sampling techniques. Each volunteer then collects monthly lake water samples using their personal watercraft. The samples are then given to a City staff member. The samples are transported from the City to the University of Florida for analysis. The results of the analysis for each sample are then compiled in an annual report published by the University of Florida. This report is available for viewing in the Public Works Department's Administrative offices or can be accessed via the Internet at http://lakewatch.ifas.ufl.edu. As a participant, the City receives monthly data on the lakes enrolled and has access to a citizen contact person who can assist the City with distributing information to local residents. Although the water quality data is not accepted by the FDEP for purposes of determining impairment or nonimpairment, it can be used to challenge determinations made by the FDEP. This is another reason why the City has decided to establish its own sampling program.

Citizen Participation Efforts to Improve Surface Water Quality

In 1975, the Altamonte Springs City Commission created a Water Quality Advisory Board to provide a forum for citizens to participate in discussions related to water quality concerns. One of the Board's primary responsibilities was to recommend and establish priority for improvements of the City's lakes. It was at the recommendation of the Water Quality Advisory Board that routine water quality sampling began and that the Stormwater Utility Fee was put in place. In 1992, the Board was renamed the Surface Water Quality Advisory Board. The Board was dissolved in December 2004 as many responsibilities overlapped with Florida LAKEWATCH. Interested citizens are now encouraged to become involved in the Florida LAKEWATCH program.

In 1990 Seminole County created the "Intergovernmental Task Force for Stormwater Management". The Task Force membership, now called the Middle Basin Working Group, is comprised of officials representing Orange County, the SJRWMD, and all municipalities and concerned agencies within Seminole and Orange counties. One City Commissioner for Altamonte Springs represents the City on the Task Force. The purpose of the Working Group is to partner with the SJRWMD to increase education, funding for projects, and improve water quality of the middle St. Johns River Basin.

The City of Altamonte Springs has partnered with Seminole County, City of Lake Mary, City of Casselberry, City of Longwood, City of Oviedo, City of Winter Springs, SJRWMD, and the University of

South Florida to develop an internet-based watershed atlas for the Seminole County area. Samples collected from local agencies and volunteers are forwarded to the partners who upload the data to a website. The results of each sample are compared to previous data collected and used to establish baseline conditions for each lake to identify lakes that have been degraded or are being degraded. The Atlas serves as a "one stop information shop" for scientists and concerned citizens.

The Atlas can be accessed via http://www.seminole.wateratlas.usf.edu/.

Wetlands

Interior wetlands are usually created by a combination of surface water flooding and groundwater discharge. Consequently, they form along non-tidal rivers, streams, lakes and ponds. Wetlands can also form in isolated upland depressions where the water table is near the surface for prolonged periods. Plant species, which are suited to saturation, or hydric soil conditions, become established to form wetland communities.

In Altamonte Springs, large tracts of wetlands are located in and around the City's 16 lakes and along the banks of the Little Wekiva River. Small pockets of wetlands are located throughout the City. Wetlands within the Altamonte Springs City limits are depicted on the wetland map, Figure II-5.1.

Stormwater

In an effort to improve water quality, the City of Altamonte Springs created a Stormwater Utility and implemented a Stormwater Utility Fee in 1989. Residential and nonresidential customers are charged a fee based on an estimated quantity of stormwater they contribute to the City's system. The current rate is $6.75 per Equivalent Drainage Unit (EDU). The EDU varies based on several factors including use designation, percent impervious surface, and whether on-site stormwater systems are utilized. Details of how the EDU is calculated and specifics on the Stormwater Utility can be found in Article VI of the City's Code of Ordinances. Revenue collected through the Stormwater Utility Fee is shown in Table 5.3.

Table 5.3
Stormwater Management Fund Revenue (2001-2009)

Year	Revenue
2001	$1,908,324
2002	$1,558,827
2003	$1,668,888
2004	$2,422,183
2005	$2,680,981
2006	$1,861,331
2007	$1,952,974
2008	$2,105,010
2009	$2,301,597

Source: City of Altamonte Springs

The City compiles a five-year budget plan to determine how the revenue collected through the Stormwater Utility Fee will be used. The fees collected are typically used for stormwater management

projects, including cleaning, maintenance and repair of catch basins, storm sewers, retention ponds and other stormwater devices, street cleaning and lake quality management practices such as aeration, flocculation, water level fluctuation (i.e. drawdown), bottom dredging, wetland plant revitalization and fish management.

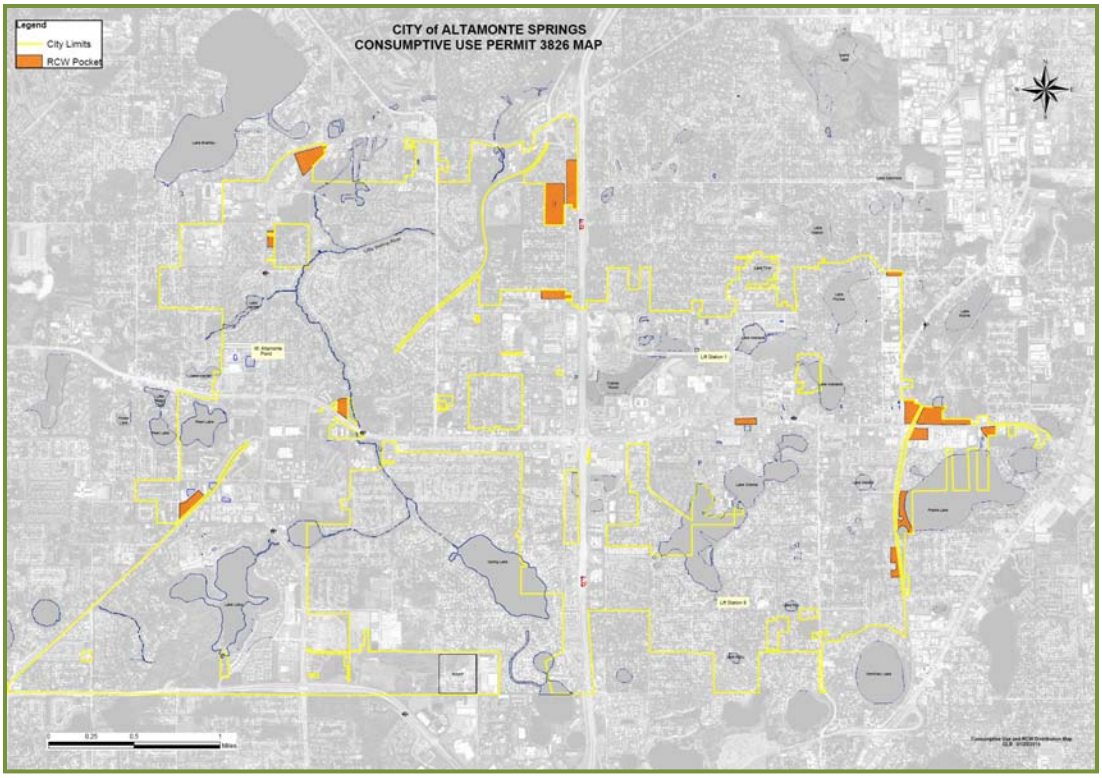
Funds were also used to create an active Lake Management Program to maintain and improve quality and environmental viability of the City's lakes. Details of this program can be found in the Lakes section of this Element.

Reclaimed Water

In an effort to conserve the City's potable water, the City Commission of the City of Altamonte Springs adopted an innovative environmental program: "Project APRICOT." (A Prototype Realistically Innovative Community Of Today). The heart of this program was the installation of a comprehensive reclaimed water distribution system that conveys reclaimed water throughout the City of Altamonte Springs to be used primarily for irrigation of residential, commercial and public properties, highway medians, parks, and other athletic recreational facilities.

The City's reclaimed water distribution system went on-line in October 1989 and has been continuously expanded since. To date, the system is 98.5 percent complete. Figure 5.2 shows the small pockets in the City where the system is unavailable.

Figure 5.2
Reclaimed Water Distribution System Service Area



Source: Public Works Department (2010)

APRICOT is widely seen as a model program for residential reuse of reclaimed water on a wide-scale basis. The benefits of this program have and continue to include: conservation of the potable water supply, reuse of a valuable water resource, and recharge of the upper aquifer over a wide area. Other derived benefits are a reduction in nutrient discharge to the Little Wekiva River, reduction in transfer of fresh water from the area, reduction of threat of saltwater contamination of the aquifer, and utilization of an environmentally safe and sensible method of disposing of effluent.

The amount of reclaimed water used by the City varies based on rainfall (see Table 5.4). In years with numerous hurricanes or heavy rainfall events, there is less of a need for reclaimed water. The maximum retention volume of the City of Altamonte Springs Regional Water Reclamation Facility is 6.0 million gallons. The City is working to explore ways to store excess reclaimed water for use during periods of less rainfall. An increase in storage would reduce the amount of surface water and groundwater needed to supplement reclaimed water for irrigation purposes and reduce discharge to the Little Wekiva River.

Table 5.4
Total Reclaimed Water Usage (2005-2009)

Year	Total Reclaimed Usage (MGY)
2005	1960.95
2006	2380.91
2007	2478.82
2008	2295.99
2009	2113.00

Source: Public Works Department

Table 5.5 shows significantly more water is discharged to the reclaimed distribution system than the River.

Table 5.5
Discharges from the Swofford Water Reclamation Plant (2005-2009)

Year	Average Daily Discharge to River (MGD)	Average Daily Discharge to Reclaimed Distribution System (MGD)
2005	1.44	5.33
2006	0.37	6.18
2007	0.27	6.25
2008	0.90	6.04
2009	0.35	5.53

Source: Public Works Department

In periods of less rainfall, the City must supplement reclaimed water with surface water and groundwater for urban landscape irrigation type uses (see Tables 5.6 and 5.7). The City obtained two surface water augmentation permits (CUP 3826 and CUP 94888) from the SJRWMD in December 2004 and June 2005 respectively. The permits allow the City to augment the reclaimed water system with surface water from five surface water bodies: Crane's Roost, Lake Orienta, Lake Maltbie, Weathersfield pond, and West Altamonte pond. Currently and historically, the City's focus for augmentation is Crane's Roost. CUP 3826 allows the City to use 200 MGY of surface water from Crane's Roost for urban landscape irrigation type uses associated with the City's reclaimed water system. The five year total for withdrawal is less than 83 million gallons, significantly less than the 200 million gallon annual withdrawal volume established by the permit. The permit expires in December 2024. The second surface water augmentation permit, CUP 94888, has an annual withdrawal volume of 30 MGY and expires in June 2025. Once again, annual withdrawal totals are significantly less than permitted annual withdrawal volumes.

Table 5.6
Surface Water Withdrawals for Irrigation Purposes (2005-2009)

Year	Crane's Roost	Lake Orienta	Lake Maltbie	West Altamonte	Weathersfield CUP 94888	Annual Total
2005	6.74	0	0	0	0.68	7.42
2006	13.01	0	0	0	0	13.01
2007	31.64	0	0	0	0	31.64
2008	21.82	0	0	0	0	21.82
2009	9.57	0	0	0	0	9.57

Source: Public Works Department

Table 5.7
Groundwater Withdrawals for Irrigation Purposes (2005-2009)

Year	Annual Total (MG)
2005	37.47
2006	242.69
2007	136.33
2008	88.79
2009	37.32

Source: Public Works Department

Ground Water Resources and Wellfield Protection

The Floridan Aquifer is the principal water supply for the City of Altamonte Springs, as well as most of central and northern Florida. Additionally, some groundwater is used for irrigation purposes in the City. The total volume of groundwater used annually in the City is described in Table 5.8.

Table 5.8
Total Groundwater Usage (2005-2009)

Year	Total Groundwater Usage (including augmentation to reclaimed - MGY)
2005	2242.8
2006	2380.8
2007	2211.0
2008	2083.8
2009	1933.5

Source: Public Works Department

Table 5.9 shows the average amount of groundwater (in millions of gallons/year) the City is permitted to withdraw annually between 2006 and 2026 according to their Consumptive Use Permit (CUP Number 8372). Through this permit, the City is permitted to use groundwater for household, commercial, urban landscape (areas outside of City limits only), reuse water system augmentation and utility uses.

Table 5.9
Maximum Permitted Annual Groundwater Withdrawals (2006-2026)

Year	MGD Average	Year	MGD Average
2006	7.3	2017	8.5
2007	7.4	2018	8.6
2008	7.6	2019	8.7
2009	7.7	2020	8.7
2010	7.8	2021	8.8
2011	7.9	2022	8.8
2012	8.0	2023	8.8
2013	8.2	2024	8.9
2014	8.3	2025	8.9
2015	8.4	2026	8.9
2016	8.4		

Source: CUP Number 8372

Although groundwater use in the City is below permitted capacity, the City is located in a “Priority Water Resource Caution Area.” This designation is assigned to areas where projected future withdrawals of groundwater could cause significant harm to water resources. The SJRWMD is currently updating the District-wide water supply plan that will contain recommendations on how to develop water resources to avoid potential water supply problems in these areas. The City is an active participant in the meetings and workshops hosted by the District in association with this plan.

Because of the unknown effects of the water supply plan, the City must look for ways to not only protect groundwater resources but to reduce groundwater consumption. The City has significantly minimized

groundwater withdrawals through the development of the reclaimed water system. Recently the City hired a consultant to complete a study and preliminary design for optimization of this system. The City is also in the process of converting an abandoned sludge pond at the wastewater facility into a reclaimed water storage pond. Once complete, this pond will allow for an additional 7 million gallons of storage volume. Additionally, the City has established an internal team to examine land in the City and within a mile of City limits to determine the feasibility of purchasing land for construction of more storage ponds.

Wellfields are protected in the City through the Wellfield Protection Ordinance, Division 3 of Article XII-Environmental/Resource Protection of the Land Development Code. The ordinance requires a 100 foot radius protection zone around all wells drilled prior to 1983 and a 200 foot radius protection zone around wells drilled after 1983 and restricts specific uses, such as septic tanks, within such protection zones. No new municipal wells have been installed in the City since 2002. The City discourages the installation of smaller domestic services wells (4" wells), but defers final decisions about installation to the SJRWMD. The City does require proper abandonment of the smaller wells through coordination with the SJRWMD.

Air Quality

Table 5.10 illustrates air quality statistics for the City of Altamonte Springs between 2007 and 2009. Seminole County has three air quality monitoring stations, two of which are located in Sanford and one is in the City. The first station, located at Seminole Community College, measures ozone concentrations. The air quality standard for ozone (established by the Environmental Protection Agency (EPA) in March 2008) is 0.075 parts per million (ppm). The standard is evaluated over an eight-hour time period. Compliance with the standards is based on the three-year average of the annual fourth highest maximum daily eight-hour concentration. According to the FDEP, the City of Altamonte Springs is in attainment with a 2009 three-year attainment average of 0.066 ppm, 0.009 ppm less than the standard. Table 5.10 reveals the fourth highest maximum daily eight-hour concentration of ozone in Altamonte Springs between 2007 and 2009.

Table 5.10
Air Quality (2007-2009)

Year	4th Highest 8 hr Average
2007	0.069
2008	0.067
2009	0.062

Source: FDEP

Another pollutant EPA is required to monitor under the federal Clean Air Act is particle pollution. Particulate Matter is measured in the area at the Sanford monitoring station at Sanford City Hall. The standard for fine particles or PM 2.5, is measured in two parts: one annual and one daily. The level of the annual standard is 15.0 $\mu g/m^3$ and the level of the daily standard is 35 $\mu g/m^3$. The annual standard is violated if the three-year average is above 15.0 $\mu g/m^3$. The daily standard is violated if the three-year average of the annual 98^{th} percentile of daily averages at a site is above 35 $\mu g/m^3$. Particulate matter in the area is below the standard, the annual design value is 8.2 $\mu g/m^3$ (compared to 15 $\mu g/m^{3)}$ and the daily design value is 20 $\mu g/m^3$ (compared to 35 $\mu g/m^3$).

According to the EPA, new standards will be developed for ozone and particulate matter by August 31,

2010. These standards will be lower than today and will likely threaten the attainment status of several counties and core based statistical areas (CBSAs) in the State of Florida. Seminole County is part of a 4-county CBSA. While Altamonte Springs and Seminole County have the lowest design values in the CBSA, many other jurisdictions are approaching unattainment. A lowering of the standard will likely bring several counties, including some in the Altamonte Springs CBSA, like Orlando, into unattainment. If and when this occurs, the State of Florida will likely have to develop a state implementation plan that addresses how it will meet the new standard.

Floodplains

Floodplains are those areas of land which lie between a normal level of a lake, or river, and the elevation that the water body may be expected to rise under flooded conditions.

The City of Altamonte Springs recognizes the floodplain elevations set by the Federal Emergency Management Agency (FEMA) for use in planning and permitting of development. In the mid 2000's the City hired a consultant to document needed revisions to the City's existing Flood Insurance Rate Maps (FIRMs). Documentation was submitted, along with a Letter of Map Amendment (LOMA) to FEMA, requesting an official LOMA. The LOMA from the City prompted FEMA to review and update the City's FIRMs. The new FIRMs became effective in 2007, at which time the City updated its floodplain regulations.

The City participates in the Community Rating System (CRS) program administered by FEMA. The program provides lower insurance premiums in the form of a CRS Class based on the floodplain management activities implemented in a community. Currently the City has a Class 8 rating in the FEMA CRS.

The majority of land within the City is located outside of those areas subject to flooding from a 100-year or 500-year storm event. As shown in Figure II-5.2, floodplains in Altamonte Springs are predominantly found along the Little Wekiva River and the City's lakes.

Floodplain Regulations

Development in flood prone areas of the City is subject to the floodplain management regulations established in Division 2 of Article XII of the City's Land Development Code: Environmental/Resource Protection: Flood Hazard Avoidance. These regulations are used to restrict development in the floodplain areas. Specifics of the regulations include:

- No portion of any structure which reduces the storage capacity of the flood hazard area may be constructed within the limits of the flood hazard area unless equal replacement storage volume is provided by acceptable engineering techniques.
- Any limitations to intensity or density of a flood prone area would be predicated first on whether the design of a project can comply with the Flood Hazard Avoidance section of the Land Development Code. If the design can comply, then the potential intensity or density range consistent with designated future land use can be achieved.

Other provisions in the Land Development Code, including open space requirements (Article III) and stormwater management (Article VI) assist the City's floodplain regulations by limiting the intensity and density of development or redevelopment within flood prone lands in the City.

Other Efforts to Minimize Flooding

The Cranes Roost pump station was built in the mid-1970s to help alleviate potential flooding during heavy storm events. The drawdown pumps pump water out of the basin when a heavy rain is anticipated to maintain the basin's original storage volume. Maintenance of the pump station is conducted regularly to ensure that it operates effectively. A backup generator was added to the station in 2009 after Tropical Storm Fay and another unnamed storm in May 2009 brought heavy amounts of rainfall to the City.

Three drainage wells exist in the Lake Orienta basin to prevent flooding to homes and multi-family complexes around Lake Orienta. The wells are passive structures and require little or no maintenance. Use of the lower inlets on two of the three drainage wells to increase flow during years of heavy rainfall and high water levels in the lake is restricted by FDEP. Requests for and subsequent issuance of an Emergency Order by the FDEP is required for use of the lower inlets. In addition, water quality sampling is required during the operation of the lower inlets.

In 2000, the SJRWMD produced a report, entitled *Special Publication SJ2007-SP11, Central Florida Aquifer Recharge Enhancement Program, Phase 1 – Artificial Recharge Well Demonstration Project*, which investigated replacement or sealing of the wells in the Lake Orienta basin. Although productive in determining the flow pattern of the drainwells in the aquifer, no additional action on the report findings has been taken to date.

The City maintains an existing stormwater pump station on Lake Maltbie in the Prairie Lake basin. The pump station was constructed in the 1960's and undergoes maintenance as needed to ensure efficient operation.

Minerals

'There are no commercially valuable minerals within the City of Altamonte Springs. Sand and clay minerals have been mined in the area on a limited basis, primarily for use in roadway and building construction. Minor quantities of phosphatic mineral occur in the area. However, extraction of these minerals is economically not feasible (CBP, 1986).

Soils and Erosion

The United States Department of Agriculture, Soil Conservation Service (USDA/SCS) has delineated and mapped the soil types present within Altamonte Springs. As shown in Figure II-5.3, there are 16 different soil types found in the City. The most prominent soil types are Astatula, comprised of Apopka fine sands and slopes between five and 12 percent, and Tavares, a Millhopper fine sand with slopes predominately between five and eight percent. The limitation of the various soil types in the City are primarily due to one or more of the following factors: poorly graded sandy soils in areas with undulating topography, soils with low natural fertility, soils with low available moisture content, soils with a high water table, and soils with a high organic content.

As mentioned in the Little Wekiva River section above, the primary water quality issue confronting the Little Wekiva River is erosion and sedimentation. River areas are characterized by a relatively steep, sloping river bottom and dense urban development. The combined effect of these two conditions results in high erosion incidences (river bottoms have dropped by as much as eight feet within the City). This problem has been studied in the *Little Wekiva River Erosion and Sedimentation Study*. Details of the study can be found in the Little Wekiva River section of this Element.

Ecological Communities

There are 16 types of naturally occurring ecological communities remaining in the undeveloped portions of the City of Altamonte Springs. These communities, listed below, are shown on Figure II-5.4, Ecological Communities. Descriptions of these ecological communities can be found in the FDOT Florida Land Use, Cover and Forms Classification System Handbook.

- Herbaceous upland nonforested
- Shrub and brushland (wax myrtle, saw palmetto, scrub oak)
- Mixed upland nonforested
- Pine flatwoods
- Upland hardwood forests
- Xeric oak
- Upland mixed coniferous/hardwood
- Open water within a freshwater marsh/Marshy lakes
- Bay swamp
- Mixed wetland hardwoods
- Hydric pine flatwoods
- Wetland forested mixed
- Freshwater marshes
- Wet prairies
- Emergent aquatic vegetation
- Mixed scrub-shrub wetland

The City has concentrated its efforts to enhance the overall aesthetics and beauty of the City through protection of trees. Article VIII of the Land Development Code requires tree protection during development and construction, criteria for tree removal, replacement and relocation, and landscape requirements. The City of Altamonte Springs is one of 139 cities in Florida designated as a "Tree City USA" due to its effective tree management program. The City has maintained this designation for 19 years.

Of these remaining undeveloped ecological communities, for those with mature tree stands, the City shall protect such trees from destruction whether in upland or lowland habitats through the Arbor Provisions of the Land Development Code. The City revised the Land Development Code to define specimen trees to aid in conservation efforts.

Conservation Areas

According to the Seminole County Property Appraiser's website, there are 248.1 acres of land either zoned conservation or by deed are designated as a conservation area in the City. These include land owned by homeowners associations, city owned park and recreational areas, natural drainage areas, and lands owned by private or nonprofit agencies such as the Florida Audubon Society. Figure II-5.5 shows the location of conservation areas in the City.

Endangered Species, Threatened Species, and Species of Special Concern

According to the Florida Fish and Wildlife Conservation Commission (FWC), formerly the Florida Game and Fresh Water Fish Commission, several rare, threatened, or endangered plants and animals have been documented in the state of Florida. The list of rare, threatened, and endangered species was last

updated by the FWC in July 2009. Information on these species is not provided at the County or City level. In total there are 166 species in the state listed as endangered, threatened, or species of special concern. This list includes 15 fish, five amphibians, 24 reptiles, 34 birds, 30 mammals, and eight invertebrates. A complete list is provided in Table 5.11.

Table 5.11
Listed Species in the State of Florida

Scientific Name	Common Name	State Status (GFC)
FISH		
Acipenser oxyrinchus (Acipenser oxyrinchus desotoi)	Atlantic sturgeon (Gulf sturgeon)	SSC
Acipenser brevirostrum	shortnose sturgeon	E
Micropterus cataractae	shoal bass	SSC
Micropterus notius	Suwannee bass	SSC
Rivulus marmoratus	Rivulus (mangrove rivulus)	SSC
Cyprinodon variegatus hubbsi	Lake Eustis pupfish	SSC
Notropis melanostomus	blackmouth shiner	E
Pteronotropis welaka	bluenose shiner	SSC
Fundulus jenkinsi	saltmarsh topminnow	SSC
Menidia conchorum	key silverside	T
Crystallaria asprella	crystal darter	T
Etheostoma histrio	harlequin darter	SSC
Etheostoma okalossae	okaloosa darter	E
Etheostoma olmstedi maculaticeps	Southern tessellated darter(tessellated johnny darter)	SSC
Starksia starcki	key blenny	SSC
AMPHIBIANS		
Ambystoma cingulatum	flatwoods salamander	SSC
Haideotriton wallacei	Georgia blind salamander	SSC
Hyla andersonii	pine barrens treefrog	SSC
Rana okaloosae	Florida bog frog	SSC
Rana capito	gopher frog	SSC
REPTILES		
Alligator mississippiensis	American alligator	SSC
Crocodylus acutus	American crocodile	E
Diadophis punctatus acricus	key ringneck snake	T
Drymarchon corais couperi	Eastern indigo snake	T
Nerodia clarkii taeniata	Atlantic salt marsh water snake (Atlantic salt marsh snake)	T
Pituophis melanoleucus mugitus	Florida pine snake	SSC
Stilosoma extenuatum	short-tailed snake	T
Tantilla oolitica	rim rock crowned snake	T
Eumeces egregius lividus	bluetail mole skink	T
Eumeces egregius egregius	Florida Key mole skink	SSC
Neoseps reynoldsi	sand skink	T

Scientific Name	Common Name	State Status (GFC)
Gopherus polyphemus	gopher tortoise	SSC
Graptemys barbouri	Barbour's map turtle	SSC
Macroclemys temminckii	alligator snapping turtle	SSC
Pseudemys concinna suwanniensis	Suwannee cooter	SSC
Caretta caretta	loggerhead seaturtle (loggerhead sea turtle)	T
Chelonia mydas	green seaturtle (green sea turtle)	E
Dermochelys coriacea	leatherback seaturtle (leatherback sea turtle)	E
Eretmochelys imbricata	hawksbill seaturtle (hawksbill sea turtle)	E
Lepidochelys kempii	Kemp's ridley seaturtle (Kemp's ridley sea turtle)	E
BIRDS		
Charadrius melodus	piping plover	T
Charadrius alexandrinus	snowy plover (Cuban snowy plover)	T
Haematopus palliatus	American oystercatcher	SSC
Pelecanus occidentalis	brown pelican	SSC
Rynchops niger	black skimmer	SSC
Sterna antillarum	least tern	T
Sterna dougalli (Sterna dougallii dougallii)	roseate tern	T
Aramus guarauna	limpkin	SSC
Egretta rufescens	reddish egret	SSC
Egretta thula	snowy egret	SSC
Egretta caerulea	little blue heron	SSC
Egretta tricolor	tricolored heron	SSC
Eudocimus albus	white ibis	SSC
Grus canadensis pratensis	Florida sandhill crane	T
Grus americana	whooping crane	SSC
Mycteria americana	wood stork	E
Platalea ajaja	roseate spoonbill	SSC
Athene cunicularia (Athene cunicularia floridana)	burrowing owl (Florida burrowing owl)	SSC
Caracara cheriway (Polyborus plancus audubonii)	crested caracara (Audubon's crested caracara)	T
Falco peregrinus	peregrine falcon	E
Falco sparverius paulus	Southeastern American kestrel	T
Haliaeetus leucocephalus	bald eagle	T
Rostrhamus sociabilis plumbeus	snail kite (Everglades snail kite)	E
Aphelocoma coerulescens	Florida scrub jay	T
Ammodramus maritimus mirabilis	Cape Sable seaside sparrow	E
Ammodramus savannarum floridanus	Florida grasshopper sparrow	E
Ammodramus maritimus peninsulae	Scott's seaside sparrow	SSC

Scientific Name	Common Name	State Status (GFC)
Ammodramus maritimus juncicolus	Wakulla seaside sparrow	SSC
Columba leucocephala	white-crowned pigeon	T
Dendroica kirtlandii	Kirtland's warbler	E
Vermivora bachmanii	Bachman's warbler	E
Campephilus principalis	ivory-billed woodpecker	E
Picoides borealis	red-cockaded woodpecker	SSC
Cistothorus palustris marianae	Marian's marsh wren	SSC
Cistothorus palustris griseus	Worthington's marsh wren	SSC
MAMMALS		
Puma concolor coryi (Puma [=Felis] concolor coryi)	Florida panther	E
Mustela vison evergladensis	Everglades mink	T
Odocoileus virginianus clavium	key deer	E
Sylvilagus palustris hefneri	Lower Keys marsh rabbit	E
Sciurus niger avicennia	Big Cypress fox squirrel	T
Sciurus niger shermani	Sherman's fox squirrel	SSC
Tamias striatus	Eastern chipmunk	SSC
Oryzomys palustris sanibeli	Sanibel Island rice rat	SSC
Peromyscus polionotus allophrys	Choctawhatchee beach mouse	E
Peromyscus polionotus niveiventris	Southeastern beach mouse	T
Peromyscus polionotus phasma	Anastasia Island beach mouse	E
Peromyscus polionotus peninsularis	St. Andrews beach mouse	E
Peromyscus polionotus trissyllepsis	Perdido Key beach mouse	E
Podomys floridanus	Florida mouse	SSC
Eumops glaucinus floridanus	Florida mastiff bat	E
Myotis grisescens	gray bat	E
Myotis sodalis	Indiana bat	E
Microtus pennsylvanicus dukecampbelli	Florida saltmarsh vole (Florida salt marsh vole)	E
Blarina carolonensis [=brevicauda] shermani	Sherman's short-tailed shrew	SSC
Sorex longirostris eionis	Homosassa shrew	SSC
Balaenoptera borealis	sei whale	E
Balaenoptera physalus	fin whale (finback whale)	E
Eubalaena glacialis (Balaena glacialis [incl. australis])	North Atlantic right whale (right whale)	E
Megaptera novaeangliae	humpback whale	E
Physeter macrocephalus	sperm whale	E
Trichechus manatus latirostris(Trichechus manatus)	Florida manatee (West Indian manatee)	E
INVERTEBRATES		
CRUSTACEANS		
Procambarus econfinae	Panama City crayfish (econfina crayfish)	SSC

Scientific Name	Common Name	State Status (GFC)
Procambarus erythrops	sims sink crayfish (Santa Fe cave crayfish)	SSC
Procambarus pictus	black creek crayfish	SSC
INSECTS		
Cyclargus [=Hermiargus] thomasi bethunebakeri	Miami blue butterfly	E
Heraclides aristodemus ponceanus	Schaus' swallowtail butterfly	E
MOLLUSKS		
Liguus fasciatus	Florida tree snail	SSC
Orthalicus reses Orthalicus reses [not incl. nesodryas]	Stock Island tree snail	E

Source: Florida Fish and Wildlife Conservation Commission

The FWC acknowledges that their database does not necessarily contain records of all species which may occur in a given area; therefore, the absence of occurrences does not mean that a particular species of significance does not occur in the area. The City will continue to assist in the preservation of endangered species on City sponsored lands and projects. For example, the City requests developers of subdivisions on upland ground to survey their vacant land for the presence of gopher tortoises and submit such information to the appropriate state agency. The City will continue to enforce these provisions through review of development proposals.

Upland Preservation

The well-drained sandy soils found in upland areas are prime areas for development in the City. These same soils are also prime habitat for many different species. The City will protect upland wildlife habitats from destruction by development through land use regulations. The effort will be on the preservation of native trees.

Because of the extent of urbanization within the City of Altamonte Springs, there are few upland sites within the City left in their natural state. All upland areas depicted on Figure II-5.4 are fragmented from other sites with none adjoining the Little Wekiva River. No large extensive upland areas over 40 acres exist in the City. Forty acres is the minimum size necessary to provide enough land to host a stable ecological community and serve as part of a viable wildlife corridor.

The City's preservation efforts for upland habitats, including threatened and endangered species of plants and animal species of special concern, shall apply to proposed developments on vacant (undeveloped) sites of five acres or more. The City requires a tree survey and the preservation of native trees, especially specimen trees, to the extent possible. The site shall be inspected by an ecologist, biologist or other similar professional for the presence of state and federally protected plant and animal species. Site surveys shall address the size and distribution of the native habitat, wildlife and listed species populations within a proposed development site, and the feasibility and viability of an on-site protection and management. The survey shall also address the appropriateness of mitigation to an acceptable off-site location in the event that on-site mitigation is shown to be ineffective. Protection of any wildlife and protected plant and animal species found on the site and their habitat will be required as part of the overall development plan submitted for development approval.

The City of Altamonte Springs, being an inland, urbanized city, does not have any commercial fishery

or any other marine resources to address.

EXISTING COMMERCIAL, RECREATIONAL OR CONSERVATION USES

Rule 9J-5.013(1)(b) of the Florida Administrative Code requires that a local government identify and analyze all natural resources found within its local jurisdiction in terms of commercial use, recreation use, conservation use, and pollution problems.

The natural resources identified within the City of Altamonte Springs are not currently being used explicitly for commercial purposes, nor is it anticipated that they will in the future. Cranes Roost Lake and Park are often used for public events sponsored by the City including boat shows, concerts, and Fourth of July celebrations. Air quality is considered good by the Florida Department of Environmental Protection, and though soil erosion is a concern within the City, excavation and mining activities are not occurring.

All conservation uses in the City are described in the Conservation Areas section above and shown in Figure II-5.5. These include properties zoned conservation or properties that are claimed as preserved lands based upon deed restrictions or other restrictions of public record.

Protection of Quality and Quantity of Surface Water

Stormwater runoff is the primary contributor to water pollution found in the City's surface water. City officials continue to coordinate with Seminole County and the SJRWMD to monitor water quality levels and to target improvements, where necessary, needed to maintain a minimum level of service standards.

Protection of Quality and Quantity of Groundwater

The lower Floridan Aquifer is the source of potable water for the City. The City will continue to identify alternative water sources through the development of a water supply plan and will also abide by recommendations set forth in the District-wide water supply plan. The City does not have any wellfields in the vicinity of flood prone areas, industrial areas, or the closed Pyles Landfill.

Protection of Vegetative Communities and Wildlife Habitats

The City has few significant vegetative communities and wildlife habitats. The most significant communities are two significant wetlands which are presently protected and in the ownership of non-profit agencies.

Protection of Air Quality

Air quality is discussed in the Air Quality section of this Element. According to FDEP's air quality monitoring program, ozone and particulate matter levels are currently at acceptable levels.

CURRENT AND PROJECTED WATER NEEDS AND SOURCES

Altamonte Springs is included in the water supply planning efforts of the SJRWMD. Florida's water management districts are required by legislation to perform water supply assessments and to update their water supply plans at least every five years. The first water supply assessment (WSA) was

completed in 1998 and it identified areas within the District where water supply problems existed or were projected to occur by 2020. The 1998 WSA was used to develop the District Water Supply Plan (DWSP) in 2000. The WSA was updated in 2003 and the DWSP in 2005, and focuses on water needs through 2025. It also identifies alternative water supply source projects that can be implemented to meet anticipated water supply needs and identifies programs and projects needed to ensure that adequate and sustainable water supplies are available without unacceptable impacts in Priority Water Resource Caution Areas (PWRCAs) including Seminole County. Work is currently in progress on updating DWSP which will address a planning horizon through 2030.

Existing Potable Water Sources

The Floridan Aquifer is the City's primary potable water source. The City's potable water system includes three treatment plants, of which two are primarily utilized.

Existing and Projected Potable Water Demand

Table 5.8 reveals groundwater demand in the City between 2005 and 2009. Table 5.12 shows the estimated potable water demand in the City between 2010 and 2030.

Table 5.12
Estimated Potable Water Demand and Capacity

Water Treatment Plants	2010	2015	2020	2025	2030
Total Water Demand	6.71	7.03	7.37	7.42	7.64
Total Well Production Capacity	8.92	8.92	8.92	8.92	8.92
Total Treatment Capacity	11.29	11.29	11.29	11.29	11.29
CUP Allocation	7.8	8.4	8.7	8.9	-
Well Production Capacity Surplus	*2.21*	*1.89*	*1.55*	*1.5*	*1.28*
Treatment Capacity Surplus	*4.58*	*4.26*	*3.92*	*3.87*	*3.65*

Source: City of Altamonte Springs Water Supply Facilities Work Plan, BFA Environmental Consultants Inc., September 2010.

According to billing records the 2009 average daily water demand for single family residential was 72 gallons/person/day. The average total gross daily water demand for all types of land uses in the City's service area in 2009 was 106 gallons/person/day and a total system demand of 5.30 MGD.

Existing and Projected Potable Water Capacity

The existing and projected potable water capacity in the City is divided between two water treatment plants (WTP). WTP #2 has a permitted capacity of 9.19 MGD maximum daily flow which is 5.93 MGD average daily flow. WTP #5 has a permitted capacity of 8.31 MGD maximum daily flow which is 5.36 average daily flow. Table 5.13 shows the permitted capacities and existing demand by treatment plant in the City.

Table 5.13
Treatment Plant Capacity

FACILITY	Permitted Capacity (MGD)	Demand (MGD)	Surplus Capacity (MGD)
City Plant 2	5.93	2.6	3.33
City Plant 5	5.36	2.6	2.76
City Total	11.29	5.2	6.09
Note: All values are annual average daily flow.			

Source: Barnes, Ferland & Associates, September 2010.

Maximum annual withdrawals from the Aquifer have been defined through 2026 in the City's CUP and are listed in Table 5.14. Under the District's permitting strategy for long-term consumptive use permits, the City will monitor withdrawals and consumptive use limits will be adjusted accordingly (but will not be less than indicated).

Table 5.14
Projected Water Demand and Source

Year	Population	Projected Water Demand[2] (MGD)			Water Supply Source (MGD)	
		Inside City[1]	Outside City	Total Utility[3]	Groundwater	Alternative Water
2010	**49,995**	5.837	0.872	6.709	6.709	
2011	50,470	5.893	0.880	6.773	6.754	0.019
2012	50,945	5.948	0.889	6.837	6.818	0.019
2013	51,419	6.003	0.897	6.900	6.818	0.077
2014	51,894	6.059	0.905	6.964	6.823	0.077
2015	**52,369**	6.114	0.914	7.028	6.887	0.409
2020	**54,912**	6.411	0.958	7.369	6.960	0.409
2025	**55,284**	6.455	0.964	7.419	7.010	0.409
2030	**56,928**	6.647	0.993	7.640	7.231	0.409

[1] Inside City water demand is an average 87% of total demand based on 2005-2009 billing records.
[2] Projected Water Demand based on 134.2 gpd gross per capita demand from SJRWMD Draft WSA 2009 update.
[3] Includes potable system demand and reclaimed supplemental demand.
Source: City of Altamonte Springs Water Supply Facilities Work Plan, BFA Environmental Consultants Inc., September 2010.

Quantity of Available Water

Based on the City's peak water demand projections and the permitted capacity of each facility, the City does not anticipate a capacity deficit for potable water facilities throughout the planning horizon.

Analysis of Water Conservation, Use and Protection

The City operates the APRICOT reclaimed water system throughout the City, which reduces discharge into the Little Wekiva River and the demand for potable water for irrigation purposes.

1. *LOS Standards.* The City has adopted the following LOS standards for potable water to ensure sufficient availability for current and future populations:

Table 5.15
Potable Water LOS Standards

City Service	LOS Standard
Potable Water	135 gallons per capita per day
Land Use Service Category	**LOS Standard**
Single Family Residential	300 gallons per day per unit
Multi-family Residential	135 gallons per day per unit
Commercial	175 gallons per day per 1,000 SF
Hotel and Motel	175 gallons per day per unit
Office	150 gallons per day per 100 SF
Industrial and Warehouse	25 gallons per day per 1,000 SF

Source: Public Works Department, 2010

2. *Agricultural Uses.* Limited agricultural uses exist in Altamonte Springs. The only agricultural uses are wholesale/retail nurseries and greenhouse operations, which are more commercial than agricultural in nature. No increase in agricultural land uses is expected in the future. No potable water demand is attributed to agricultural uses, since all plant nursery and greenhouse irrigation systems use the reclaimed water.

3. *Conservation and Protection.* The City of Altamonte Springs has water restrictions in place for the reclaimed water system. Commercial and multi-family uses are allowed to water on Tuesdays and Fridays, residential uses with odd number addresses can water on Wednesdays and Saturdays, and residential uses with even number addresses can water on Thursdays and Sundays.

   The City has also adopted new irrigation regulations for non-reclaimed water users within the City. These regulations, adopted in December 2009, can be found in the Article VII Water Conservation of the Code of Ordinances.

   The City of Altamonte Springs cooperates fully with the SJRWMD in regard to water conservation during shortage situations. The City of Altamonte Springs will continue to see that its policies regarding water demand and consumption will be consistent with rules and regulations of the SJRWMD, East Central Florida Regional Planning Council and FDEP.

The City will continue to enforce wellfield protection measures with adoption of the comprehensive plan in accordance with Rule 17-555.312 which requires a 100-feet radius protection zone around wells drilled before 1977 and a 200-feet radius protection zone around wells drilled after 1977 and restricts specific uses, such as septic tanks, within such protection zones. The City will review the wellfield protection information once available from the SJRWMD and amend the Land Development Code to enforce "state of the art" regulations.

Various other City actions will assist the SJRWMD in implementing water conservation rules. The City requires the capping of shallow wells as properties are developed or redeveloped and supplied with potable and /or reclaimed water. Also the Land Development Code in Section 3.4.4.1 (see Support Documents for the Drainage Subelement) requires all development or redevelopment to provide a minimum 25 percent green space. The availability of green space allows, especially in the high recharge soils found in Altamonte Springs, rainfall and irrigation waters to permeate the soils.

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STATE POLICY PLAN CONSISTENCY

Introduction

As part of their compliance review, the Department of Community Affairs (DCA) will review local government comprehensive plans for consistency with the State Comprehensive Plan (SCP) (Chapter 187, Fla. Stats.). Plans that are not sufficiently consistent with the SCP will receive a determination of non-compliance. The Plan must then be brought into compliance to avoid the sanctions available pursuant to Chapter 163.3184 (11) and the vagaries of the Administrative Procedures Act process (Chapter 120, F.S.)

Each SCP Goal is listed with its associated policies. The Goal and the Policies are reproduced verbatim. The policy number refers to a specific SCP policy and may therefore appear out of sequence.

The list should not be considered as complete or the final authority of the applicability to the Conservation Element. The DCA has the final authority to determine the City's compliance with the State Comprehensive Plan.

SCP GOALS AND POLICIES

GOAL 8 -- FLORIDA SHALL ASSURE THE AVAILABILITY OF AN ADEQUATE SUPPLY OF WATER FOR ALL COMPETING USE DEEMED REASONABLE AND BENEFICIAL AND SHALL MAINTAIN THE FUNCTIONS OF NATURAL SYSTEMS AND THE OVERALL PRESENT LEVEL OF SURFACE AND GROUND WATER QUALITY. FLORIDA SHALL IMPROVE AND RESTORE THE QUALITY OF WATERS NOT PRESENTLY MEETING WATER QUALITY STANDARDS.

Policy 1 - Ensure the safety and quality of drinking water supplies and promote the development of reverse osmosis and desalinization technologies for developing water supplies.

Policy 5 - Ensure that new development is compatible with existing local and regional water supplies.

Policy 7 - Discourage the channelization, diversion, or damming of natural riverine systems.

Policy 8 - Encourage the development of a strict floodplain management program by state and local governments designed to preserve hydrologically significant wetlands and other natural floodplain features.

Policy 9 - Protect aquifers from depletion and contamination through appropriate regulatory programs and through incentives.

Policy 10 - Protect surface and groundwater quality and in the state.

Policy 11 - Promote water conservation as an integral part of water management programs as well as the use and reuse of water of the lowest acceptable quality for the purpose intended.

Policy 12 - Eliminate the discharge of inadequately treated wastewater and stormwater runoff into the waters of the state.

Policy 13 - Identify and develop alternative methods of wastewater treatment, disposal, and reuse of wastewater to reduce degradation of water resources.

Policy 14 - Reserve from use that water necessary to support essential nonwithdrawal demands, including navigation, recreation, and the protection of fish and wildlife.

GOAL 10 -- FLORIDA SHALL PROTECT AND ACQUIRE UNIQUE NATURAL HABITATS AND ECOLOGICAL SYSTEMS, SUCH AS WETLANDS, TROPICAL HARDWOOD HAMMOCKS, PALM HAMMOCKS AND VIRGIN LONGLEAF PINE FORESTS, AND RESTORE DEGRADED NATURAL SYSTEMS TO A FUNCTIONAL CONDITION.

Policy 1 - Conserve forests, wetlands, fish, marine life, and wildlife to maintain their environmental, economic, aesthetic, and recreational values.

Policy 2 - Acquire, retain, manage, and inventory public lands to provide recreation, conservation, and related public benefits.

Policy 3 - Prohibit the destruction of endangered species and protect their habitats.

Policy 7 - Protect and restore the ecological functions of wetlands systems to ensure their long-term environmental, economic, and recreational value.

Policy 10 - Emphasize the acquisition and maintenance of ecologically intact systems in all land and water planning, management, and regulation.

REGIONAL POLICY PLAN CONSISTENCY

As part of their compliance review, the Department of Community Affairs (DCA) will review local government comprehensive plans for consistency with the *Strategic Regional Policy Plan* (SRPP) adopted by the East Central Florida Regional Planning Council (ECFRPC) in 1998. The ECFRPC also reviews the Plan and makes a consistency recommendation to DCA. This consistency recommendation is based on the relationship of the City's Plan to the SRPP as a whole.

In addition, the City's Comprehensive Plan is striving to be consistent with the regional vision – "2050 How Shall We Grow". The City's Plan supports the "4 C's" of the regional vision as stated below.

The "4 C's" of the Regional Vision stand for:

- *Conservation*- Identifying and protecting our most critical natural resources of regional significance, and doing this first.
- *Centers*- Promoting more future growth and development in compact urban centers with great amenities (great places to live, work, shop and recreate in a more pedestrian-friendly setting).
- *Corridors*- Connecting centers with mixed-use corridors served by multi-modal (motor vehicles, light rail, commuter rail, bus, bus rapid transit, bike lanes and pedestrian trails) transportation systems.
- *Countryside*- Taking the pressure off countryside by increasing the density and intensity of great

urban centers, and thus deferring the need for more sprawl into the countryside.

In order to assist the City in developing goals, objectives and policies for the Future Land Use Element consistent with the SRPP, the SRPP was reviewed to determine which of its policies were applicable to the City. The SRPP policies applicable to this Element are shown below.

SRPP Sections	Policies
Economic Development	n/a
Emergency Management	n/a
Housing	n/a
Natural Resources	4.3, 4.5, 4.6, 4.25, 4.26, 4.27, 4.28, 4.29, 4.30, 4.31, 4.32,
Transportation	n/a
Land Use	6.12, 6.13
Public Facilities	n/a