1 Potable Water Supply

OVERVIEW

The Life Cycle of Water: Where Our Water Comes From and Where It Goes

Water is essential to life. While the Earth is covered by water, almost 93% is locked in the oceans as salt water. Less than 3 percent of the Earth's water is fresh water, and most of that is locked up in glaciers and polar ice caps. Less than 1 percent of the Earth's water is fresh water available for human use.

In Pinellas County, the main source of water for human consumption, or potable water, comes from the rainfall that replenishes surface and ground waters. The urbanization of Pinellas County increased the consumption of water for residential, industrial, and commercial use. Today, the County has little vacant land left for development and future water demand will not be increasing at the same rates as in the past. In fact, due largely to water conservation, water demand is decreasing even while population continues to increase. However, due to variables in rainfall patterns and the threat of moderate droughts, Pinellas County needs to practice innovation and continue to plan responsibly for the future of the potable water supply.

The Hydrologic Cycle

The Hydrologic Cycle is based on condensation, precipitation, infiltration, runoff, and evapotranspiration. Water vapor condenses, forms clouds which create precipitation; the precipitation falls to the Earth's surface, infiltrates the soil, and flows back to the ocean as runoff. Water then evaporates from the surface, plant life, lakes, streams and oceans to form clouds once again, and the process repeats itself endlessly. The rain that falls today is the same water that fell on the Earth millions of years ago, because no significant amount of water enters or leaves the global water cycle. The Earth's water supply has been recycled over and over while the actual amount of water on the Earth has changed very little.

Pinellas County Depends On Rainfall for Water

In Pinellas County, rainfall is the key element of the hydrologic cycle. Although Florida's water cycle includes supply flows from other states to the north, there is a horizontal line, or hydrologic divide, north of Tampa Bay. Neither surface water nor ground water can cross south of the hydrologic divide. Because Pinellas County is south of the hydrologic divide, it depends totally on rainfall for its fresh water, including ground water stored in aquifers. Only 44 percent of Florida's rain falls south of the hydrologic divide; yet this area is home to a large percentage of the State's population and accounts for a majority of the State's water use. Rainfall throughout Florida varies considerably, and most of the rainfall in Pinellas County occurs during the summer as a result of frequent

thunderstorms and tropical events. During drier months of the year, however, rainfall deficits and droughts are always a concern.

Water percolates into the ground through layers of sand, limestone, and rock which filter and further purify it before it is stored underground in the vast Floridan aquifer, a thick geological sequence of porous limestone considered to be one of the largest aquifers in the nation. It is estimated to contain over a quadrillion gallons of water, equivalent to one fifth of the water in the Great Lakes. The Floridan aquifer varies in thickness from 2,000 feet near the center of the state to only a few hundred feet in coastal areas, and lies beneath most of the state. The net amount of water in the hydrologic cycle remains the same. Water is diverted and used only to be put back into the system and environment.

HISTORY OF POTABLE WATER SUPPLY DEVELOPMENT IN PINELLAS COUNTY

Most of Pinellas County is a peninsula separated from the mainland by the saltwater of Tampa Bay on the east, and by the Gulf of Mexico located to the west. The County is 39 miles long and varies in width from 17 miles to only 5.5 miles at the "neck" of the County. These basic features of Pinellas County are such that it never had adequate water resources within its borders to maintain the large metropolitan population that has developed in the area. Much of the water for the public supply has been transferred into this urban area, much as water has been transported throughout the history of civilization.

Early Potable Supply Development

The Pinellas County Water System was created by a special act of the Florida Legislature in 1935 to provide water to county beach communities. Service was provided to the first customers in 1937. The Statute required that the utility should operate as a proprietary facility, supported by its own revenue and other income. The entire financial operation is funded by fees and other revenues generated for services.

The first water supply system was a surface supply, using the Walsingham Reservoir, began operating in 1937 and served less than 200 customers. In 1951, wells were developed in the Coachman area for additional supply. In 1956 the Eldridge-Wilde wellfield went into service; at that point, the surface water treatment of reservoir water was phased out, the Coachman wells in the Clearwater area were eventually turned over to the City, and Pinellas County's regional water system was in place.

In 1976, Pinellas County and the City of St. Petersburg jointly developed and constructed the Cypress Creek Wellfield in Central Pasco County. Included were water transmission lines with 66-inch and 84-inches diameters. Operation of this facility was soon transferred to the newly-formed West Coast Regional Water Supply Authority. In 1975 Pinellas County purchased the Cross Bar Ranch for a future wellfield. Through a joint agreement with the regional Authority, the first water was produced in April 1980.

The Inception of the Southwest Florida Water Management District

In 1961, the Florida Legislature created the Southwest Florida Water Management District (SWFWMD) to serve as a local sponsor for the "Four River Basins, Florida" project, a flood control project designed by the Corps of Engineers and authorized by Congress in 1962. Since then, its responsibilities have grown to include managing water supply, protecting water quality and preserving natural systems that serve important water-related functions. SWFWMD assumes its responsibilities as authorized in Chapter 373 and other chapters of the Florida Statutes by directing a wide range of programs, initiatives and actions. These include, but are not limited to, structure operations, water use, well construction and environmental resource permitting, land acquisition, water resource and supply development, establishment of minimum flows and levels, supportive data collection and analysis, water conservation, and education.

The Inception of the West Coast Regional Water Supply Authority

In 1974, the West Coast Regional Water Supply Authority (WCRWSA) was created by Interlocal Agreement to serve the water needs of Hillsborough, Pasco and Pinellas counties and the municipalities of St. Petersburg and Tampa. The City of New Port Richey was a non-voting member. The WCRWSA was the first authority to be created and realize the benefits of a cooperative approach to water supply management. The WCRWSA was responsible for developing, storing and supplying water for county or municipal purposes in such a manner as to give priority to reducing adverse environmental effects of excessive or improper withdrawals from concentrated areas.

In 1991, the Authority and all of its member governments entered into a Regional System Water Supply Contract, which includes water produced at Cross Bar Ranch, Cypress Creek, Cypress Bridge and Northwest Hillsborough. The WCRWSA developed a regional “looped” system which provided a reliable water supply to all member governments, and promoted resource sharing of currently permitted but unused capacities in the member-owned facilities.

The Inception of Tampa Bay Water and its Responsibilities

In response to concerns related to environmental impacts of groundwater pumping, and the need to ensure adequate potable water supply for the future growth and development of the region, the WCRWSA was re-organized as a regional water utility and became known as Tampa Bay Water, in 1998. This reorganization is the result of lengthy and historic negotiations between the six member governments (Hillsborough, Pasco, and Pinellas Counties, and the Cities of New Port Richey, St. Petersburg and Tampa). The result is that each local government made concessions towards the betterment of the region’s residents and long term economic viability.

As part of the Interlocal Agreement adopted by the member governments, most of the potable water resources owned by the members were transferred to Tampa Bay Water with the exception of the City of Tampa, which maintained exclusive rights to surface water withdrawals from the Hillsborough River and Sulfur Springs (Tampa Bay Water

may access these sources only when surplus flows are available), New Port Richey which retained rights to several small urban wells, and Pasco County which maintained rights to several small production wells. The 11 permitted regional wellfields were brought under a unitary SWFWMD permit issued to Tampa Bay Water which allows for the rotation of pumping throughout the wellfields. The flexibility of wellfield rotation may allow for better management of environmental impacts. In addition, Tampa Bay Water diversified its water supply portfolio with surface water components. Tampa Bay Water has been issued a permit to withdraw water from the Alafia River and Hillsborough River.

Since Oct. 1, 1998, Tampa Bay Water has been the sole and exclusive water provider to the six governments it serves. The main goals of the agency's creation were to reduce groundwater pumping from 11 long-producing wellfields, develop new water supply sources, end litigation and obtain funding from the Southwest Florida Water Management District.

At that time, Tampa Bay Water was also charged with the responsibility of developing and implementing a Master Water Supply Plan to replace approximately 50% of the original permitted capacity of the regional wellfields and to meet the current and projected needs of the member governments. This Plan addressed the identification of and schedule for, implementing new sources of potable water and additional transmission mains for transfer of water between sources. The Interlocal Agreement effectively removed Pinellas County, and the other member governments, from water supply development activities, except for certain actions which may be undertaken if Tampa Bay Water fails to meet its obligations relating to production.

POTABLE WATER SYSTEMS AND WATER DEMAND PLANNING AREAS IN PINELLAS COUNTY

Pinellas County Water Demand Planning Area

The Pinellas County Water Demand Planning Area (WDPA) may be broken up into two categories: 1) Wholesale Potable Water Customers in the Wholesale Water Service Area; and 2) Retail Potable Water Customers in the Retail Water Service Area. Wholesale customers include the cities of Clearwater, Pinellas Park, Safety Harbor and Tarpon Springs. The cities of Clearwater and Tarpon Springs receive wholesale water but also operate their own water systems.

Retail customers that are served directly by Pinellas County include much of the unincorporated area as well as the cities of Largo, Kenneth City, Seminole, Belleair Bluffs, and the Beach Communities. Please refer to **Table 1,** which depicts retail and wholesale potable water relationships in Pinellas County, including those for municipalities that supply most their own water. The Pinellas County WDPA **does not** include Oldsmar, Belleair, Dunedin, Gulfport, South Pasadena, St. Petersburg, and those portions of Unincorporated Pinellas County served by these municipalities and by Holiday Utilities. The Cities of Oldsmar, Belleair, Dunedin and St. Petersburg are interconnected to the Pinellas County water system and can receive wholesale water for

emergency purposes only. Pinellas County supplied approximately 688,355 residents with potable water in the Pinellas County WDPA as of August 2012. **Figure 3** depicts Potable Water Service Areas and municipalities in Pinellas County.

The largest treatment and distribution systems (Pinellas County, St. Petersburg, and Clearwater) serve the largest percentage of the County's population and are interconnected, allowing water transfers to occur as needed. Both Pinellas County and St. Petersburg receive all of their water from Tampa Bay Water and the City of Clearwater operates its own wells.

TABLE 1
PINELLAS COUNTY WHOLESALE AND RETAIL
POTABLE WATER CUSTOMERS

	Service Provider/Service Recipient Relationship – Potable Water Systems											
PINELLAS COUNTY JURISDICTION	Pinellas Co. Retail	Pinellas Co. Wholesale*	Belleair	Clearwater	Dunedin	Gulfport	Pinellas Park	Safety Harbor	St. Petersburg Retail	St. Petersburg Wholesale*	Tarpon Springs	Oldsmar
Belleair			X									
Belleair Beach	X											
Belleair Bluffs	X											
Belleair Shore	X											
Clearwater		X		X								
Dunedin					X							
Gulfport						X				X		
Indian Rocks Beach	X											
Indian Shores	X											
Kenneth City	X											
Largo	X											
Madeira Beach	X											
N. Redington Beach	X											
Oldsmar												
Pinellas Park		X										
Redington Beach	X											
Redington Shores	X											
Safety Harbor		X										

St. Petersburg									X			
St. Pete Beach	X											
Seminole	X											
South Pasadena									X			
Tarpon Springs		X									X	
Treasure Island	X											
Palm Harbor Unc.	X											
E. Lake Tarpon (Uninc)	X											
Seminole (Uninc.)	X											
Lealman (Uninc)	X						X		X			
Tierra Verde (Uninc.)	X											
Remaining (Uninc.)	X			X	X	X[1]	X	X	X		X	X

Source: Pinellas County Department of Environment and Infrastructure, 2012
Note: Dunedin, Oldsmar, and St. Petersburg can receive wholesale water for emergency purposes; their populations are not routinely included in the WDPA.
*****Only provides treated water; water distribution to customers is provided by applicable municipal system as noted. Footnote to Service Provider/Service Recipient Relationship (Potable Water Systems).
[1]Water to Bear Creek area is supplied, on a retail basis, by the City of Gulfport.

City of Clearwater Water System

The City of Clearwater is a wholesale customer of Pinellas County and also provides a portion of its own water supplies. According to the City of Clearwater's 2006 Consumer Confidence Report, Clearwater uses approximately 13 million gallons of potable water every day, and 30% (3.5 million gallons per day) is from City owned and operated groundwater wells. The remaining 70% of the daily demand is supplied by water purchased on a wholesale basis from Pinellas County. A portion of the 30% that the City of Clearwater withdraws from the Floridan Aquifer is treated using reverse osmosis technology. The process includes sand filtration, reverse osmosis membrane treatment, and stabilization. The reverse osmosis plant produces up to three million gallons per day of high-quality drinking water from a brackish source.

City of Dunedin Water System

The City of Dunedin supplies residents with potable water from city-owned wells. Sources of potable water also include rivers, lakes, streams, ponds, reservoirs, springs and wells. The City is also hooked up to Pinellas County's potable water infrastructure for emergency purposes. This way, the City of Dunedin can purchase water from the County on a wholesale basis should they fall short with their own water supplies.

According to the City of Dunedin's 2006 Consumer Confidence Report, their Water Division distributed 1,289 million gallons of water to City of Dunedin customers. That is an average of 3.534 million gallons per day, or 101.7 gallons per person per day.

City of Tarpon Springs Water System

The City of Tarpon Springs is a wholesale customer of Pinellas County, but augments its water supply with its own supply wells to provide water to its customers. The average daily water usage within the City's water service area is 3.5 million gallons per day. According to the Florida Department of Environmental Protection, up to half of the potable water that is consumed by the customer is used for irrigation purposes.

City of St. Petersburg Water System

The second largest distributor of water in Pinellas County is the City of St. Petersburg. At one time, the City of St. Petersburg operated three wellfields prior to the formation of Tampa Bay Water and St. Petersburg's signature to the Interlocal Agreement. These were Cosme-Odessa, Section 21, and South Pasco. A fourth wellfield, Cypress Creek, had been developed jointly by St. Petersburg and Pinellas County. Today, the City is a member government of Tampa Bay Water and as such has relinquished its wellfields to the regional water utility. The St. Petersburg Water System distributes potable water on both a wholesale and retail basis. It retails water to the residents of St. Petersburg, South Pasadena Lealman and Gandy, and Bay Pines. The St. Petersburg Water System also supplies water on a wholesale basis to the City of Gulfport. The City of Gulfport, in turn, provides potable water on a retail basis to the unincorporated area of Bear Creek.

TAMPA BAY WATER AS THE REGIONAL POTABLE WATER SUPPLIER

While Pinellas County is responsible for treating and distributing potable water to wholesale and retail customers, it receives all of its potable water from Tampa Bay Water. No proportional share of the existing water supply sources is specifically allocated to any member government. Tampa Bay Water supplies wholesale potable water to Pinellas County, the City of Tampa, Pasco County, Hillsborough County, the City of St. Petersburg, and the City of New Port Richey via an Interlocal Agreement and Master Water Supply Contract.

Master Water Plan and Potable Water Facilities

Tampa Bay Water has ownership of all wells and permits previously held by Pinellas County and St. Petersburg as well as most of the facilities held by the other member governments, with the exception of facilities in Tampa, New Port Richey and Pasco County as outlined previously. Tampa Bay Water provides for the potable water needs of its members based upon the Water Supply Master Plan, and annual projections and estimates submitted by the member governments. The Master Water Supply Agreement provides that if Tampa Bay Water is unable to meet all of its demands due

to a shortfall or production failure, the member governments have the right to seek or develop other sources as outlined in the Interlocal Agreement.

Tampa Bay Water Master Water Plan

Tampa Bay Water, by Interlocal Agreement and a Master Water Supply Contract, must in its Master Water Plan contain sufficient water supply projects to meet the member governments' water needs over a 20 year planning horizon. Tampa Bay Water's Long-Term Water Supply Plan identifies sufficient supply projects to meet the 20 year planning horizon needs of the Agency's member governments. **Figure 1** depicts Tampa Bay Water's potable facilities, not all of which serve Pinellas County directly.

The Southwest Florida Water Management District is tasked with permitting any new and existing water sources, including those developed by Tampa Bay Water. In 2010, Tampa Bay Water successfully renewed its Consolidated Water Use Permit. This permit, approved by the Southwest Florida Water Management District, regulates the quantity of water Tampa Bay Water is allowed to pump from the ground and surface water sources. The groundwater permit is a fixed permit, with a limited annual quantity, whereas the surface water permit authorizes Tampa Bay Water to a percentage of river flows after the minimum flow level (MFL) has been achieved in that river source.

The permitted quantity withdrawal limit for the 11 wellfields as stated in the Consolidated Permit is listed below together with the permitted quantities for the remaining four wellfields and surface water facilities:

Water Supply Facility	**Permitted capacity in MGD**
Consolidated Permit Wellfields-Total*	90.000
South-Central Hillsborough Regional Wellfield	24.100
Brandon Urban Dispersed Wells	6.000
Carrolwood Wells	0.820
Eagles Wells	0.198
Enhanced Surface Water System (consisting of Tampa Bypass Canal/Hillsborough River, Alafia River, C.W. Bill Young Regional Reservoir**	90.000
Tampa Bay Seawater Desalination Plant	28.750

* Consolidated Permit Wellfields 2010, Cross Bar Ranch, Cypress Creek, Cypress Bridge, Morris Bridge, Starkey, North Pasco, South Pasco, Eldridge-Wilde, Cosme/Odessa, Section 21, and Northwest Hillsborough. These wellfields are permitted as a single system, and there is no annual withdrawal quantity assigned to any individual wellfield. These wellfields are operated in accordance with the Optimized Regional Operations Plan (OROP).

** The Water Use Permits for the Tampa Bypass Canal/Hillsborough River and the Alafia River facilities do not have assigned average annual quantities. The permit authorizes the harvest of a percentage of river flows after either a threshold flow or pool stage has been achieved in each river system. The quantity shown represents the estimated median year yield for these facilities based on projections using the past 30 years of historical data.

Source: Tampa Bay Water, 2012

TABLE 2
EXISTING TAMPA BAY WATER POTABLE WATER SUPPLY FACILITIES PROVIDING WATER TO PINELLAS COUNTY

Facility	Current Permitted Capacity / Ann. Avg. (mgd)	Current Water Use Permit	Location
Cross Bar Ranch Wellfield	Consolidated Permit Wellfield *	Consolidated Water Use Permit Issued Jan. 25, 2011 Expires Jan. 25, 2021. Permitee – Tampa Bay Water	North-Central Pasco County, east of US 41, north of SR 52 and south of CR 578. 17 dispersed wells
Cypress Bridge Wellfield	Consolidated Permit Wellfield *	Consolidated Water Use Permit Issued Jan. 25, 2011 Expires Jan. 25, 2021 Permitee – Tampa Bay Water	South-Central Pasco County, Wesley Chapel Area, and North-Central Hillsborough County in the vicinity of I-75 and CR 581. 10 dispersed wells
Cypress Creek Wellfield	Consolidated Permit Wellfield *	Consolidated Water Use Permit Issued Jan. 25, 2011 Expires Jan. 25, 2021 Permitee – Tampa Bay Water	Central Pasco County, east of US 41 and SR 583, south of SR 52. 13 dispersed wells, pump station site and storage facilities.
Cypress Creek Pump Station and Water Treatment Plant	110	N/A	Central Pasco County, east of US 41 and SR 583, south of SR 52.
Eldridge-Wilde Wellfield	Consolidated Permit Wellfield *	Consolidated Water Use Permit Issued Jan. 25, 2011 Expires Jan. 25, 2021 Permitee – Tampa Bay Water	Northeast corner of Pinellas County and northwest corner of Hillsborough County at the Pasco County line. 34 dispersed wells.
Tampa Bypass Canal at Harney Road Pumping Station	20.00	WUP 20006675.006 Issued. May 26, 2011 Expires May 26, 2031. Permitee – Tampa Bay Water	Central Hillsborough County. Tampa Bypass Canal at Harney Road.
Tampa Bypass Canal Water Supply	Up to 259 mgd (max) withdrawal capacity	WUP 20011796.02. Expires Dec. 31, 2030.	Tampa Bypass Canal at Martin Luther King Boulevard in Hillsborough County.

Facility	Current Permitted Capacity / Ann. Avg. (mgd)	Current Water Use Permit	Location
Alafia River Project	Up to 52 mgd (max) withdrawal capacity	WUP 20011794.01. Expires Dec. 31, 2010. Renewal application submitted to the District on May 20, 2010- status: under review. Permitee – Tampa Bay Water	Bell Shoals Road at the Alafia River in Hillsborough County.
Tampa Bay Desalination	28.75	N/A	Apollo Beach area, Hillsborough County
C.W. Bill Young Regional Reservoir	15.5 billion gallons	N/A	South Hillsborough County between CR 39 and Boyette Road.

Source: Tampa Bay Water's 2012 Special District Public Facilities Report

*As of January 1, 2003, the eleven Consolidated Permit Wellfield Water Use Permit compliance is assessed on a 12-month running average basis for all facilities of 121 mgd, with compliance assessed on the first day of each calendar month following December 31, 2003. Tampa Bay Water's Optimized Regional Operations Plan (OROP) controls pumpage based on cutback restrictions and current environmental conditions.

ESTIMATED NON-HOUSEHOLD WATER WITHDRAW AND USE IN PINELLAS COUNTY

Non-Household Water Use

Non – household water use covers a wide range of activities, but for the purposes of this Element, are categorized into the following groups, and summarized in **Table 3,** below**.**

TABLE 3
2010 NON-HOUSEHOLD ESTIMATED WATER WITHDRAW AND USE

Use Category	Total Estimated Use	Estimated Amount from Groundwater	Estimated Amount from Surface Water
Agricultural	0.144 mgd	0.103 mgd	0.041 mgd
Recreational/Aesthetic	2.930 mgd	2.058 mgd	0.871 mgd
Industrial/Commercial	0.047 mgd	0.047 mgd	0.00 mgd
Mining/Dewatering	0.000 mgd	0.00 mgd	0.00 mgd
Total	3.544 mgd	2.208 mgd	0.912 mgd

Source: Southwest Florida Water Management District, Estimated Water Use Report, 2010.
Note: Figures are in millions of gallons per day (mgd)

The primary source of water for potable, agricultural, recreational and industrial/commercial uses in Pinellas County continues to be groundwater from the Floridian Aquifer provided by Tampa Bay Water. The total 2010 estimated non-household water use estimate for Pinellas County, according to the Southwest Florida Water Management District's *2010 Estimated Water Use Report* was 3.544 mgd. This is down from 5.767 mgd in 2005. The estimated amount from groundwater in 2010 was 2.208 mgd, compared to 3.292 mgd in 2005. The estimated amount of surface water in 2010 was 0.912 mgd, down from 2.47 mgd in 2005.

Potable Water Demand in the Pinellas County Water Demand Planning Area (WDPA)

The following data and methods were used to calculate average and maximum daily potable water demand. In order to maintain internal consistency, the population projections developed by Pinellas County for updating its Comprehensive Plan were used to calculate water demand projections. (For a detailed explanation of the method for developing population estimates and projections, please refer to the Future Land Use and Quality Communities Element). Population projections for the WDPA included three basic components: permanent residents, seasonal residents and visitors.

To project the WDPA population, population growth was forecast for each Traffic Analysis Zone (TAZ). Please see **Table 4** for the Pinellas County Water Demand Planning Area population projections. As the County depletes its vacant developable land, Pinellas County's permanent population growth has slowed, and is clearly not growing at the same rate as the rest of the Region. Therefore, the rate of future demand growth for potable water is significantly greater in Hillsborough and Pasco counties where there are still areas of undeveloped land. Another factor affecting demand may be the development of individual water systems by municipal customers of the WDPA. If the trend continues, the County's WDPA demand is likely to decrease further. Notably, the County's water infrastructure was designed to meet all of its unincorporated and municipal customer demands.

TABLE 4
2010 ESTIMATED AND PROJECTED POPULATION OF THE PINELLAS COUNTY WATER DEMAND PLANNING AREA (WDPA) AND ASSOCIATED PERCENT OF TOTAL COUNTY POPULATION

YEAR	ESTIMATED OR PROJECTED TOTAL COUNTY POPULATION*	ESTIMATED AND PROJECTED POPULATION SERVED BY PINELLAS COUNTY WDPA**	AS PERCENT OF TOTAL COUNTY POPULATION
2012	1,085,109	**688,355**	63.4%
2015	1,091,966	**692,946**	63.4%
2020	1,099,402	**697,735**	63.4%

2025	1,107,396	**702,832**	63.4%
2030	1,116,091	**708,308**	63.4%

Source: Pinellas County Planning Department, November 2012.
Projection Methodology/Updated Pop Proj by Sector final 082604, Rev. 2010
* Includes permanent residents, seasonal residents and tourist populations.
The Pinellas County WDPA **does not include Oldsmar, Belleair, Dunedin, Gulfport, South Pasadena, St. Petersburg, and those portions of Unincorporated Pinellas County served by these municipalities and by Holiday Utilities

To compute projected average daily water demand, a multiplier is used, based on planning figures developed by County Planning and Department of Environmental and Infrastructure staff. The maximum day water demand is defined as the highest 24-hour demand occurring during a year and is calculated using a maximum to average ratio (1.50) calculated by the County, based on historical data.

Estimates and projections of water demand in the Pinellas County WDPA are provided in **Table 5**. Population figures in **Table 5** include both unincorporated and municipal customers served. Note that the 2012 water demand figures in **Table 5** are based on actual demand, calculated annually in the update to the Pinellas County Concurrency Test Statement (CTS). The demand figures in the CTS were based on both *flows* and populations from those municipalities that are included in the WDPA. It should be noted that the City of Clearwater and City of Tarpon Springs water systems were added to the County's flow data since they supplement additional water from their own source (note that while these municipal *flows* are not included in **Appendix A** - the Pinellas County 10 year Water Supply Facilities Work Plan). The municipal population is accounted for/planned for in both the County's capital facilities planning (**Appendix A)** and in **Table 5**.

TABLE 5
PROJECTED POTABLE WATER SUPPLY NEEDS FOR PINELLAS COUNTY WATER DEMAND PLANNING AREA (WDPA)

Year	Level of Service for Planning Purposes (gpcpd)	Estimated and Projected Population Served by Pinellas County WDPA**	Average Daily Demand (MGD)	Maximum Daily Demand (MGD) (Average Daily Demand x 1.50*)
2012	-	688,355	60.53***	90.79
2015	120	692,946	83.15	124.72
2020	115	697,735	80.23	120.34
2025	115	702,832	80.82	121.23
2030	115	708,308	81.45	122.17

Source: Pinellas County and Pinellas County Planning Department, November,2012
*The 1.50 figure is based on a comparison of Maximum Day and Average Day derived from a five-year span in previous years.
**The Pinellas County WDPA does not include Oldsmar, Belleair, Dunedin, Gulfport, South Pasadena, St. Petersburg, and those portions of Unincorporated Pinellas County served by these municipalities and by Holiday Utilities
*** Actual Average Daily Demand from the 2012 Concurrency Test Statement. (These figures include not only the average daily flow/demand for Pinellas County, but also that of the City of Clearwater and the City of Tarpon Springs.
Notes: The "Estimated and Projected Population Served by Pinellas County WDPA" figures were updated 3/29/07.
Projected level of service numbers (which are for planning purposes only) are based on Policy 1.1.3 of this Element.
Projected "Average Daily Demand (MGD)" is calculated by multiplying the Level of Service by the Projected Population figure and then dividing by one million (to convert from gpcpd to MGD).

Using the per capita-based water use factor for estimating and projecting demand for future planning purposes, plus a 10 percent safety factor (accounting for emergencies, future growth, etc.) the existing level of service, with the safety factor, would average out to 119 gpcpd. Rounded up, that accounts for the 120 gpcpd used as a planning factor out to the year 2015. Beginning in the year 2020 the planning figure is planned to drop to 115 gpcpd, reflecting trends in technology and alternate sources, green redevelopment trends, etc.).

Even though population in Pinellas County is increasing (although slowly), both overall water consumption and per capita water consumption continue to decrease. However, the most dramatic reductions have likely been achieved due to the multi-faceted water conservation program and maximization of its reclaimed water resource, etc.

ADOPTED LEVEL-OF-SERVICE STANDARD FOR WATER SUPPLY

Pinellas County relies completely upon Tampa Bay Water for the provision of its potable water supply, and Tampa Bay Water is contractually obligated to provide all potable water required by Pinellas County to serve its customers. Therefore, based upon the Master Water Supply Contract, the **adopted level-of-service standard** for potable water supply is as follows:

1. Except as otherwise provided for in the Master Water Supply Contract, and the associated Interlocal Agreement, all potable water required by Pinellas County to service its customers shall be supplied by Tampa Bay Water

2. In the event that Tampa Bay Water determines that the regional system has experienced a “shortfall” or “production failure” as defined in the Interlocal Agreement, Pinellas County shall respond with one or more of the following actions and alternatives:

    a. Institute additional water conservation measures;

    b. Halt or otherwise restrict the issuance of development orders and permits;

    c. Develop new sources of potable water within the parameters of the Interlocal Agreement;

    d. Purchase potable water from suppliers other than Tampa Bay Water;

    e. Cooperate with Tampa Bay Water, the Southwest Florida Water Management District, and the affected local governments to develop a regional response to the situation; and

    f. Use actions and alternatives not identified within this policy.

PARTICIPATING IN WATER SUPPLY PLANNING AT THE REGIONAL LEVEL

In order to estimate current and future demands, each member government submits to Tampa Bay Water, the regional water supplier, an annual report outlining their

anticipated annual needs for the coming five years and for twenty years into the future, in five-year increments. Information provided to Tampa Bay Water includes population estimates, average daily rates, maximum daily rates, maximum hour rates, pressure, storage capacity, new points of connection, pumping station and water treatment plant changes, per capita use, water conserving rate structure, water audit programs, residential water use, reclaimed water use, and anticipated changes to service boundaries. Tampa Bay Water's Master Plan is then required to plan for, and address, its long term water supply plans for its member governments, including Pinellas County.

The Southwest Florida Water Management District Regional Water Supply Plan

The Florida Water Resources Act (Chapter 373, F.S.) requires water management districts to develop regional water supply plans where existing and anticipated water sources are considered inadequate to meet demands for a 20-year planning horizon. Regional Water Supply Plans (RWSPs) must include a list of water supply sources and water resource development projects that will meet anticipated demands while sustaining water resources and related natural systems. The RWSPs also encourage multi-jurisdictional approaches alternative water supply development and recommend who should implement specific alternative water supply projects. Alternative water supplies include salt water, brackish water, surface water, reclaimed water, storm water, and other nontraditional sources. The RWSP is intended to provide the framework for future water supply decisions in areas where existing and reasonably anticipated sources of water and conservation efforts may not be adequate to provide for all existing legal users and reasonably anticipated future needs, while sustaining water resources and related natural systems.

The Southwest Florida Water Management District (SWFWMD) completed its update of their RWSP and approved it on July 26, 2011. Based upon the RWSP, water supply will be adequate to meet 2035 demands through development of both traditional and alternative water supply sources and increased water conservation.

Pinellas County's 10-Year Water Supply Facilities Plan

The Potable Water, Wastewater and Reuse Element includes, within the **10 Year Water Supply Facilities Plan (see Appendix A),** those alternative and traditional water supply projects, conservation and reuse programs, consistent with the RWSP, necessary to meet the projected water demands for the Pinellas County Utility's WDPA. See, in particular, the discussion in this Element regarding the County's extensive reclaimed system and conservation programs. It is important to note that Pinellas County is not a supply provider; Tampa Bay Water is responsible for providing the water supply to the Pinellas County water system. In turn, Pinellas County treats and distributes water to its wholesale and retail customers. Therefore, the projects in the 10-Year Water Supply Facilities Plan are focused on alternate sources of water and conservation strategies to reduce potable demand, as well as maintenance of the distribution system, storage, etc., required to ensure that Pinellas County can meet is wholesale and retail customer demands. Additional discussion of the 10-Year Water Supply Facilities Plan can be found in the Potable Water Capital Improvements section

of this Element. Regarding its obligations to its customers, please see **Appendix B** which includes the information provided to Pinellas County customers affirming its commitments.

The RWSP identifies potential water supply development projects, including conservation, reuse, traditional, and alternative water supply projects that will exceed the needs projected by the SWFWMD. The RWSP also estimates the associated costs for developing the projects. The water supply projects identified in the RWSP represent a "menu" of possible options from which each identified local government, government-owned and privately owned utility, self-supplier or other entity may choose to address it water supply needs. The individualized project options are provided as reasonable concepts that water utilities in the region can pursue through water supply planning. Water users may select a water supply development project presented in the plan or combine elements of different projects that better suit their water supply needs. Additionally, the plan provides information to assist water users in developing funding strategies to construct water supply development projects, and the inclusion of a specific alternative water supply project in the plan indicates that state and water management district funding assistance may be available for the project.

MEETING FUTURE POTABLE WATER DEMANDS

Reducing Groundwater Withdrawals

In 1996, The Southwest Florida Water Management District published the final report of a multi-year study which assessed the regional water resources of the Northern Tampa Bay area. This study, known as the Northern Tampa Bay Water Resources Assessment Project (NTBWRAP), was an effort to better understand the current state of the water resources of the area, as well as to provide the foundation for future, more detailed, hydrogeologic and biologic studies. Since that time, the District entered into its Partnership Agreement with Tampa Bay Water and its member governments to reduce ground-water withdrawals in the area from 158 mgd to 90 mgd by 2007. As a result, for example, Tampa Bay Water has been developing desalinated seawater and surface water sources. Phase II of the NTBWRAP began in 1999 (Northern Tampa Bay Phase II) and is intended to support the ongoing development of minimum flows and levels, water resources and recovery, water use permitting and environmental permitting. The Scope of Work for this project will be regularly updated in order to adapt to changing conditions and increased understanding of water conditions in Northern Tampa Bay. Ultimately, this project will help to understand the condition of water resources in the Bay area and provide for greater understanding about what will need to be done to protect local water resources to ensure their viability into the future. This biologic and hydrologic studies associated with this project were completed in 2010.

Tampa Bay Water's Master Water Plan

As already discussed, Tampa Bay Water produces its own Master Water Plan and Long-Term Water Supply Plan that identifies the means to provide potable water to its customers through the year 2028. TBW updates its Master Water Plan every five years,

and is currently in an update phase. Annually, Tampa Bay Water publishes its "Tampa Bay Water Special District Public Facilities Report". This report provides a detailed description of Tampa Bay Water's Master Water Plan, Long-Term Water Supply Plan, existing water supply facilities, existing pipelines, facilities to be built, improved, or expanded through five years following the date of the annual report. The report discusses proposed facility replacements for the following five years. Pinellas County works closely with Tampa Bay Water in the process of updating their Long-Term Water Supply Plan and Master Water Plan, including review of potential future water supply projects.

Tampa Bay Water Alternative Sources and Storage Methods

One of the major ways Tampa Bay Water is addressing resources for the future is through the development of alternative sources of potable water. Tampa Bay Water's first Master Water Plan configuration included not only groundwater, but also surface water and desalinated seawater. Surface water and desalinated seawater use help to offset the use of groundwater withdrawals from the Floridan Aquifer. This addresses resource uncertainty by providing alternative sources of water during times when groundwater supplies are diminished due to drought, for example. Many of Tampa Bay Water's projects came on-line throughout 2002 and 2003. The C.W. Bill Young Regional Reservoir was constructed from 2002 to 2005 and was placed in service in March 2005. Desalinated seawater was online in 2007.

Surface Water Withdrawals

According to Tampa Bay Water's 2012 Annual Report, potable water sources include groundwater, desalinated seawater from Tampa Bay, and surface water. The C.W. Bill Young Regional Reservoir is a 15-billion gallon, off-stream reservoir that stores river water in the wet seasons for use as drinking water in the dry seasons. Reservoir water quality monitoring occurs on a weekly basis, and more than 2,000 samples are taken annually from the reservoir. The reservoir is only one part of Tampa Bay Water's Enhanced Surface Water System. The basis of the Enhanced Surface Water System is the withdrawal of flows in the Hillsborough and Alafia rivers and Tampa Bypass Canal during the rainy season when flows are high. When river flows are low, during drier times of the year, Tampa Bay Water treats the water from the reservoir and includes it in the regional drinking water system. From there, it is distributed to member government utilities, including Pinellas County.

Seawater Desalination

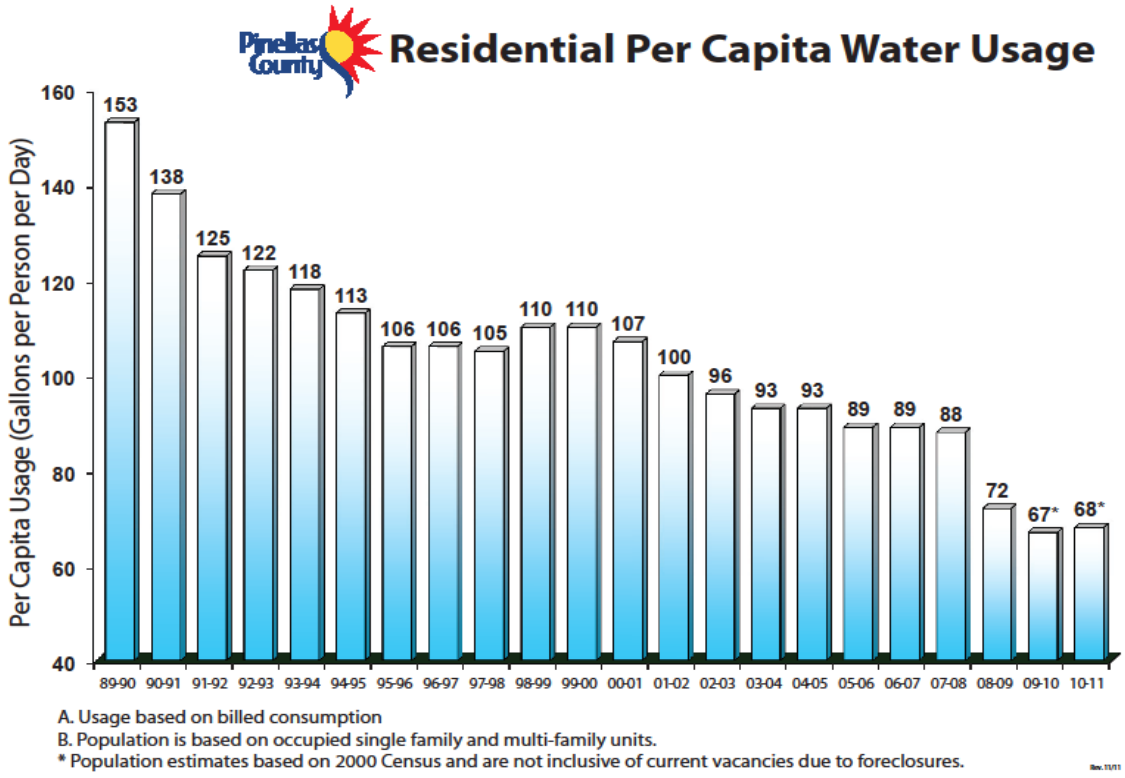
The Tampa Bay Seawater Desalination facility is an integral part of the Tampa Bay region's drinking water supply. The drought-proof, alternative water supply provides up to 25 million gallons per day of drinking water to the region. The plant uses reverse osmosis membrane technology to produce drinking water from seawater.

PINELLAS COUNTY COMMITMENTS TO REDUCING POTABLE DEMAND AND DEVELOPING ALTERNATE SOURCES

Planning for conservation, reuse, and alternative water sources is a crucial aspect of potable water supply planning in Pinellas County. Pinellas County is working to address resource uncertainty through the use of reclaimed water that offsets the use of potable water consumption, conservation programs that prevent the waste of potable water and the development of alternative sources of potable water supply and storage methods.

Pinellas County has developed an extensive reclaimed water system that conserves potable water by offsetting the use of potable water. For details about Pinellas County's reclaimed water system and other alternative sources, please refer to the Reclaimed Water and Alternative Sources chapter in this Element. Please see also the section below on Pinellas County's Conservation efforts. **Figure 2** shows the steady decline in the per capita usage of potable water, attributed in part, to the reclaimed water/conservation initiatives of the Pinellas County Water System.

FIGURE 2
PINELLAS COUNTY PER CAPITA WATER USE
(Gallons Per Day)



Pinellas County Potable Water Conservation Program

Water conservation is a crucial aspect of potable water supply planning for Pinellas County. Pinellas County's conservation programs currently address such things as: the reduction of system losses; the protection of groundwater against development practices that might cause degradation of quality and yield; and the installation of devices, processes and methods to reduce water consumption. A primary component of the County's conservation program is the availability of reclaimed water to reduce demands on the potable water system. Additionally, the establishment of rate structures to decrease demand, and the restriction of water use during water shortage occurrences are integral to the County's conservation strategy.

Education about groundwater protection and potable water conservation has been a major initiative of the Board of County Commissioners since the 1980s. Because of its multi-faceted program, overall water use and the per capita water consumption have reduced consistently since 1989. This places the Pinellas County WDPA among the lowest (if not the lowest) in per capita water consumption within the Tampa Bay Area and well below the state and national averages. The County's innovative conservation programs, public education initiatives and utilization of alternate water supplies to meet irrigation needs are central to this accomplishment.

Pinellas County's conservation initiatives include educational outreach efforts as well as incentives and special events designed to highlight the importance of conservation and waste reduction. Education targeting potable water conservation, for example, has been a major initiative of Pinellas County. Irrigation restrictions, landscaping regulations, shallow well requirements, water saving plumbing, a Commercial & Industrial Water Use Program, an Alternate Water Sources Rebate Program, an Ultra Low Flow Toilet Program, water saving kits, free indoor plumbing retrofit kits, hotel/motel conservation initiatives and public service and information newsletters are a few of the conservation programs and initiatives Pinellas County has utilized in conserving the region's precious potable water resources. Unfortunately, however many of these programs and initiatives have since been discontinued due to funding constraints.

Reclaimed Water Options

High quality reclaimed water, produced at Pinellas County's regional water reclamation facilities, is a vital component in the County's water conservation efforts. Reclaimed water can effectively replace the use of potable water for irrigation of residential and commercial landscapes and save a significant amount of potable water each day. For more information about reclaimed water in Pinellas County, please see the Reclaimed Water Chapter of this Element. The County's reclaimed program furthers the RWSP list of options to reduce potable demand.

Pinellas County Conservation Using Ultra Low Volume Toilet (ULV) Rebates

The Ultra Low Flow Toilet Rebate Program initially began as a result of a pilot study conducted in 1998 and 1999 with the Pinellas County Housing Authority. Rebates of up to $100 for each high flow toilet replaced by an ultra low flow 1.6 gallon toilet were available to single family, multi-family, and commercial customers who receive their water supply directly from Pinellas County or from the cities of Clearwater, Pinellas Park, Safety Harbor, or Tarpon Springs. At this time, the program is no longer funded.

Pinellas County Irrigation Restrictions

Pinellas County has irrigation restrictions, landscaping regulations, and provides residents with educational information. Water restrictions require residents to water their lawns only during early morning or late afternoon (windows of time when evaporation is lowest) and on assigned days. The County also employs additional temporary enforcement personnel during the peak season. Mandatory sprinkling bans are implemented during drought periods by the Board of County Commissioners. This restriction of nonessential water use has prompted many customers to install equipment and landscaping which is less dependent on potable water. The implementation of water restrictions as a means of conserving water is consistent with the RWSP, as it is one of the recommended options in the RWSP.

Local media have been very generous in coverage of changing watering restrictions and the County's website has experienced an increase in visits each time the restrictions change. In 2011, 32,500 visits were recorded to the water restrictions section of the Web.

Pinellas County Landscaping Regulations

Pinellas County also implements landscaping regulations under Chapter 166 of the Pinellas County Code, as it recognizes the need for water conservation practices for landscape irrigation including the use of drought tolerant plants, the retention of existing natural vegetation, and promotion of advanced irrigation technologies. The Code also requires replanting of vegetation, landscaping of vehicular use areas, management of undesirable plant material, protection and reservation of wildlife and wildlife habitats, and provision of a tree bank fund for furthering this intent. The use of landscaping regulations as a means of water conservation is consistent with the RWSP and is one of the water conserving options listed in the RWSP.

Pinellas County Educational Information

Pinellas County also provides educational information to residents via brochures, the internet, videos, tours of facilities, and even by telephone. Pinellas County produces brochures like the "Pinellas County Utilities Outdoor Water Conservation Action Guide", the "Indoor Water Saver's Guide", "Your Lawn May Have A Drinking Problem!" and "Your Guide to Home Water Conservation: Leak Detector Guide". Education is

specifically listed as one of the water-conserving options in the RWSP, so Pinellas County is consistent with the RWSP in utilizing these programs.

Pinellas County Industrial, Commercial and Institutional Water Use Program

Pinellas County previously implemented a Commercial & Industrial Water Use Program (CIWP) which began in 2001 and was designed to identify ways and means to conserve water for representative commercial and industrial customers including individual business water audits. The purpose was to provide data and information on water usage in the industrial, commercial, and institutional sectors which enabled a more customizable conservation approach for those types of uses.

Industrial/Commercial Spray Valves

Pinellas County also at one time offered replacement industrial/commercial spray valves as one means of conserving water. Even though the program is no longer funded it applied to interior water use by non-residential customers of the public supply category. While the program is no longer in place, the Energy Policy Act of 2005, required that all pre-rinse spray valves manufactured on or after January 1, 2006 must have a flow rate of not more than 1.6 gallons per minute, when measured with ASTM Test Method F2324.

Water-Conserving Rain Sensor Shut-off Gauge Program and/or Soil Moisture Sensor Program

The purpose of a rain sensor installation is to reduce water use by automatic irrigation systems by eliminating irrigation during significant rain events. The County's code requires this for new sprinkler system installations. According to the Regional Water Supply Plan, this is most effective in the public supply, domestic self-supply, and recreational/aesthetic categories.

Free Indoor Plumbing Retrofit Kits

The Pinellas County Plumbing Code incorporates the requirements of the Standard Building Code for the installation of high efficiency water using fixtures. In an effort to promote voluntary replacement and water efficiencies, the County provided over 300,000 free indoor plumbing retrofit kits to the public since the inception of this program in the 1990's. These kits contained low flow showerheads, low flow faucet aerators, toilet displacement bags, and leak detection tablets to aid in water conservation. This program has served as a model for other local, regional, and national retrofit programs. The program was funded jointly by Pinellas County Utilities and the Pinellas Anclote River Basin Board of the SWFWMD. This Retrofit Program received a first place award as "Best Water Conservation Project" in 1993 from the Florida Section of the American Water Works Association and numerous other conservation and public relations awards. At this time, the program is no longer funded however the efficiencies associated with the extensive retrofits remain in place.

Water Conservation Bill Stuffers and Messages

Conservation bill stuffers and messages encourage conservation and are distributed with billing statements to serve as a constant reminder of the need for conservation practices. Messages can be changed at whatever interval Pinellas County chooses. They also include hotlines and other information. Messages from SWFWMD and Tampa Bay Water are occasionally communicated via Pinellas County water utility bills as well as the Web.

Hotel/Motel Conservation Initiatives

In 1997, a pilot program was initiated to investigate the feasibility of retrofitting hotel/motel accounts in beach communities and at tourism locations in Pinellas County. Several motels along the beach volunteered to participate in the pilot by installing Pinellas County Utilities free water saving devices such as low flow showerheads, toilet displacement bags, and faucet aerators) in visitor rooms and common areas. Data from this project evaluated the benefits of large scale hotel/motel voluntary retrofits.

Water Conservation Public Service and Informational Newsletters

Public service and informational newsletters like Utilitalk/County Line, are made available at various locations and included in bimonthly utility bills to outline water conservation and water management issues. They explain how citizens can assist in Pinellas County's conservation efforts. Conservation messages are also communicated to employees via a monthly employee newsletter.

Alternate Water Sources Rebate Program

The overall goal of this program has been met, which was to facilitate customers' utilization of a non potable water source to meet their irrigation needs. In 1999, a successful pilot program demonstrated that customers utilizing shallow wells for irrigation realized 231 gallons per day of water savings. Residents who install a shallow well, deep well, or surface water withdrawal system for landscape irrigation and disconnected from the potable water system, received the $300 Alternate Water Sources Rebate Program. This program helped decrease dependence on the potable supply.

Shallow Well Requirements

Adopted in 1973, this program requires that all commercial and multifamily properties must utilize shallow wells for landscape irrigation. Exceptions are noted where shallow wells are not possible and are reviewed on a case-by-case basis. At this time, it is likely that this program's benefits have already been maximized.

The Florida Yards and Neighborhoods Florida-Friendly Landscaping™ Program

This program was developed by the University of Florida IFAS Extension to promote drought tolerant landscape design and water efficient irrigation practices. Classes and workshops are taught by UF IFAS Extension staff and master gardener volunteers in Pinellas County. Reference materials are provided by sponsors and partners, including: Southwest Florida Water Management District, Tampa Bay Water, Tampa Bay Estuary Program, UF IFAS, and Pinellas County. Florida-Friendly Landscaping™ combines instructor led lectures, group seminars, and hands-on workshops to provide citizens with the knowledge to implement and promote water conserving, reduced maintenance landscaping in their communities.

Pinellas County Website

Pinellas County provides easy access to utility information, conservation tips and ways to protect, reduce, reuse, and recycle area resources online. Information is updated regularly on programs as well as listings for special events and mobile collections. The site can be accessed at www.pinellascounty.org/utilities.

In 2011, residents accessed water conservation information 7,975 times on the County Website.

Conservation Education Programming at County Facilities

Cross Bar and Al-Bar Ranches. The 12,000 acre Cross Bar Ranch is operated by Pinellas County in a manner that embraces a total ecosystem management philosophy. The ranch has successfully merged wellfield production, cattle ranching, forest production, natural wildlife habitat enhancement, and education and outreach programs. For example, 5,000 acres formerly utilized for ranching was converted to forestry production. This change reduced water evaporation rates compared to pasture grassland uses. Six thousand acres of Cross Bar Ranch have been managed for wildlife preservation and habitat enhancement. The ranch has been listed as one of the "Important Birding Areas of Florida" by the Audubon of Florida. The education facility has also provided an outreach to students and environmental groups with classroom instruction enhanced by field studies demonstrating the importance of responsible environmental management. Future plans for the ranches are in discussion.

South Cross Bayou Education Center. Pinellas County and the Pinellas County School Board in past years collaborated in a partnership to provide hands-on learning opportunities.

Speaker's Bureau and Outreach

The Pinellas County Speakers Bureau provides lecturers for schools, civic groups, private clubs and homeowners associations on our water resources, conservation programs and activities, reclaimed water, xeriscaping, recycling and various environmentally related topics. There are also several programs directed at teaching

school age children the value of water conservation, implementation methods and social responsibility for resources. The County, SWFWMD and the Pinellas County School Board sponsor conservation summer camps for elementary- and middle school-aged children. For their teachers, there are ongoing in-service teacher training classes which keep educators informed on environmental issues and our natural resources.

CAPITAL IMPROVEMENTS TO SUPPORT THE PROVISION OF POTABLE WATER TO PINELLAS COUNTY CUSTOMERS

In order to help assure a continued supply of safe and reliable potable water, Pinellas County maintains a Capital Improvements Program which includes on-going repairs, maintenance, upgrades and expansion of the water supply system and uses. **Table 6** is a summary depicting the projects that are identified the County's six-year Capital Improvement Element. In addition to the Table below, refer to **Appendix A**, the 10-Year Potable Water Supply Facilities Plan, for more information.

TABLE 6
PINELLAS COUNTY POTABLE WATER CAPITAL IMPROVEMENTS

PROJECT TITLE	PROJECT STATUS
Water Distribution Mains	Scheduled
Source of Supply and Treatment	Scheduled
Water Transmission Mains	Scheduled
Distribution Stations	Scheduled
Water Supply Stations	Scheduled
South Cross Additions and Improvements (Including Reuse System)	Scheduled
W.E. Dunn Water Reclamation Facility	Scheduled
Sewer Modification and Rehabilitation	Scheduled

Source: Pinellas County's 2011/12 10-Year Potable Water Supply Facilities Plan

Planning Beyond a Six Year Horizon

The primary objective of Pinellas County's 10-Year Water Supply Facilities Work Plan is to ensure the construction of water facilities, alternative sources to offset potable water use, and conservation and reuse programs necessary to serve existing and new development for at least a 10-year planning period. Pinellas County's 10-Year Work Plan relates to the SWFWMD Regional Water Supply Plan through its conservation and reclaimed water improvements designed to offset the use of potable water. Please refer to **Appendix A** depicting the 10-Year Water Supply Facilities Work Plan, as well as discussion earlier in this Element related to the Regional Water Supply Plan (RWSP). The Work Plan includes those facilities and projects and programs required to meet the needs of all of the County's wholesale and retail customers.

Capital improvements scheduled in the 10-Year Water Supply Facilities Work Plan include those for water storage, transmission and distribution, as well as alternate source (reclaimed/reuse) conservation, education, and enforcement project categories.

As a result of the current economy, (i.e. foreclosures - empty homes), as well as the anticipated loss of water sales to Clearwater, Oldsmar and Tarpon Springs the water system is experiencing declining revenues. The City of Oldsmar has completed construction on their own water source by developing their Reverse Osmosis Plant and self sufficient as of September 2012. The City of Tarpon Springs is projected to be completely self sufficient by April of 2014 and, the City of Clearwater is projected to have a reduction in water purchased from Pinellas County in the amount of 6.32 Million Gallons per Day (MGD) by FY2012-2016.

The County's mature reclaimed water system and conservation education/programs and initiatives for retail customers further contributed to the decline in revenue.

Asset Management for the Longevity of the Pinellas County Capital Investments

Pinellas County's Asset Management Program applies not only to potable water infrastructure, but also to the wastewater and reclaimed water infrastructure. The overall purpose of the Asset Management Program is to provide an evaluation of the County's infrastructure and establish the process whereby the County can assess the life cycle and risk associated with each infrastructure component of the infrastructure on an ongoing basis.

LAND USE AND WATER LINKAGE

In 2005, the Florida Legislature made significant changes to Chapters 163 and 373, F.S., to strengthen the link between land use and water supply planning. The legislative changes encourage cooperation in the development of alternative water supplies and reemphasize the need for conservation and reuse. Additional changes include a revised time line for preparing local supply facilities work plans for building public, private, and regional water supply facilities, including the development of alternative water supplies, and new provisions to be addressed in local comprehensive plans.

The County's water conservation programs and commitmtents to reducing potable demand though development of alternative sources is described within this Element. The 10-Year Water Supply Facilites Plan is included to reflect capital commitments to those projects required to meet the needs of Pinellas County's unincorporated and municipal customers, with projects that are inteded to be sustainable for the long term.

Because land use designations and zoning regulations influence what can be done on a parcel of land, land use designations directly affect water demand, because permitted uses can vary widely. Therefore, regulating development through land use planning and zoning can provide one method of conserving water supplies. In the early 1980s, the Pinellas County Board of County Commissioners (BCC) reduced land use densities on approximately 22,000 acres in the northern portion of the County. Reduction in

density translates into less people and less water demand. Additionally it protects the potable water supply from adverse impacts associated with development. Overall, densities in the unincorporated County are lower than many of the municipalities. Please refer to the Future Land Use and Quality Communities Element as well as the Natural Resource Conservation and Management Element for additional information regarding land use information as it relates to the protection of natural resources.

Pinellas County also has a long history of land acquisition, beginning with acquisition of wellfields in the 1930s, and invigorated with consecutive land acquisition referenda initiated in the 1970s, with much of the acquisition directed at north county and protection of the recharge area to the County's regional water supply. Please see the Recreation, Open Space and Culture Element, as well as Natural Resource Conservation and Management Element for additional discussion. In addition, the County's wellhead protection program, in place since 1990, provides a direct relationship between water supply protection and land development decisions. Please see the Natural Resource Conservation and Management Element for discussion regarding land acquisition for conservation purposes, recharge, and ground water protection.

Figure 3
"Water Service Areas and Municipalities in Pinellas County, October 2012"

Figure 4
Pinellas County Potable Water Facilities 2012