Appendix A

Florida Water Conservation Glossary

The Florida Water Conservation Glossary

Term	Acronym	Definition	Agency/Authority	Document
Aesthetic use		The use of water for fountains, waterfalls, and landscape lakes and ponds where such uses are entirely ornamental and decorative and serve no other functional purpose.	SRWMD	40B-2.021, F.A.C.
Alternative sources		Sources other than traditional ground or surface water sources, which do not contribute to, and may alleviate adverse impacts to water resources.	FDEP	Florida Water Conservation Initiative (2002)
Annual withdrawal		The quantity of water withdrawn during any 365 day period.	NWFWMD	Ch. 40A-2, F.A.C.
Authorized unmetered water use		Unmetered water used for beneficial purposes (e.g., firefighting and training, flushing mains, irrigating public areas) as approved by the utility; also called authorized unaccounted-for water.	AWWA	Manual 36
Average daily rate of withdrawal		The volume of water withdrawn during a specific period divided by the number of days in the period.	SRWMD	40B-2.021, F.A.C.
Average-day demand	**ADD**	A water system's average daily use based on total annual water production divided by 365.	Vickers, Amy	Handbook of Water Use and Conservation (2001)
Avoided cost		The cost avoided by selecting one alternative over another to achieve a specified goal.	Anderson, Damann	
Baseline		An established value or trend used for comparison when conditions are altered, as in the introduction of water conservation measures.	USEPA	USEPA Water Conservation Plan Guidelines

Term	Acronym	Definition	Agency/Authority	Document
Benchmark		Expected performance of a **BMP**.	JSOC Members	JSOC Meeting Notes, December 6, 2004
Benefit-cost analysis		A comparison of total benefits to total costs, usually expressed in monetary terms, used to measure efficiency and evaluate alternatives; see also **avoided cost**.	USEPA	USEPA Water Conservation Plan Guidelines
Benefit-cost standard		Implementation of all available conservation measures with economic benefits that exceed economic costs.	Term adapted from Chesnutt, Thomas.	Performance Standards for demonstrating Urban Water Conservation, a Briefing Book prepared for California Urban Water Agencies, by Thomas Chesnutt, June 1997
Best management practice	**BMP**	A **water conservation measure** or system of business procedures that is beneficial, empirically proven, cost effective, and accepted in the user community.	Simmons, Tonya	
Block		A quantity of water for which a price per unit of water (or billing rate) is established.	USEPA	USEPA Water Conservation Plan Guidelines
Commodity charge		See **variable charge**.	USEPA	USEPA Water Conservation Plan Guidelines
Conservation rate structures		A schedule of utility water rates designed to promote efficient use of water by providing economic incentives; see also **water-conserving rate structure**.	FDEP	62-40.210, F.A.C. (Proposed)
Consumptive use		Any use of water which reduces the supply from which it is withdrawn or diverted.	FDEP	62-40, F.A.C.
Consumptive use permit	**CUP**	A permit issued by SWFWMD authorizing the use of water from a groundwater or surface water source for a specific need; called a **water use permit** for the State's other four Water Management Districts.		

Term	Acronym	Definition	Agency/Authority	Document
Cost-effectiveness		The comparison of total costs relative to benefits; costs are expressed in dollars, but benefits can be expressed in another unit (e.g., a quantity of water); see also **avoided cost**.	FDEP	Florida Water Conservation Initiative (2002)
Cost-effectiveness standard		Implementation of all available cost-effective conservation measures to achieve a specified water use goal.	Term adapted from Chesnutt, Thomas.	Performance Standards for demonstrating Urban Water Conservation, a Briefing Book prepared for California Urban
Customer class		A group of customers (residential, commercial, industrial, wholesale, and so on) defined by similar costs of service or patterns of water usage.	USEPA plus "see also end user"	USEPA Water Conservation Plan Guidelines
Declining (decreasing) block rate structure		A pricing structure in which the amount charged per unit of water (e.g., dollars per 1,000 gallons) decreases as customer water consumption increases. This type of rate structure is not considered to be water conserving.	FDEP	Florida Water Conservation Initiative (2002)
Dedicated meter		A meter installed to measure a single type of use (e.g., residential irrigation, cooling tower make-up water).	Simmons, Tonya	
Demand forecast		A projection of future demand that can be made on a system wide or customer-class basis.	USEPA	USEPA Water Conservation Plan Guidelines
Demand management		Water-efficiency measures, practices, or incentives implemented by water utilities to reduce or change the volume and/or pattern of customer water demand.	FDEP	Florida Water Conservation Initiative (2002)
Distribution System Audit		See **system audit.**	Tampa Bay Water	Water Conservation Best Management Practices
Domestic use		The use of water for the individual personal household purposes of drinking, bathing, cooking, or sanitation.	FDEP	373.019(4) F.S.

Term	Acronym	Definition	Agency/Authority	Document
Drought		An extended period of below-normal precipitation that can result in water supply shortages, increased water demand, or both.	FDEP	Florida Water Conservation Initiative (2002)
Drought rate structure		An element of a utility rate structure intended to provide an economic incentive to reduce water use during times of drought.	FDEP	62-40.210, F.A.C. (Proposed)
End use		The ultimate destination of water; fixtures, appliances, equipment, and activities that use water.	FDEP	Florida Water Conservation Initiative (2002)
End user		The ultimate consumer of water (e.g., a residential, commercial, industrial, or agricultural water customer).	FDEP	Florida Water Conservation Initiative (2002)
End-use audit		See **water-use evaluation**.		
Equivalent residential connection	**ERC**	A normalized value to represent a non-residential account in terms of a residential account in order to calculate a per capita value.	NWFWMD	NWFWMD Survey Results
Essential Use		The use of water for fire fighting purposes, health and medical purposes, and to satisfy federal, state, or local public health and safety requirements.	SRWMD	40B-2.021, F.A.C.
Evapotranspiration		Water lost from the soil and other surfaces by evaporation and through plant transpiration.	Tampa Bay Water	Microirrigation Guide
Fixed charge		The portion of a water or reclaimed water bill that does not vary with water use.	FDEP plus additional information	Additional information provided by David Sayers (Hazen and Sawyer)
Fixed costs		Costs associated with water service that do not vary with the amount of water produced or sold.	USEPA	USEPA Water Conservation Plan Guidelines

Term	Acronym	Definition	Agency/Authority	Document
Flat rate structure		A fee structure in which the price of water or reclaimed water per unit is constant, regardless of consumption. This type of rate structure is not considered to be water conserving.	FDEP	Florida Water Conservation Initiative (2002)
Florida Friendly Landscape		A type of quality landscaping that conserves water and protects the environment by using site-appropriate plants (native, natural and/or drought tolerant plants), an efficient watering system, proper planning and design, soil analysis, practical use of turf, the use of mulches (which may include the use of solid waste compost), and proper maintenance; similar to **Xeriscape**.	Simmons, Tonya	Combination of F.S. and Tampa Bay Water
Florida Yards and Neighborhoods	**FYN**	An educational outreach program developed by University of Florida and conducted through county extension offices throughout Florida to inform homeowners how they can be more environmentally friendly with their landscape care practices and how this can help protect Florida's natural environment for future generations		http://hort.ufl.edu/fyn/faq.htm
Flow Meter		An instrument used for the precise measurement of water flow.	SJRWMD	CUP APPLICANT'S HANDBOOK: Ch. 40C-2, F.A.C 4/2002
Forecast demand reduction		Conservation goal divided by baseline demand forecast assuming current efficiencies.	Chesnutt, Thomas	Performance Standards for demonstrating Urban Water Conservation, a Briefing Book prepared for California Urban Water Agencies, by Thomas Chesnutt, June 1997
Functional population	**FP**	Population adjusted for seasonality.	Simmons, Tonya	SWFWMD Survey Results
Gallons per capita per day	**gpcd**	Gallons per capita (or person) per day.	Vickers, Amy	Handbook of Water Use and Conservation (2001)

Term	Acronym	Definition	Agency/Authority	Document
Gallons per day	**gpd**	Gallons per day.	FDEP	Florida Water Conservation Initiative (2002)
Gallons per employee per day	**gped**	A **performance measure** applicable to the non-residential sector only.	Simmons, Tonya	
Gallons per household per day	**gphd**	A **performance measure** applicable to the residential sector only; same as **gpad** for the single-family sector and **gpud** for the multi-family sector.	Simmons, Tonya	
Gallons per measure per day	**gpmd**	A **performance measure** that represents the savings resulting from implementing a **BMP**.	Simmons, Tonya	
Gallons per unit per day	**gpud**	Gallons per unit (or apartment) per day; a **performance measure** applicable to the multi-family residential sector only; same as the multi-family **gphd.**	Simmons, Tonya	
Goal-based rate structure		A variation of the **inclining block rate structure** where a lower rate is charged for water use that is less than an established goal and a higher rate is set for water use that is greater than the goal.	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002
Inclining block (or increasing block) rate structure		A pricing structure in which the amount charged per unit of water or reclaimed water (e.g., dollars per 1,000 gallons) increases as customer water consumption increases.	FDEP	Florida Water Conservation Initiative (2002)
Incremental cost		The additional cost associated with adding an increment of capacity to a water supply.	Vickers, Amy	Handbook of Water Use and Conservation (2001)
Indoor water use audit		See **water-use evaluation**.		

Term	Acronym	Definition	Agency/Authority	Document
Informative billing		System of providing water utility customers with useful information on the relationship between the amount of water they use and the cost associated with that use. Examples of the information include the utility's rate structure, amount of water used in the current month, amount of water used in the previous month, amount of water used in the same month of the previous year, information on the average usage of all customers in the same customer class, seasonal rates and applicable months, drought rates, information on conserving water, or other information deemed appropriate by the utility.	FDEP	62-40.210(17), F.A.C. (Proposed)
Inverted block rates		See **inclining (increasing) block rate**		
Irrigation audit		An on-site evaluation of an irrigation system to assess its water-use efficiency as measured by distribution uniformity, irrigation schedule and other factors; see also **water-use evaluation**.		
Irrigation scheduling		A method for optimizing outdoor water use by matching the watering schedule to plant needs; typically an automated system.	Huff, Gail	
Irrigation water-use efficiency		The ratio of water beneficially used in plant growth to water applied, expressed as a percentage.	Florida Irrigation Society	Standards and Specifications for Turf and Landscape Irrigation Systems (January 2002)
Leak detection and repair		A survey of the distribution system to identify leak sounds and pinpoint the exact locations of hidden underground leaks and repair them.	AWWA	AWWA Manual M36
Life span		The expected useful life of a supply-side or demand-side project, measure, or practice; (the life span may not be identical to useful life for tax purposes).	USEPA	USEPA Water Conservation Plan Guidelines
Life-cycle costs		The sum of the present values of investment costs, capital costs, installation costs, energy costs, operating costs, maintenance costs, and disposal costs, over the lifetime of the project, product, or measure.	DOE/FEMP	Executive Order 13123

Term	Acronym	Definition	Agency/Authority	Document
Low-volume irrigation		The use of equipment and devices specifically designed to allow the volume of water delivered to be limited to a level consistent with the water requirements of the plant being irrigated and to allow that water to be placed with a high degree of efficiency	Volusia Co.	Ch.50–315 Volusia County Codes
Marginal cost pricing		A rate design method in which prices reflect the costs associated with producing the next increment of supply.	FDEP	Florida Water Conservation Initiative (2002)
Master meter		A large meter located upstream of other smaller meters and used for water accounting, billing purposes, or both.	FDEP	Florida Water Conservation Initiative (2002)
Maximum daily withdrawal		The maximum volume of water withdrawn during any consecutive 24 hour period.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER
Maximum day demand	**MDD**	Total production for the water system on its highest day of production during a year.	USEPA	USEPA Water Conservation Plan Guidelines
Maximum monthly withdrawal		The maximum volume of water withdrawn during any given month of the year	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER
Meter		An instrument for measuring and recording water volume.	USEPA	USEPA Water Conservation Plan Guidelines
Microirrigation		The frequent application of small quantities of water directly on or below the soil surface, usually as discrete drops, tiny streams or miniature sprays through emitters placed along water delivery pipes (laterals). Microirrigation encompasses a number of methods or concepts, including drip, subsurface, bubbler, and low-volume spray irrigation. Previously known as trickle irrigation.	Florida Irrigation Society	Standards and Specifications for Turf and Landscape Irrigation Systems (January 2002)
Milestone		A major scheduled point in time during which a cohesive set of significant objectives (e.g., set of tasks completed, set of work products delivered) is to be achieved.	NOAA	NOAA Definitions for Performance Measurement

Term	Acronym	Definition	Agency/Authority	Document
Net present value		The present value of benefits minus the present value of costs.	Vickers, Amy	Handbook of Water Use and Conservation (2001)
Nominal dollars		Forecast dollars that are not adjusted for inflation.	USEPA	USEPA Water Conservation Plan Guidelines
Opportunity cost		The value of a foregone opportunity that cannot be pursued because resources are taken up by a chosen activity.	USEPA	USEPA Water Conservation Plan Guidelines
Peak demand		The highest total water use experienced by a water supply system measured on an hourly, daily, monthly, or annual basis.	FDEP	Florida Water Conservation Initiative (2002)
Per capita water use (residential)	**gpcd**	Per capita water use that does not include non-residential water use.	Simmons, Tonya	
Percent water loss		Metered source water minus metered and authorized unmetered water uses divided by the metered water use.	NWFWMD survey results	
Performance Indicator		A characteristic used to estimate water savings.	JSOC Members	JSOC Meeting Notes, December 6, 2004
Performance Management		The systematic process of monitoring the results of activities; collecting and analyzing performance information to track progress toward planning results; using performance information to inform program decision-making and resource allocation; and communicating results achieved, or not attained.	NOAA	NOAA Definitions for Performance Measurement (slightly altered)
Performance measure		A quantitative or qualitative characterization of performance.	National Performance Review	Serving the American Public: Best Practices in Performance Measurement - Benchmarking Study Report (June 1997).

Term	Acronym	Definition	Agency/Authority	Document
Population		Number of people within a utility's service area. Sources of acceptable population data and means of adjusting for seasonal variations vary among Districts. Examples of acceptable population sources include Comprehensive Land Use Plan (developed under Chapter 9J-5, F.A.C.), University of Florida Bureau of Economics and Business Research (BEBR), U.S. Geological Services (USGS), Regional, District, County or Municipal Planning Councils or Metropolitan Planning Organizations (MPOs). Some Districts allow for the population to be calculated by multiplying the number of connections by the people per household as reported by the U.S. Census Bureau.	Simmons, Tonya	
Potable water		Water suitable for human consumption as set by the Florida Safe Drinking Water Act	SWFWMD	SWFWD BOR TOC
Potable water offset		The amount of potable quality water saved through the use of another irrigation source (i.e. shallow groundwater or reclaimed water) expressed as a percentage of the amount of reclaimed water used.	FDEP	Chapter 62-40.210(21) (Proposed)
Present value		Future expenditures expressed in current dollars by adjusting for a discount rate that accounts for financing costs and inflation.	USEPA	USEPA Water Conservation Plan Guidelines
Price elasticity of demand		A measure of the responsiveness of customer water use to changes in the price of water; measured by the percentage change in use divided by the percentage change in price.	FDEP	Florida Water Conservation Initiative (2002)
Public information/education		Enhancing the awareness and understanding of the importance of water conservation and the availability of practical solutions. Providing action steps for the public to practice conservation.	FDEP	Florida Water Conservation Initiative (2002)

Term	Acronym	Definition	Agency/Authority	Document
Public water supply use		Water used for withdrawal, treatment, transmission, and distribution by potable water systems. Water utility uses may include community and noncommunity public water systems defined in Ch. 62-22, Florida Administrative Code	SRWMD definition of water utility use.	40B-2.021, F.A.C.
Public water system	**PWS**	A system for the provision to the public of water for human consumption through pipes or other constructed conveyances	USEPA	USEPA Safe Drinking Water Act Guidance document
Raw water		Groundwater and surface water withdrawals; source water prior to treatment.	Simmons, Tonya	
Real dollars		Forecast dollars that are adjusted for inflation.	USEPA	USEPA Water Conservation Plan Guidelines
Reasonable-beneficial use		The use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest.	FDEP	Ch. 373.019, F.S.
Reasonable-beneficial use		The use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest.	FDEP	Chapter 373.019(13) F.S.
Reclaimed water		Except as specifically provided in Ch. 62-610, F.A.C., means water that has received at least secondary treatment and basic disinfection, and is reused after flowing out of a domestic wastewater treatment facility.	FDEP	62-40.210 F.A.C. (Proposed)
Recycled water		The additional use of previously used water; does not include reclaimed water.	Simmons, Tonya	
Residential water use		Water used by the residential sector (e.g., for drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens).	Simmons, Tonya	
Residential water use surveys		See **water-use evaluation**.		

Term	Acronym	Definition	Agency/Authority	Document
Reuse		The deliberate application of reclaimed water, in compliance with Department and District rules, for a beneficial purpose	F.A.C.	62-40.210, F.A.C.
Revenue-producing water		Water metered and sold.	USEPA	USEPA Water Conservation Plan Guidelines
Seasonal rate structure		A utility water rate structure in which the amount charged per unit of water increases during the peak demand season.	FDEP	62-40.210, F.A.C. (Proposed)
Self-Supplied Residential Use		Any water use associated with the maintenance of a private residence including domestic uses, climate control, and landscape irrigation. Other water uses which would typically be classified pursuant to 40B-2.501(3) F.A.C. may be included as self-supplied residential provided the primary use of water is for the maintenance of a private residence.	SRWMD	40B-2.021, F.A.C.
Sensitivity analysis		An analysis that examines the sensitivity of outputs or outcomes to variations in the value of the input parameters.	Anderson, Damann	
Submeter		A meter for a component of a larger service connection (i.e., apartments in a multi-family development) located downstream of a master meter. Used for accounting, billing purposed or both.	Simmons, Tonya	
Surcharge		An additional monetary charge levied by a utility over and above the fixed and variable charge portions of the rate structure.	FDEP plus Vickers	Handbook of Water Use and Conservation (2001) and Florida Water Conservation Initiative (2002)
System audit		A systematic accounting of water throughout the production, transmission and distribution facilities of a water supply system; also referred to as **distribution system audit.**	FDEP/Vickers plus "also referred to as distribution system audit or leak detection and repair"	Florida Water Conservation Initiative (2002)

Term	Acronym	Definition	Agency/Authority	Document
Treatment losses		Raw water minus finished water	Simmons, Tonya	
Unaccounted-for water		Water that does not go through meters and thus cannot be accounted for by the utility (e.g., authorized unmetered water and water lost from leaks or theft).	Simmons, Tonya	
Uniform rate		A pricing structure in which the price per unit of water is constant, regardless of the amount used.	FDEP	Florida Water Conservation Initiative (2002)
User class		See **customer class**.	USEPA	USEPA Water Conservation Plan Guidelines
Utility benefits		Benefits realized by the utility as a result of a conservation program, benefits include but are not limited to reduced purchases of raw or finished water, reduced operation and maintenance costs, deferred, downsized, or eliminated new capital facilities.	Maddaus Water Management	Realizing the Benefits from Water Conservation
Utilization rate		The ratio of the amount of reclaimed water used to the amount of domestic wastewater being treated. This can be expressed as a percentage, and may be used to describe an individual wastewater treatment plant or to describe a collection of treatment facilities (such as those in a county, water management district, or state).	FDEP	Florida Water Conservation Initiative (2002)
Variable charge		The portion of a water bill that varies with water use; also known as a **commodity charge**.	FDEP	Florida Water Conservation Initiative (2002)
Variable cost		Water utility costs that vary with the amount of water produced or sold.	Vickers, Amy	Handbook of Water Use and Conservation (2001)
Volume-based rates		Rates for water that are based on the amount of water used; may or may not be water-conserving rates.	FDEP	Florida Water Conservation Initiative (2002)
Water Audit		See **water-use evaluation**.		

Term	Acronym	Definition	Agency/Authority	Document
Water budgeting		Programs that limit the total amount of water to be used for irrigation to an annual budget, based on water needs, soil moisture, and other characteristics of landscape.	FDEP	Florida Water Conservation Initiative (2002)
Water conservation		Preventing and reducing wasteful, uneconomical, impractical, or unreasonable use of water resources.	FDEP	62-40.412(1), F.A.C.
Water conservation goal		The desired level of water-use efficiency to be reached and/or maintained.	Simmons, Tonya	
Water conservation incentive		A policy or regulation, rate strategy, or public education campaign designed to promote customer awareness about the value of reducing water use and to motivate consumers to adopt specific water conservation measures.	FDEP	Florida Water Conservation Initiative (2002)
Water conservation measure		An action, behavioral change, ordinance, device, technology, or improved design or process implemented to reduce water loss, waste, or use; see also **best management practice**.	Simmons, Tonya	
Water conservation plan		A formal document containing a combination of goals, objectives and methods, and an implementation schedule of actions specifically designed to maximize water conservation and water use efficiency.	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002
Water losses		Metered source water less metered and authorized unmetered water uses.	Simmons, Tonya	
Water use permit	**WUP**	A permit issued by either SFWMD, SJRWMD, NWFWMD or SRWMD authorizing the use of water from a groundwater or surface water source for a specific need; called a **consumptive use permit** in the SWFWMD. .	FDEP	Florida Water Conservation Initiative (2002)
Water Utility Use		See **public water supply use**.		
Water-conserving rate structure		See **conservation rate structure**.		
Water-use audit		See **water-use evaluation**.		

Term	Acronym	Definition	Agency/Authority	Document
Water-use budget		An accounting of total water use or projected water use for a given activity, facility or location.	FDEP	Florida Water Conservation Initiative (2002)
Water-use efficiency		A measure that compares the water-use requirement of a particular device, fixture, appliance, process, piece of equipment, or activity to its optimal (minimum) water-use requirement.	FDEP	Florida Water Conservation Initiative (2002)
Water-use evaluation		A systematic accounting of water uses by end users (e.g., residential, landscape, commercial, industrial, institutional, or agricultural customers), usually conducted to identify potential opportunities for water use reduction through efficiency measures or improvements; also referred to as **end-use audit** or **water-use audit**.	FDEP/Vickers plus "also referred to as water-use audit or water-use evaluation."	Florida Water Conservation Initiative (2002)
Wholesale water		Water purchased or sold for the purpose of resale.	Vickers, Amy	Handbook of Water Use and Conservation (2001)
Xeriscape		A trademark term denoting landscaping that involves the selection, placement, and care of low-water-use and native ground cover, turf, plant, shrubs, and trees. Xeriscape landscaping is based on seven principles: proper planning and design, soil analysis and improvement, practical turf areas, appropriate plant selection, efficient irrigation, mulching , and appropriate maintenance.	Vickers, Amy	Handbook of Water Use and Conservation (2001)

Appendix B

Definitions Long List

General Water Conservation Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Alternative sources	Sources other than traditional ground or surface water sources, which do not contribute to, and may alleviate, impacts to water resources.	FDEP	Florida Water Conservation Initiative (2002)	
Alternative Supplies Credits	Incentives to water suppliers and users for developing sustainable, alternative sources such as reuse, desalination, and stormwater aquifer storage and recovery.	FDEP	Florida Water Conservation Initiative (2002)	
Audit (end-use)	A systematic accounting of water uses by end users (residential, commercial or industrial), often used to identify potential areas for water reduction, conservation, or efficiency improvement.	USEPA	USEPA Water Conservation Plan Guidelines	
	A systematic accounting of water uses by end users (e.g., residential, landscape, commercial, industrial, institutional, or agricultural customers), usually conducted to identify potential opportunities for water use reduction through efficiency measures or improvements.	FDEP	Florida Water Conservation Initiative (2002)	
		Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	A systematic accounting of water uses by end users (e.g., residential, landscape, commercial, industrial, institutional, or agricultural customers), usually conducted to identify potential opportunities for water use reduction through efficiency measures or improvements; also referred to as **water-use audit** or **water-use evaluation**.	FDEP/Vickers plus "also referred to as water-use audit or water-use evaluation."	Florida Water Conservation Initiative (2002)	

Term	Definition	Agency/Authority	Document	Comment
Audit (system)	A systematic accounting of water throughout the production, transmission and distribution facilities of the system.	USEPA	USEPA Water Conservation Plan Guidelines	
	A systematic accounting of water throughout the production, transmission and distribution facilities of a water supply system.	FDEP	Florida Water Conservation Initiative (2002)	
		Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	A systematic accounting of water throughout the production, transmission and distribution facilities of a water supply system; also referred to as **distribution system audit** or **leak detection and repair**.	FDEP/Vickers plus "also referred to as distribution system audit or leak detection and repair"	Florida Water Conservation Initiative (2002)	

Term	Definition	Agency/Authority	Document	Comment
Best management practice	Irrigation, lawn, and landscape practices designed to reduce negative impacts on the environment and promote water conservation.	Tampa Bay Water	Model Water Efficient Irrigation and Landscape Ordinance 10/2/2001	
	A measure or activity that is beneficial, empirically proven, cost-effective, and widely accepted in the professional community.	USEPA	USEPA Water Conservation Plan Guidelines	
	A conservation measure or system of business procedures that is beneficial, empirically proven, cost effetive, and accepted in the user community.	FDEP	Florida Water Conservation Initiative (2002)	
	A **water conservation measure**, program or system of business procedures that is beneficial, empirically proven, cost effetive, and accepted in the user community.	Simmons, Tonya		FDEP definition with the addition of "program."
	A conservation measure or system of business procedures that is beneficial, empirically proven, cost-effective, and widely accepted in the professional community; also an urban water conservation measure that member agencies of the California Urban Water Conservation Council agree to implement under the Memorandum of Understanding Regarding Urban Water Conservation in California.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	A practice or combination of practices based on research, field-testing, and expert review, determined to be the most effective and practicable on-location means, including economic and technological considerations, for improving water quality, conserving water supplies and protecting natural resources.	Volusia Co.	Draft Water Wise (landscape) Ord. 10/03	

Term	Definition	Agency/Authority	Document	Comment
Conservation	Increasing the efficiency of energy use, water use, production, or distribution.	Bureau of Reclamation	Bureau of Reclamation-Internet Glossary	Use the term "water conservation instead."
	The beneficial reduction of water use through voluntary or mandatory altering of water use practices, reduction of distribution losses, or installation and maintenance of low water use systems, fixtures, or devices	SWFWMD	SWFWD_BOR_TOC	
	Any beneficial reduction in water losses, waste or use.	USEPA	USEPA Water Conservation Plan Guidelines	
	(1) The act of conserving; preservation from loss, injury, decay, or waste. (2) The protection of rivers, forests, and other natural resources. See also water conservation.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Conserve	To use only what is needed.	SJRWMD, SWFWMD	Waterwise Glossary	
Consumptive use permit	See **water use permit**.			
Dedicated meter	See **meter (dedicated).**			
Dedicated metering	Metering water service for a single type of use (e.g., landscape irrigation); see also **meter (dedicated)**.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	Recommend meter (dedicated).
		FDEP	Florida Water Conservation Initiative (2002)	
Demand forecast	A projection of future demand that can be made on a system wide or customer-class basis.	USEPA	USEPA Water Conservation Plan Guidelines	
	A projection of system wide future water demand or of future demand by a specific customer class.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Demand management	Measures, practices, or incentives deployed by water utilities to permanently reduce the level or change the pattern of demand for a utility service.	USEPA	USEPA Water Conservation Plan Guidelines	
	Water-efficiency measures, practices, or incentives implemented by water utilities to reduce or change the volume and/or pattern of customer water demand.	FDEP	Florida Water Conservation Initiative (2002)	
	Water-efficiency measures, practices, or incentives implemented by water utilities to reduce or change the pattern of customer water demand.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Distribution System Audit	See **audit (system)**.	Tampa Bay Water	Water Conservation Best Management Practices	
Facilities	Structures associated with Reclamation irrigation projects, municipal and industrial water systems, power generation facilities, including all storage, conveyance, distribution, and drainage systems.	Bureau of Reclamation	Bureau of Reclamation-Internet Glossary	
Facility	Withdrawal of water from a particular source. Facilities include wells, pumps, pipelines, flumes, canals, ditches, swales, artificial ponds, etc.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	

Term	Definition	Agency/Authority	Document	Comment
Flow Meter	an instrument, when properly installed and calibrated, that is used for the precise measurement of water flow through a closed pipe	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
	An instrument used for the precise measurement of water flow through a closed pipe.	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	
General water use permit	A permit granted by rule to all non-exempt water users who are not required to apply for a Standard Water Use Permit	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	Use **water use permit.**
Indoor water use audit	See **audit (end-use)**.			
Informative billing	Including information on water bills that educates water users on their patterns of water use, the cost of water, and ways in which to conserve.	FDEP	Florida Water Conservation Initiative (2002)	
	System of providing water utility customers with useful information on the relationship between the amount of water they use and the cost associated with that use. Examples of the information include the utility's rate structure, amount of water used in the current month, amount of water used in the previous month, amount of water used in the same month of the previous year, information on the average usage of all customers in the same customer class, seasonal rates and applicable months, drought rates, information on conserving water, or other information deemed appropriate by the utility.	F.A.C.	62-40.210	
Integrated resource planning	A public planning process and framework within which the costs and benefits of both demand and supply side resources are evaluated to develop the least total cost mix of utility resource options. In many states, IRP includes a means for considering environmental damages caused by electricity supply/transmission and identifying cost-effective energy efficiency and renewable energy alternatives. IRP has become a formal process prescribed by law in some states and under some provisions of the Clean Air Act Amendments of 1992.	Bureau of Reclamation	Bureau of Reclamation-Internet Glossary	
	An open and participatory planning process emphasizing least-cost principles and a balanced consideration of supply and demand management options for meeting water needs.	USEPA	USEPA Water Conservation Plan Guidelines	
		Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	A planning technique that that compares the costs of supply side resources (new supply development or expansion and optimization of existing sources) with demand reduction programs (conservation, wastewater reuse, etc.) to selelct and prioritize water resource projects; also called **least-cost planning**.	AWWA	Small Water System Water Supply Handbook, August 2000	

Term	Definition	Agency/Authority	Document	Comment
Leak detection	Methods for identifying water leakage in pipes and fittings.	USEPA	USEPA Water Conservation Plan Guidelines	Use leak detection and repair.
	methods for identifying water leakage from pipes, plumbing fixtures, and fittings.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Leak detection and repair	See **audit (system)**.			
Least-cost planning	See **intergated resource planning**.	AWWA	Small Water System Water Supply Handbook, August 2000	
Life span	The expected useful life of a supply-side or demand-side project, measure, or practice; (the life span may not be identical to useful life for tax purposes).	USEPA	USEPA Water Conservation Plan Guidelines	
Master meter	A large meter located upstream of other smaller meters and used for water accounting, billing purposes, or both.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
		FDEP	Florida Water Conservation Initiative (2002)	
	See **meter (master)**.			
Master Metering	A large meter at a point of distribution to multiple uses or users that could be further sub metered. Includes metered wholesale sales; see also **meter (master)**.	USEPA	USEPA Water Conservation Plan Guidelines	Recommend meter (master).
Meter	An instrument for measuring and recording water volume.	USEPA	USEPA Water Conservation Plan Guidelines	
	An instrument that measures water use; often installed by a water utility to measure end uses, such as uses by a household, building, facility, or irrigation system.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Meter (dedicated)	A meter installed to measure a single type of use (e.g., landscape irrigation, cooling tower make-up water).	Simmons, Tonya		
Meter (master)	A large meter located upstream of other smaller meters and used for water accounting, billing purposes, or both.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
		FDEP	Florida Water Conservation Initiative (2002)	
	A meter located upstream from a distribution system that serves multiple uses or users that could be further sub metered.	Simmons, Tonya		
Meter (sub)	A meter for a unit comprising a larger service connection, such as apartments in a multi-family development. Used for accounting, billing purposes or both	Simmons, Tonya		This definition is a combonation of Amy Vickers' and USEPA's definition of sub metering

Term	Definition	Agency/Authority	Document	Comment
Offset	The amount of potable quality water saved through the use of reclaimed water; expressed as a percentage of the amount of reclaimed water used.	FDEP	Florida Water Conservation Initiative (2002)	Recommend the term **potable water offest.**
Permittee	The person or entity to which a permit for a wastewater facility is issued by the Department. The term "permittee" shall be functionally synonymous with the terms "owner" and "licensee", but shall not include licensed individuals (e.g., operators) unless they are the persons) to whom a facility permit is issued by the Department. The term shall extend to a permit "applicant" for purposes of this rule. To the extent that this rule imposes duties with respect to the construction, operation, maintenance or monitoring of a facility and for reporting to or securing permits from the Department, ultimate responsibility lies with the owner of the facility. Nevertheless, Ch. 403, F.S., creates joint and several liability for those responsible for violations.	F.A.C.	Section.62-610.200	
Potable quality water offset	The amount of potable quality water (Class F-I, G-I, or G-II ground water or water meeting drinking water standards) saved through the use of reclaimed water expressed as a percentage of the total reclaimed water used. The potable quality water offset is calculated by dividing the amount of potable water saved by the amount of reclaimed water used and multiplying the quotient by 100.		Tom	
Potable water	Water suitable for human consumption.	SJRWMD, SWFWMD	Water wise glossary	
	Water that is safe and satisfactory for drinking and cooking.	Bureau of Reclamation	Bureau of Reclamation-Internet Glossary	
	Water suitable for human consumption as set by the Florida Safe Drinking Water Act	SWFWMD	SWFWD_BOR_TOC	
	Water suitable for drinking.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Potable water offset	The amount of potable quality water saved through the use of reclaimed water; expressed as a percentage of the amount of reclaimed water used.	Combined FDEP definition with the definition provided by Tom Swihart.		
Pressure regulator	A post-meter device used to limit water pressure.	USEPA	USEPA Water Conservation Plan Guidelines	
	A device used to limit water pressure.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Term	Definition	Agency/Authority	Document	Comment
Public awareness/education	A non-quantitative water conservation measure or program component; involves educating the public on ways to use water efficiently; means of educating includebut are not limited to water-bill inserts, radio or public service announcements, a television or billboard advertising campaing or by posting notices in a home improvement and plumbing retail store or on an agency, district or utility website.	Simmons, Tonya		
Public water supply	Defined by the SDWA as a system for the provision to the public of piped water for human consumption, providing such system has at least 15 service connections or serves at least 25 individuals	AWWA	American Water Works Association Acronyms Glossary	Use the term **public water system**.
	Water that is withdrawn, treated, transmitted and distributed as potable or reclaimed water	SWFWMD	SWFWMD BOR section 1.8	
	Water withdrawn by public and private water suppliers and delivered to users	USEPA	EPA National Handbook of Recommended Methods for Water Data Acquisition	

Term	Definition	Agency/Authority	Document	Comment
Public water system	A system for the provision to the public of water for human consumption through pipes or other constructed conveyances if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.	F.A.C.	62-550 (2004)	
	A system for the provision to the public of water for human consumption through pipes or other constructed conveyances if such system has at least 15 service connections or regularly serves at least 25 individuals daily at least 60 days out of the year	State of Florida	Section 403.852(2), F.S. –in part	
	A system for the provision to the public of water for human consumption through pipes or other constructed conveyances	USEPA	USEPA Safe Drinking Water Act Guidance document	
Rationing	Mandatory water-use restrictions sometimes used under drought or other emergency conditions.	USEPA	USEPA Water Conservation Plan Guidelines	
	Mandatory water-use restrictions, usually during a drought or other emergency water conditions.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Reasonable-beneficial use	The use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest	F.A.C.	Ch. 62-40 WATER RESOURCE IMPLEMENTATION RULE	

Term	Definition	Agency/Authority	Document	Comment
Reclaimed water	Water that has received at least secondary treatment and is reused after flowing out of a domestic wastewater treatment facility.	F.A.C.	Ch. 62-40 (prior to HB 293)	
	Water that has received at least secondary treatment and basic disenfection and is reused after flowing out of a domestic wastewater treatment facility.	FDEP	Florida Water Conservation Initiative (2002)	
	Except as specifically provided in Ch. 62-610, F.A.C., means water that has received at least secondary treatment and basic disinfection, and is reused after flowing out of a domestic wastewater treatment facility.	F.A.C.	Section.62-40.210 (2004)	
	Water that has received at least secondary treatment and is reused after flowing out of a wastewater treatment facility	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
	Water that meets or exceeds FDER standards for reuse and that is reused for a beneficial purpose after flowing out of any wastewater treatment facility.2-3 (A/H 1-7-99)	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	
	Water that has received at least secondary treatment and is reused after flowing out of a wastewater treatment facility (Chpt. 62-610.200(39), F.A.C.). There are various grades of reclaimed water governed by the Florida Department of Environmental Protection	SWFWMD	SWFWD_BOR_TOC	
	Treated, recycled wastewater of a quality suitable for nonpotable applications, such as landscape irrigation, decorative water features, and nonfood crops; also described as treated sewage effluent.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Term	Definition	Agency/Authority	Document	Comment
Reclaimed water distribution system	A network of pipes, pumping facilities, storage facilities, and appurtenances designed to convey and distribute reclaimed water from one or more domestic wastewater treatment facilities to one or more users of reclaimed water	F.A.C.	Section.62-610.200	
Recycled Water	The additional use of previously used water; does not include reclaimed water.	Simmons, Tonya		
Residential Water Use Surveys	See **audit (end-use)**.			

Term	Definition	Agency/Authority	Document	Comment
Reuse	The deliberate application of reclaimed water, in compliance with Department and District rules, for a beneficial purpose. (a) For example, said uses may encompass: 1. Landscape irrigation (such as irrigation of golf courses, cemeteries, highway medians, parks, playgrounds, school yards, retail nurseries, and residential properties); 2. Agricultural irrigation (such as irrigation of food, fiber, fodder and seed crops, wholesale nurseries, sod farms, and pastures); 3. Aesthetic uses (such as decorative ponds and fountains); 4. Groundwater recharge (such as slow rate, rapid-rate, and absorption field land application systems) but not including disposal methods described in Rule 62-40.210 (23)(b), F.A.C.; 5. Industrial uses (such as cooling water, process water, and wash waters); 6. Environmental enhancement of surface waters resulting from discharge of reclaimed water having received at least advanced wastewater treatment or from discharge of reclaimed water for wetlands restoration; 7. Fire protection; or 8. Other useful purpose. (b) Overland flow land application systems, rapid-rate land applicatic	F.A.C.	Ch. 62-40 WATER RESOURCE IMPLEMENTATION RULE	
	The deliberate application of reclaimed water, in compliance with Department and District rules, for a beneficial purpose. Criteria used to classify projects as "reuse" or "effluent disposal" are contained in Rule 62-610.810, F.A.C	F.A.C.	Section.62-610.200	
	Deliberate application of reclaimed water, in compliance with the Department and District rules, for a beneficial purpose.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
	The deliberate application of reclaimed water, in compliance with Department and District rules, for a beneficial purpose	F.A.C.	62-40.210	
		SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	
	The deliberate application of reclaimed water, in compliance with the Florida Department of Environmental Protection and District rules, for a beneficial purpose (Chpt. 62-610.200(41).	SWFWMD	SWFWD_BOR_TOC	
	The deliberate application of reclaimed water, in compliance with the Florida Department of Environmental Protection and District rules, for a beneficial purpose. Criteria used to classify projects as "reuse" or "effluent disposal" are contained in Rule 62-610.810, F.A.C. (12).	FDEP	Florida Water Conservation Initiative (2002)	
	(1) The additional use of previously used water; see also recycled water. (2) The beneficial use of treated wastewater; see also reclaimed water.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	Use (1) in the definition for **recylcled water**.

Term	Definition	Agency/Authority	Document	Comment
Reuse (water)	Beneficial use of treated wastewater.	USEPA	USEPA Water Conservation Plan Guidelines	
Service area	For a public supply water use permit, it is the area to which potable water is supplied by a utility or water supply authority	SWFWMD	SWFWD_BOR_TOC	use the term "**service area or territory**"
Service area or territory	The geographic area served by a water utility's distribution system.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Service territory	The geographic area served by a water utility.	USEPA	USEPA Water Conservation Plan Guidelines	use the term "**service area or territory**"
Sub meter	A water meter that records water use by a specific process, by a building within a larger facility, or by a unit within a larger service connection (such as apartments in a multifamily building).	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Submeter		FDEP	Florida Water Conservation Initiative (2002)	
	See **meter (sub)**.	Simmons, Tonya		
Sub metering	Metering for units comprising a larger service connection, such as apartments in a multifamily building; see also **meter (sub)**.	USEPA	USEPA Water Conservation Plan Guidelines	
Supply management	Measures deployed by the utility that improve the efficiency of production, transmission, and distribution facilities.	USEPA	USEPA Water Conservation Plan Guidelines	
System	Physically connected generation, transmission, and distribution facilities operated as an integrated unit under one central management, or operating supervision.	Bureau of Reclamation	Bureau of Reclamation-Internet Glossary	Recommend **public water system**.
System (water)	A series of interconnected conveyance facilities owned and operated by a drinking water supplier; some utilities operate multiple water systems.	USEPA	USEPA Water Conservation Plan Guidelines	
Universal metering	Metering of all water-service connections.	USEPA	USEPA Water Conservation Plan Guidelines	
Utilization rate	The ratio of the amount of reclaimed water used to the amount of domestic wastewater being treated. This can be expresed as a percentage, and may be used to describe an individual wastewater treatment plant or to describe a collection of treatment facilities (such as those in a county, water management district, or state).	FDEP	Florida Water Conservation Initiative (2002)	

Term	Definition	Agency/Authority	Document	Comment
Water Audit	An accounting of all water into and out of a use facility as well as an in-depth record and field examination of the distribution system that carries the water, with the intent to determine the operational efficiency of the system and identify sources of water loss and revenue loss.	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	
	See **audit (end-use)** and **audit (system)**.			
Water budget (Water balance budget)	An analytical tool whereby the sum of the system inflows equals the sum of the system outflows. A summation of inputs, outputs, and net changes to a particular water resource system over a fixed period.	Bureau of Reclamation	Bureau of Reclamation-Internet Glossary	
Water budget	See **budget (water)**.			
	(1) The amount of water required to maintain plants in a landscape. (2) a method of establishing water-efficiency standards by prescribing limits on water applications to irrigated landscapes.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Water conservation	(1) Any beneficial reduction in water loss, waste, or use. (2) reduction in water use accomplished by implementation of water conservation or water-efficiency measures. (3) improved water management practices that reduce or enhance the beneficial use of water.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	Preventing and reducing wasteful, uneconomical, impractical, or unreasonable use of water resources.	FDEP	62-40.412(1), F.A.C.	
Water conservation incentive	A policy or regulation, rate strategy, or public education campaign designed to promote customer awareness about the value of reducing water use and to motivate consumers to adopt specific water conservation measures.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
		FDEP	Florida Water Conservation Initiative (2002)	
Water conservation measure	An action, behavioral change, device, technology, or improved design or process implemented to reduce water loss, waste, or use.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	Recommended definition is same as FDEP/Vickers with "ordinance" added and "see also BMP."
		FDEP	Florida Water Conservation Initiative (2002)	
	An action, behavioral change, ordinance, device, technology, or improved design or process implemented to reduce water loss, waste, or use; see also **best management practice**.	Simmons, Tonya		
Water Conservation Plan	A formal document containing a combination of goals, objectives and methods, and an implementation schedule of actions specifically designed to maximize water conservation and water use efficiency.2-4 (A/H 1-7-99)	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	

Term	Definition	Agency/Authority	Document	Comment
	See **integrated strategic planning and performance measuerment**.	Simmons, Tonya		
Water-use audit	See **audit (end-use)**.			
Water-use evaluation	See **audit (end-use)**.			
Water-use efficiency	The water-use requirements of a particular device, fixture, appliance, process, piece of equipment, or activity- usually compared with its optimal (minimum) water-use requirements; marketable crop production per unit of water consumed through evaportranpiration.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	The water-use requirements of a particular device, fixture, appliance, process, piece of equipment, or activity usually compared with its optimal (minimum) water-use requirements.	FDEP	Florida Water Conservation Initiative (2002)	
Water Use Permit	A permit issued by a water management district authorizing the use of water from a groundwater or surface water source for a specific need, also called **consumptive use permit**.	FDEP	Florida Water Conservation Initiative (2002)	
Wholesale water	Water purchased or sold for resale purposes.	USEPA	USEPA Water Conservation Plan Guidelines	
	Water purchased or sold for the purpose of resale.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Water Accounting Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Authorized unmetered water use	Unmetered water used for beneficial purposes (e.g., firefighting and training, flushing mains, irrigating public areas) as approved by the utility; also called authorized unaccounted-for water.	AWWA	Manual 36	Taken from context; the manual does not have a glossary.
Water losses	Metered source water less revenue-producing water and authorized unmetered water uses.	USEPA	USEPA Water Conservation Plan Guidelines	
	Metered source water less metered and authorized unmetered water uses.	Simmons, Tonya		Consistent with USEPA/FDEP/AWWA
Revenue-producing water	Water metered and sold.	USEPA	USEPA Water Conservation Plan Guidelines	
	Water that is metered and sold.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Term	Definition	Agency/Authority	Document	Comment
Unaccounted-for water	Water that does not go through meters (e.g., water lost from leaks or theft) and thus cannot be accounted for by the utility.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	It is not recommended to use the USEPA definition because it does not include losses and leaks. The EPA model assumes that leaks and losses can be estimated, but it is more accurate to estimate authorized unmetered uses as provided in AWWA Manual 36. FDEP defines unaccounted for water as system leaks and theft only; does not include authorized unmetered water. The recommended definition includes authorized unmetered use and all losses; this is a practical approach because if the water is not metered it cannot be considered "accounted-for." Furthermore, the recommended model is consistent with AWWA Manual 36.
		FDEP	Florida Water Conservation Initiative (2002)	
	Water that does not go through meters and thus cannot be accounted for by the utility (e.g., authorized unmetered water and water lost from leaks or theft); also called **unmetered water** and **unbilled water**.	Simmons, Tonya		
	The amount of nonaccount water less known or estimated losses and leaks.	USEPA	USEPA Water Conservation Plan Guidelines	

Term	Definition	Agency/Authority	Document	Comment
Unbilled water	See **unaccounted-for water**.	Simmons, Tonya		
Unmetered water	Water delivered but not measured for accounting and billing purposes.	USEPA	USEPA Water Conservation Plan Guidelines	
		Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	See **unaccounted-for water**.	Simmons, Tonya		

Per Capita Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Finished water	Water that is treated to Florida Drinking Water standards.	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	
	Water that leaves the treatment facility treated to Florida Drinking Water standards.	Simmons, Tonya		
Functional population	Population adjusted for seasonality.	Simmons, Tonya		
Net transfers	Imported water - exported water	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	
Non-residential community uses	Water consumed by small non-residential customers.	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	Term not needed because recommended definition for per capita (residential) does not include this term.
Per capita water use (adjusted)	Per capita water used calculated by adjusting for non-residential users and/or using a **functional population**.	Simmons, Tonya		

Per Capita Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Per capita water use (community)	(finished water -significant uses) ÷ population	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	Recommended definition is calculated the same as FDEP/WMD's definition but it is more direct. This term/definition is recommended only because it is a term that WMDs may be using, so it needs to be defined; however, *per capita that includes any non-residential component is not meaningful* .
	(finished water - water used by large non-residential customers) ÷ population	Simmons, Tonya		
Per capita water use (disaggregated)	Per capita water use that is calculated for each water use sector (e.g., single family per capita, multi-family per capita).	Simmons, Tonya		
Per capita water use (functional)	Per capita water use calculated using **functional population**.	Simmons, Tonya		

Per Capita Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Per capita water use (residential)	Residential use divided by the total population served.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	Recommended definition is calculated the same as FDEP/WMD's definition but it is more direct.
	Residential water use divided by the total population served.	USEPA	USEPA Water Conservation Plan Guidelines	
	The average amount of water used per person during a standard time period, generally per day.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	
	(community - nonresidential community uses) ÷ population	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	
	(finished water - water used by all non-residential customers) ÷ population	Simmons, Tonya		
Per capita water withdrawal (finished)	(raw water + net transfers - treatment losses) ÷ population	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	
Per capita water withdrawal (raw)	raw water ÷ population	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	
Population	Number of people within a utility's service area.	Simmons, Tonya		
Raw water	Groundwater and surface water withdrawals.	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	
	Groundwater and surface water withdrawals; source water prior to treatment.	Simmons, Tonya		

Per Capita Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Significant uses	Water consumed by large non-residential customers.	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	Term not needed because recommended definition for per capita (community) does not include this term.
Treatment losses	Reject water from desalination, sand filtering, etc.	FDEP/WMDs	Population and Per Capita Water Use, Water Resource Planning Convention Reports (1994)	
	Raw water - finished water	Simmons, Tonya		
Per-capita use	Total use divided by the total population served.	USEPA	USEPA Water Conservation Plan Guidelines	Use this definition for the term per-capita use (gross).
	The amount of water used by one person during a standard period of time; in relation to water use, expressed in gallons per capita per day.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Per-capita use (gross)	Total use divided by the total population served.	USEPA	USEPA Water Conservation Plan Guidelines	"Gross" added to term.

Term	Definition	Agency/Authority	Document	Comment
Drought	Climactic condition in which there is insufficient soil moisture available for normal vegetative growth. A prolonged period of below-average precipitation.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	
	A condition of lower than normal rainfall within a specific time period in a defined area: two-in-ten drought: (2-in-10) the severity of drought which statistically occurs on the average of twice in a given ten-year period. five-in-ten drought: (5-in-10)	SWFWMD	SWFWD_BOR_TOC	
	A sustained period of inadequate or subnormal precipitation that can lead to water supply shortages, as well as increased water usage.	USEPA	USEPA Water Conservation Plan Guidelines	
	An extended period of below-normal precipitation that can result in water supply shortages, increased water demand, or both.	Vickers, A.2001	Handbook of Water Use and Conservation (2001)	
		FDEP	Florida Water Conservation Initiative (2002)	
	An extended period of below-normal precipitation causing insufficient soil moisture which can result in water supply shortages and/or increased water demand.	Huff, Gail		

Term	Definition	Agency/Authority	Document	Comment
Evapotranspiration	The quantity of water transpired by plants or evaporated from adjacent soil surfaces in a specific time period. Usually expressed in depth of water per unit area. The combined processes of evaporation and transpiration.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	
	Water withdrawn from a land area by evaporation from water surfaces and moist soil and by transpiration from plants.	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	
	A combined rate of removal of water from land and water surfaces by evaporation into the atmosphere, and transpiration from plants	SWFWMD	SWFWD_BOR_TOC	
	Water losses from the surface of soils and plants.	USEPA	USEPA Water Conservation Plan Guidelines	
	Water lost from the surface of soils and plants through evaporation and transpiration, respectively.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	Water lost from the soil and other surfaces by evaporation and through plant transpiration.	Tampa Bay Water	Microirrigation Guide	
Florida Yards and Neighborhoods	An educational outreach program informing homeowners how they can be more environmentally friendly with their landscape care practices and how this can help protect Florida's natural environment for future generations		http://hort.ufl.edu/fyn/faq.htm	
Irrigation audit	An on-site evaluation of an irrigation system to assess its water-use efficiency as measured by distribution uniformity, irrigation schedule and other factors.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	An on-site evaluation of an irrigation system to assess its water-use efficiency as measured by distribution uniformity, irrigation schedule and other factors; see also **audit (end-use)**.	Vickers plus "see also audit (end-use)."		

Term	Definition	Agency/Authority	Document	Comment
Irrigation efficiency	The efficiency of irrigation water application and use, determined by calculating the amount of water beneficially applied divided by the total volume applied, expressed as a percentage, decimal, or ratio.	FDEP	Florida Water Conservation Initiative (2002)	Use irrigation water-use efficiency instead
Irrigation water-use efficiency	The ratio of water beneficially used in plant growth to water applied, expressed as a percentage.	Florida Irrigation Society	Standards and Specifications for Turf and Landscape Irrigation Systems (January 2002)	
Irrigation scheduling	An automated method for optimizing outdoor water use by matching the watering schedule to plant needs.	USEPA	USEPA Water Conservation Plan Guidelines	Irrigation scheduling is not inherently automated.
	Use of an automated timetable for applying irrigation water in order to match watering schedules to plant needs and optimize outdoor water use.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	A method for optimizing outdoor water use by matching the watering schedule to plant needs; typically an automated system.	Huff, Gail		
Low water-use landscape	Use of plants (often native species) that are appropriate to an area's climate and growing conditions. See Xeriscape.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Low water-use landscaping	Use of plant materials that are appropriate to an area's climate and growing conditions (usually native and adaptive plants); see also **Xeriscape™**.	USEPA	USEPA Water Conservation Plan Guidelines	
Low-volume hand watering	The low-volume irrigation of plants or crops with one hose attended by one person, fitted with a self-canceling or automatic shutoff nozzle.	Volusia Co.	Ch.50–315	
Low-volume irrigation	The use of equipment and devices specifically designed to allow the volume of water delivered to be limited to a level consistent with the water requirements of the plant being irrigated and to allow that water to be placed with a high degree of efficiency	Volusia Co.	Ch.50–315	
	See **microirrigation**.			

Term	Definition	Agency/Authority	Document	Comment
Microirrigation	The frequent application of small quantities of water directly on or below the soil surface through emitters placed along the water delivery tubes (laterals).	Sarasota	Landscape Ord 2001_081_11_14_01	
	The frequent application of small quantities of water on or below the soil surface as drops or tiny streams of spray through emitters or applicators placed along a water delivery line. Micro-irrigation includes a number of methods or concepts such as bubbler, drip, trickle, mist ormicrospray, and subsurface irrigation.	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	
	An irrigation system with a maximum flow rate per emitter of 30 gallons per hour or less. These systems are not approved for turf grass applications.	Tampa Bay Water	Model Water Efficient Irrigation and Landscape Ordinance 10/2/2001	
	An irrigation system with small, closely spaced outlets (either emitters or small sprinkler heads) that frequently apply small amount of water at low pressure either above or below the soil surface. Micro irrigation includes several methods, including bubbler, drip or trickle, mist or spray, and subsurface.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	The application of small quantities of water directly on or below the soil surface, usually as discrete drops or tiny streams through emitters placed along the water delivery pipes (laterals.) Micro irrigation encompasses a number of methods or concepts including drip, subsurface, and bubbler irrigation, also referred to as trickle irrigation, low volume, or low flow irrigation. Micro irrigation applicators must emit less than 2 gallons of water per hour (gph) per outlet.	Volusia Co.	Draft Water Wise (landscape) Ord. 10/03	
	Low volume, efficient irrigation systems and hardware, which apply water directly or very close to the plant's root system, without runoff or waste.	FDEP	Florida Water Conservation Initiative (2002)	

Term	Definition	Agency/Authority	Document	Comment
	The frequent application of small quantities of water directly on or below the soil surface, usually as discrete drops, tiny streams or miniature sprays through emitters placed along water delivery pipes (laterals). Microirrigation encompasses a number of methods or concepts, including drip, subsurface, bubbler, and low-volume spray irrigation. Previously known as trickle irrigation.	Florida Irrigation Society	Standards and Specifications for Turf and Landscape Irrigation Systems (January 2002)	

Term	Definition	Agency/Authority	Document	Comment
Non-Potable Irrigation Sources	Non-potable water sources used for irrigation (e.g., reclaimed water, groundwater, surface water, drip irrigation of septic tank effluent and water from cisterns and grey-water systems).	Simmons, Tonya		
Precipitation rate	The average rate (in inches per hour) that water is applied to the soil surface through irrigation or precipitation.	Huff, Gail and Armstrong, Jeff		
Precipitation rate (irrigation)	The amount of water applied in a specific unit of time during landscape or agricultural irrigation.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	Use precipitation rate instead.
Precipitation rate (sprinkling)	The surface application rate for landscape watering, usually expressed in inches per hour.	USEPA	USEPA Water Conservation Plan Guidelines	Use precipitation rate instead.
System efficiency/assigned irrigation efficiency	The ratio of the volume of irrigation water available for actual crop use to the volume delivered from the irrigation system. This ratios always less than 1.0 because of losses due to evaporation, wind drift, deep percolation, lateral seepage and runoff w	SWFWMD	SWFWD_BOR_TOC	*System* efficiency is composed a variety of factors, including distribution uniformity, soil type, system maintenance and knowledge of the system operator. It is not recommended to use this terms because it applies to agricultural more so than to public supply. Irrigation water use efficiency is appropriate and is included herein.

Xeriscape™ Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Drought Tolerant Plants	Plants, once established, that survive on natural rainfall with occasional irrigation during dry periods.	Tampa Bay Water	Model Water Efficient Irrigation and Landscape Ordinance 10/2/2001	
Florida Friendly Landscape	The design principles and maintenance practices that promote and conserve Florida's natural resource.	Tampa Bay Water	Microirrigation Guide	
	A type of quality landscaping that conserves water and protects the environment by using site-appropriate plants (native, natural and/or drought tolerant plants), an efficient watering system, proper planning and design, soil analysis, practical use of turf, the use of mulches (which may include the use of solid waste compost), and proper maintenance; similar to **Xeriscape™.**	Simmons, Tonya		
	Quality landscapes that conserve water and protect the environment and are adaptable to local conditions and which are drought tolerant. The principles of **Xeriscape™** include planning and design, appropriate choice of plants, soil analysis which may include the use of solid waste compost, efficient irrigation, practical use of turf, appropriate use of mulches, and proper maintenance**.**	Tampa Bay Water	Model Water Efficient Irrigation and Landscape Ordinance 10/2/2001	
	Quality landscapes that conserve water and protect the environment and are adaptable to local conditions and which are drought tolerant. The principles of Xeriscape include planning and design, appropriate choice of plants, soil analysis which may include the use of solid waste compost, efficient irrigation, practical use of turf, appropriate use of mulches, and proper maintenance.	Florida Statutes	Ch.373.185 and Ch.166.048	
Native Plants	Plants that are indigenous to an area and thus require little or no supplemental irrigation after becoming established.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	Used in definition of **Florida Friendly Landscape**.
Native Vegetation	Any plant species with a geographic distribution indigenous to all, or part, of the State of Florida as identified in: Wunderlin, R. P. 1998. Guide to the Vascular Plants of Florida. University Press of Florida, Gainesville.	Volusia Co.	Draft Water Wise (landscape) Ord. 10/03	Used in definition of **Florida Friendly Landscape**.
Natural Plants	Plants, once established, that survive on rainfall without irrigation.	Tampa Bay Water	Model Water Efficient Irrigation and Landscape Ordinance 10/2/2001	Used in definition of **Florida Friendly Landscape**.

Term	Definition	Agency/Authority	Document	Comment
Xeriscape™	Landscaping that does not require a lot of water.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	
	Quality landscapes that conserve water and protect the environment and are adaptable to local conditions and which are drought tolerant. The principles of Xeriscape include planning and design, appropriate choice of plants, soil analysis which may include the use of solid waste compost, efficient irrigation, practical use of turf, appropriate use of mulches, and proper maintenance.	Florida Statutes	Ch.373.185 and Ch.166.048	
	A type of quality landscaping that conserves water and protects the environment by using site-appropriate plants, an efficient watering system, proper planning and design, soil analysis, practical use of turf, the use of mulches (which may include the use of solid waste compost), and proper maintenance.	FDEP	Florida Water Conservation Initiative (2002)	
	A water conserving landscaping method that incorporates the principles of design, appropriate plant selection, soil improvement, efficient irrigation, mulching, turf concentration and proper maintenance.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
	Landscaping that involves seven principles: proper planning and design; soil analysis and improvement; practical turf areas; appropriate plant selection; efficient irrigation; mulching; and appropriate maintenance.	USEPA	USEPA Water Conservation Plan Guidelines	
	A trademark term denoting landscaping that involves the selection, placement, and care of low-water-use and native ground cover, turf, plant, shrubs, and trees. Xeriscape landscaping is based on seven principles: proper planning and design, soil analysis and improvement, practical turf areas, appropriate plant selection, efficient irrigation, mulching , and appropriate maintenance.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	See **Florida Friendly Landscape.**	Simmons, Tonya		
Xeriscaping	A water conserving landscaping method that incorporates the principles of design, appropriate plant selection, soil improvement, efficient irrigation, mulching, turf concentration, and proper maintenance.3-1 (A/H 4-25-96	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	

Performance Evaluation Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Accountability	A responsibility to explain actions undertaken. Accountability requires managers to (1) clarify what is expected, (2) examine program activities and performance measures and compare its performance with what is expected, (3) act on findings to improve program activities and performance measures, and (4) communicate findings in accordance with agency and government regulations.	NOAA	NOAA Definitions for Performance Measurement	This term was included to define what is expected of utilities in their being "accountable" for conservation program effectiveness.
	Assuming responsibility for actions undertaken. Accountability requires managers to (1) clarify what is expected, (2) examine program activities and performance measures and compare its performance with what is expected, (3) act on findings to improve program activities and performance measures, and (4) communicate findings in accordance with agency and government regulations.	NOAA, with changes in first sentence: "Assuming responsibility for..."		
Annual average daily quantity	The total quantity authorized by the Water Management District to be withdrawn from water sources in one year, divided by 365 days and expressed in gallons per day.	SWFWD	SWFWD_BOR_TOC	
Annual withdrawal	The quantity of water withdrawn during any 365 day period.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
Average Daily Rate of Withdrawal	The volume of water withdrawn during a specific period divided by the number of days in the period, such period being not less than 365 nor more than 730 consecutive days. The total volume for the period may be calculated using historical data or projected, based on the best available information.	SRWMD	40B-2.021 Definitions.	
Average-day Demand	A water system's average daily use based on total annual water production (total annual gallons or cubic feet) divided by 365 days; multiple years can be used to account for yearly variations	USEPA	USEPA Water Conservation Plan Guidelines	
	A water system's average daily use based on total annual water production divided by 365.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Term	Definition	Agency/Authority	Document	Comment
Avoided cost	The financial savings achieved by undertaking a given activity, such as implementing a water efficiency measure, which eliminates, reduces or postpones other, greater costs; can be used to establish the least cost means of achieving a specified goal.	FDEP	Florida Water Conservation Initiative (2002)	Avoided cost is not always a savings.
	The cost avoided by selecting one alternative over another to achieve a specified goal.	Anderson, Damann		
	The savings associated with undertaking a given activity (such as demand management) instead of an alternative means of achieving the same results (such as adding supply); can be used to establish the least-cost means of achieving a specified goal.	USEPA	USEPA Water Conservation Plan Guidelines	
	The savings achieved by undertaking a given activity such as implementing a water-efficiency measure; can be used to establish the least-cost means of achieving a specified goal.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Baseline	An established value or trend used for comparison when conditions are altered, as in the introduction of water conservation measures.	USEPA	USEPA Water Conservation Plan Guidelines	
Benchmark	A measurement or standard that serves as a point of reference by which program performance is measured.		www.ichnet.org/glossary.htm	
Benefit-cost analysis	A comparison of total benefits to total costs, usually expressed in monetary terms, used to measure efficiency and evaluate alternatives; see also **cost-effectiveness** and **avoided-cost**.	USEPA	USEPA Water Conservation Plan Guidelines	
Cost-beneficial	When the benefits are equal to or greater than the cost.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Term	Definition	Agency/Authority	Document	Comment
Cost-effectiveness	Economic efficiency, obtaining the best method for the least amount of money.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	
	The comparison of total costs relative to benefits; costs are expressed in dollars, but benefits can be expressed in another unit (e.g., a quantity of water).	FDEP	Florida Water Conservation Initiative (2002)	
	The comparison of total costs relative to benefits; costs are expressed in dollars, but benefits can be expressed in another unit (e.g., a quantity of water); see also **net benefits**.	FDEP plus "see also net benefits."	Florida Water Conservation Initiative (2002)	
		Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	A comparison of costs required for achieving the same benefit by different means. Costs are usually expressed in dollars, but benefits can be expressed in another unit (such as a quantity of water); see also **net benefits**.	USEPA	USEPA Water Conservation Plan Guidelines	
Effectiveness	An assessment of the qualitative level of achievement of program goals and the intended results.	NOAA	NOAA Definitions for Performance Measurement	
Efficiency	The quality of being efficient. It is the ratio of the effective or useful output to the total input. Producing effectively with a minimum of waste, expense, or unnecessary effort.	NOAA	NOAA Definitions for Performance Measurement	
Environmental benefits	Benefits that result from a conservation program that benefit the environment in ways such as lower energy consumption, reduced wastewater flows that often have some environmental impact; these benefits are not simple to quantify because the benefits usually do not accrue to the utility that is sponsoring the water conservation program.	Maddaus Water Management	Realizing the Benefits from Water Conservation	
Fixed costs	Costs associated with water service that do not vary with the amount of water produced or sold.	USEPA	USEPA Water Conservation Plan Guidelines	
	Costs associated with water service that do not vary with the amount of water produced or sold to customers.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
gpad	Gallons per account per day; a **unit of measure** applicable to all sectors.			

Term	Definition	Agency/Authority	Document	Comment
gpcd	Gallons per capita (or person) per day; a **unit of measure** typically used by Water Management Districts.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
gpd	Gallons per day.	FDEP	Florida Water Conservation Initiative (2002)	
gped	Gallons per employee per day; a **unit of measure** applicable to the non-residential sector only.	Simmons, Tonya		
gphd	Gallons per household per day; a **unit of measure** applicable to the residential sector only; same as **gpad** for the single-family sector and **gpud** for the multi-family sector.	Simmons, Tonya		
gpud	Gallons per unit (or apartment) per day; a **unit of measure** applicable to the multi-family residential sector only; same as the multi-family **gphd.**	Simmons, Tonya		
Integrated strategic planning and performance measurement	Strategic planning that uses performance measurement as a means to keep the strategic plan on target through an iterative process between performance measurement and strategic planning.	Simmons, Tonya		
Life-cycle costs	The sum of the present values of investment costs, capital costs, installation costs, energy costs, operating costs, maintenance costs, and disposal costs, over the lifetime of the project, product, or measure.	DOE/FEMP	Executive Order 13123	
Life-cycle cost-effective	The life-cycle costs of a product, project, or measure are estimated to be equal to or less than the base case (i.e., current or standard product or practice).	DOE/FEMP	Executive Order 13123	
Maximum Daily Rate of Withdrawal	The volume of water which can be withdrawn during a single 24-hour period	SRWMD	40B-2.021 Definitions.	Use **maximum daily withdrawl**.
Maximum daily withdrawal	The maximum volume of water withdrawn during any consecutive 24 hour period.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	

Term	Definition	Agency/Authority	Document	Comment
Maximum monthly withdrawal	The maximum volume of water withdrawn during any given month of the year	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
Maximum day demand	Total production for the water system on its highest day of production during a year.	USEPA	USEPA Water Conservation Plan Guidelines	
Milestone	A major scheduled point in time during which a cohesive set of significant objectives (e.g., set of tasks completed, set of work products delivered) is to be achieved.	NOAA	NOAA Definitions for Performance Measurement	
Net benefits	The numerical difference between total benefits and total costs, both of which must be expressed in the same unit (usually dollars); see also **cost-effectiveness**.	USEPA	USEPA Water Conservation Plan Guidelines	
	The numerical difference between total benefits and total costs. See cost-effectiveness.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Net present value	The present value of benefits less the present value of costs.	USEPA	USEPA Water Conservation Plan Guidelines	
	The present value of benefits minus the present value of costs.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Nominal dollars	Forecast dollars that are not adjusted for inflation.	USEPA	USEPA Water Conservation Plan Guidelines	
Objective	An elaboration of a goal statement specifying the intent of the goal, intended results and insight into the strategy for achieving the goal.	NOAA	NOAA Definitions for Performance Measurement (slightly altered)	
Opportunity cost	The value of a foregone opportunity that cannot be pursued because resources are taken up by a chosen activity.	USEPA	USEPA Water Conservation Plan Guidelines	
Outcome	An end result- both expected and unexpected, of the BMP's or program's outputs.	NOAA	NOAA Definitions for Performance Measurement (slightly altered)	

Term	Definition	Agency/Authority	Document	Comment
Peak demand	The highest total water use experienced by a water supply system measured on an hourly, daily, monthly, or annual basis.	FDEP	Florida Water Conservation Initiative (2002)	
	The highest point of total water usage experienced by a system, measured on an hourly and on a daily basis.	USEPA	USEPA Water Conservation Plan Guidelines	
	The highest point of total water usage experienced by a supply system, measured on an hourly, daily, monthly or annual basis.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	the total quantity authorized by the District to be withdrawn from water sources during the month of highest water use, divided by the number of days in that month and expressed in gallons per day.	SWFWMD	SWFWD_BOR_TOC	
Baseline	The part of a **performance measure** that establishes the initial level of measurement (value and date) against which targeted progress and success is compared. A baseline includes both a starting level/value.	NOAA	NOAA Definitions for Performance Measurement	
Indicator	The part of a **performance measure** that defined the attribute or characteristic to be measured. A particular value or characteristic used to measure outcome or output.	NOAA	NOAA Definitions for Performance Measurement (slightly altered)	
Performance Management	The systematic process of monitoring the results of activities; collecting and analyzing performance information to track progress toward planning results; using performance information to inform program decision-making and resource allocation; and communicating results achieved, or not attained.	NOAA	NOAA Definitions for Performance Measurement (slightly altered)	
Performance measure	A structured statement that describes the means by which actual outcomes and outputs are measured against planned outcomes and outputs. To be effective, they must be aligned with objectives outlined in the **Strategic Plan.** Performance measures consist of four parts: **Indicator, Unit of Measure, Baseline, and Target**.	NOAA	NOAA Definitions for Performance Measurement	

Term	Definition	Agency/Authority	Document	Comment
Process Evaluation	A method of program evaluation that is performed to measure the effectiveness of program implementation methods; used to support decisions regarding changes of various elements or procedures of the conservation program.	AWWA	Evaluating Urban Water Conservation Programs: A Procedures Manual (1993)	
Target	The part of a **performance measure** that establishes the desired level to be reached in a defined time period, usually stated as an improvement over the baseline.	NOAA	NOAA Definitions for Performance Measurement (slightly altered)	
Unit of measure	The part of a **performance measure** that describes what is to be measured (i.e., cost of program, volume of water saved per person per day).	NOAA	NOAA Definitions for Performance Measurement (slightly altered)	
Present value	Future expenditures expressed in current dollars by adjusting for a discount rate that accounts for financing costs.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
		USEPA	USEPA Water Conservation Plan Guidelines	
Real dollars	Forecast dollars that are adjusted for inflation.	USEPA	USEPA Water Conservation Plan Guidelines	
Relative water demand	The ratio of water withdrawal or consumption to total water availability.	Watkins, et. al., Michigan Tech Univ.	Metrics for Sustainable Water Use	
Sensitivity analysis	An analysis that examines the sensitivity of output results to variations in the value of the input parameters.	Anderson, Damann		
	An analysis of alternative results based on variations in assumptions; a "what if" analysis.	USEPA	USEPA Water Conservation Plan Guidelines	

Term	Definition	Agency/Authority	Document	Comment
Socio-economic benefits	The benefit of adding to the local economy through the acquisition of staff, contractors and materials for the implementation of a conservation program(s).	Maddaus Water Management	Realizing the Benefits from Water Conservation	
Strategic plan	A document that defines measurable program objectives, performance(s) to be measured and appropriate performance indicators.		Tonya Simmons	
Strategic planning	A long-term, iterative, and future-oriented process of gathering information, setting goals, determining priorities, and making decisions.		Tonya Simmons	
Utility benefits	Benefits realized by the utility as a result of a conservation program, benefits include but are not limited to reduced purchases of raw or finished water, reduced operation and maintenance costs, deferred, downsized, or eliminated new capital facilities.	Maddaus Water Management	Realizing the Benefits from Water Conservation	
Variable cost	Input costs that change as the nature of the production activity of its circumstances change; for example, as production levels vary.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	
	Costs associated with water service that vary with the amount of water produced or sold.	USEPA	USEPA Water Conservation Plan Guidelines	
	Water utility costs that vary with the amount of water produced or sold.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

User and Class Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Aesthetic Use	The use of water for fountains, waterfalls and landscape lakes and ponds where such uses are ornamental and decorative	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	SRWMD definition same as NWFWMD but includeds "serves no other functional purpose" which further defines the term.
	The use of water for fountains, waterfalls, and landscape lakes and ponds where such uses are entirely ornamental and decorative and serve no other functional purpose.	SRWMD	40B-2.021 Definitions.	
Beneficial use	Water loss through use for the betterment of society, e.g. irrigation or municipal use. See consumptive use.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	The term reasonable-beneficial use is used in Florida.
	A use of water resources that benefits people or nature. State law may define beneficial use.	USEPA	USEPA Water Conservation Plan Guidelines	
	The use of water resources to benefit people or nature; irrigation water that satisfies some or all of the following needs or conditions- evapotranspiration, leaching, water stores in the soil for use by crops, or special cultural practices; usually expressed as a depth of water in inches or feet.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Term	Definition	Agency/Authority	Document	Comment
Consumptive Use	A use which lessens the amount of water available for another use. Water uses normally associated with man's activities, primarily municipal, industrial, and irrigation uses that deplete water supplies. Water removed from available supplies without direct return to a water resource system, for uses such as manufacturing, agriculturem and food preparation. A nonconsumptive use would be one such as boating or swimming. See beneficial use. Combined amounts of water needed for transpiration by vegetation and for evaporation from adjacent soil, snow, or intercepted precipitation. Also called: crop requrement, crop irrigation requirement, consumptive use requirement. See evapotranspiration.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	
	Any use of water which reduces the supply from which it is withdrawn or diverted.	SJRWMD, State	SRWMD40B-2.021, Ch. 62-40 WATER RESOURCE IMPLEMENTATION RULE, SJRWMD CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	
		FDEP	F.A.C. 62-40	
		FDEP	Florida Water Conservation Initiative (2002)	
	Any use of fresh or saline water which reduces the supply from which it is withdrawn or diverted	SWFWD	SWFWD_BOR_TOC	
	Use that permanently withdraws water from its source.	USEPA	USEPA Water Conservation Plan Guidelines	
	Water use that permanently withdraws water from its source; water that is no longer available because it has evaporated, been transpired by plants, incorporated into products or crops, consumed by people or livestock, or otherwise removed from the immediate water environment.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Term	Definition	Agency/Authority	Document	Comment
Customer class	A group of customers (residential, commercial, industrial, wholesale, and so on) defined by similar costs of service or patterns of water usage.	USEPA plus "see also end user"	USEPA Water Conservation Plan Guidelines	USEPA chosen over Vickers although almost the same definition.
	A group of customers (residential, commercial, industrial, wholesale, and so on) defined by similar water-use patterns and costs of service.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Domestic self supply use or domestic consumption	The use of water for household purposes such as drinking, bathing, cooking, sanitation, or cleaning, which occurs in a private residence, and includes no more than one rental residence or no more than four non-rental residences served by one well.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
Domestic use	The use of water for the individual personal household purposes of drinking, bathing, cooking, or sanitation.	FDEP	Florida Water Conservation Initiative (2002)	The water resource industry uses domestic interchangeably with residential; definition should include residential irrigation.
	See **residential water use**.			
	The use of water for the individual personal household purposes of drinking, bathing, cooking, or sanitation. All other uses shall not be considered domestic.	Florida Statutes	Ch. 373.019 Def.	
	Water for hosuehold purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens.	Bureau of Reclamation	Bureau of Reclamation- Internet Glossary	
	In this book, water used by sanitary plumbing fixtures (toilets, urinals, faucets, and showerheads) and appliances (clothes washers and dishwashers) in nonresidential settings such as industrial, commercial, and institutional properties; in other contexts, sometimes synonymous with residential water use, or water used for household purposes, such as drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

User and Class Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
End use	Fixtures, appliances, and activities that use water.	USEPA	USEPA Water Conservation Plan Guidelines	FDEP uses the term "ultimate destination" which is an important distinction especially for cases when a wholesaler is involved.
	The ultimate destination of water; fixtures, applicance, equipment, and activities that use water.	FDEP	Florida Water Conservation Initiative (2002)	
	Fixtures, appliances, equipment, and activities that use water.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
End user	Residential, commercial, industrial, governmental, or institutional water consumer.	USEPA	USEPA Water Conservation Plan Guidelines	FDEP uses the term "ultimate customer" which is an important distinction especially for cases when a wholesaler is involved.
	The ultimate consumer of water (e.g., a residential, commercial, industrial, or agricultural water customer).	FDEP	Florida Water Conservation Initiative (2002)	
	a consumer of water (e.g., a residential, commercial, industrial, or agricultural water customer).	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Essential Use	The use of water strictly for firefighting purposes, health and medical purposes and the use of water to satisfy federal, state, or local public health and safety requirements.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	The definitions are similiar but SRWMD definition is more direct.
	The use of water for fire fighting purposes, health and medical purposes, and to satisfy federal, state, or local public health and safety requirements.	SRWMD	40B-2.021 Definitions.	
Large-volume user	A water customer, usually industrial or wholesale, whose usage is substantial relative to other users; large-volume users may present unique peaking or other demand characteristics.	USEPA	USEPA Water Conservation Plan Guidelines	
Nonconsumptive use	Water withdrawn for use but not consumed and thus returned to the source.	FDEP	Florida Water Conservation Initiative (2002)	

Term	Definition	Agency/Authority	Document	Comment
Nonresidential customer	A commercial or industrial utility customer.	USEPA	USEPA Water Conservation Plan Guidelines	Term not needed; it is part of customer class.
Nonresidential water use	Water use by industrial, commercial, institutional, public, and agricultural users.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Public water supply use	The use of water as defined by the Florida Safe Drinking Water Act, and means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.	NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
	Water used for withdrawal, treatment, transmission, and distribution by potable water systems. Water utility uses may include community and noncommunity public water systems defined in Ch. 62-22, Florida Administrative Code	SRWMD definition of water utility use.	40B-2.021 Definitions.	
Reasonable-beneficial use	the use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest.	Florida Statutes	Ch. 373.019 Def.	
		F.A.C.	62-40.210	
		FDEP	Florida Water Conservation Initiative (2002)	
		NWFWMD	Ch. 40A-2, FAC CONSUMPTIVE USES OF WATER	
Residential water use	Water used by the residential sector (e.g., for drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens).	Simmons, Tonya		Definition should not read "in homes" as it include irrigation and multi-family uses.
	Water use in homes (e.g., for drinking, food preparation, bathing, washing clothes and dishes, flushing toilets, and watering lawns and gardens).	Vickers, Amy	Handbook of Water Use and Conservation (2001)	

Term	Definition	Agency/Authority	Document	Comment
Self-Supplied Residential Use	Any water use associated with the maintenance of a private residence including domestic uses, climate control, and landscape irrigation. Other water uses which would typically be classified pursuant to 40B-2.501(3) F.A.C. may be included as self-supplied residential provided the primary use of water is for the maintenance of a private residence.	SRWMD	40B-2.021 Definitions.	
User class	See **customer class**.	USEPA	USEPA Water Conservation Plan Guidelines	
Water Utility Use	Water used for withdrawal, treatment, transmission and distribution by potable water systems.	SJRWMD	SJRWMD Applicant's Handbook, Section 6.2.3 (v)	SRWMD definition same as SJRWMD but it further defines the term; used definition for public water supply use.
	Water used for withdrawal, treatment, transmission, and distribution by potable water systems. Water utility uses may include community and noncommunity public water systems defined in Ch. 62-22, Florida Administrative Code.	SRWMD	40B-2.021 Definitions.	
	See **public water supply use**.			

Rate Structures Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Block	A quantity of water for which a price per unit of water (or billing rate) is established.	USEPA	USEPA Water Conservation Plan Guidelines	Chose USEPA over Vickers
	A quantity of water for which a per-unit price (or billing rate) is established.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Budget (water-use)	An accounting of total water use or projected water use for a given location or activity.	USEPA	USEPA Water Conservation Plan Guidelines	Vickers and FDEP definition, which is exactly the same, includes the USEPA definition and also includes "facility."
	An accounting of total water use or projected water use for a given activity, facility or location.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
		FDEP	Florida Water Conservation Initiative (2002)	
Commodity charge	See **variable charge**.	USEPA	USEPA Water Conservation Plan Guidelines	
Conservation pricing	Water rate structures that help achieve beneficial reductions in water usage; see also **water-conserving rate structure** and **conservation rate structure.**	USEPA	USEPA Water Conservation Plan Guidelines	Chose Vickers over EPA because definition is more straight forward.
	Water rate structures that encourage consumers to reduce water use; see also **water-conserving rate structure** and **conservation rate structure.**	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Conservation rate structures	Design of water rates that promote the efficient use of water, such as inclining block rates, marginal cost pricing, and seasonal surcharges; see also **water-conserving rate structure** and **conservation pricing**.	FDEP	Florida Water Conservation Initiative (2002)	Chose F.A.C. over the Florida Water Conservation Initiative.
	A schedule of utility water rates designed to promote efficient use of water by providing economic incentives; see also **water-conserving rate structure** and **conservation pricing**.	F.A.C.	62-40.210	

Rate Structures Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Declining (decreasing) block rate structure	A pricing structure in which the amount charged per unit of water (i.e., dollars per 1,000 gallons) decreases as customer water consumption increases.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	The USEPA definition is ambiguous; the FDEP definition is similar to but more informative than Vickers.
	A pricing structure in which the amount charged per unit of water (e.g., dollars per 1,000 gallons) decreases as customer water consumption increases. This type of rate structure is not considered to be water conserving.	FDEP	Florida Water Conservation Initiative (2002)	
	A pricing structure for which the dollar amount charged per unit of water (such as dollars per gallon) decreases with the amount of water usage.	USEPA	USEPA Water Conservation Plan Guidelines	
Drought rate structure	Rate structures that impose higher rates during water shortages in order to reduce water use.	FDEP	Florida Water Conservation Initiative (2002)	Chose F.A.C. over the Florida Water Conservation Initiative.
	An element of a utility rate structure intended to provide an economic incentive to reduce water use during times of drought.	F.A.C.	62-40.210	
Fixed charge	The portion of a water bill that does not vary with water usage.	USEPA	USEPA Water Conservation Plan Guidelines	Chose FDEP over USEPA and Vickers because definition includes reclaimed water. Added information per David Sayers.
	The portion of a water or reclaimed water bill that does not vary with water use.	FDEP	Florida Water Conservation Initiative (2002)	
	The portion of a water bill that does not vary with water use.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	The portion of a water or reclaimed water bill that does not vary with water use; portion of the bill that is used to recover capital and administrative costs to the utility.	FDEP plus additional information	Additional information provided by David Sayers (Hazen and Sawyer)	

Rate Structures Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Fixed costs	Costs associated with water service that do not vary with the amount of water produced or sold.	USEPA	USEPA Water Conservation Plan Guidelines	Chose USEPA over Vickers.
	Costs associated with water service that do not vary with the amount of water produced or sold to customers.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Flat rate structure	A fee structure in which the price of water per unit is constant, regardless of consumption.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	Chose FDEP over Vickers because definition includes reclaimed water and describes the rate structure as not being water-conserving.
	A fee structure in which the price of water or reclaimed water per unit is constant, regardless of consumption. This type of rate structure is not considered to be water conserving.	FDEP	Florida Water Conservation Initiative (2002)	
Goal-Based Rate Structure	A variation of the **inclining block rate structure** where the block definition is derived from one or more characteristics of the customer (e.g., persons per household, lot size, etc.); typically, a lower rate is set for levels of water use that are less than the goal, and a higher rate is set for levels of water use that are greater than the goal.	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002	

Rate Structures Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Inclining block (or increasing block) rate structure	A set of charges per unit of service delivery, wherein the unit charge increases as the volume of service delivery exceeds certain pre-established threshold(s).	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002	
	A pricing structure in which the amount charged per unit of water (i.e., dollars per 1,000 gallons) increases as customer water consumption increases.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	Chose FDEP over Vickers because definition includes reclaimed water; USEPA definition is ambiguous.
	A pricing structure in which the amount charged per unit of water or reclaimed water (e.g., dollars per 1,000 gallons) increases as customer water consumption increases.	FDEP	Florida Water Conservation Initiative (2002)	
	A pricing structure for which the dollar amount charged per unit of water (such as dollars per gallon) increases with the amount of water usage.	USEPA	USEPA Water Conservation Plan Guidelines	
Incremental cost	The additional cost associated with adding an increment of capacity.	USEPA	USEPA Water Conservation Plan Guidelines	Vickers definition includes the USEPA definition with the addition of "to a water supply."
	The additional cost associated with adding an increment of capacity to a water supply.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Inverted block rates	See **inclining (increasing) block rate**			
Marginal cost pricing	A rate design method in which prices reflect the costs associated with producing the next increment of supply.	FDEP	Florida Water Conservation Initiative (2002)	FDEP/Vickers definition similar to USEPA but more direct.
		Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	A method of rate design where prices reflect the costs associated with producing the next increment of supply.	USEPA	USEPA Water Conservation Plan Guidelines	
	Generally, a variation of the inclining block rate structure where the last block is set according to the unit cost of the next increment of water system supply. This next increment of supply reflects the opportunity cost of not conserving; it is the avoided cost of having conserved.	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002	
Off Peak/On Peak Rate Structure	A variation of a seasonal rate structure that charges two separate rates for water use in the peak versus off-peak season. All water use during the peak season (usually the dry season) is subject to a higher rate than all water used during the off-peak season (usually the wet season).	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002	Georgia's examples of peak and off-peak seasons were "summer" and "winter." The examples were changed to "dry" and "wet."

Rate Structures Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Price elasticity of demand	A measure of the responsiveness of water usage to changes in price; measured by the percentage change in usage divided by the percentage change in price.	USEPA	USEPA Water Conservation Plan Guidelines	FDEP/Vickers definition similar to USEPA but more descriptive.
	A measure of the responsiveness of customer water use to changes in the price of water; measured by the percentage change in use divided by the percentage change in price.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
		FDEP	Florida Water Conservation Initiative (2002)	
Ratchet Rate Structure	A rate that is structured so that all usage below an established threshold is charged according to a specified rate structure. However, in the event that usage exceeds the threshold, higher charges are assessed against all use, not just the use above the threshold level.	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002	
Rate structures	Water rates that are set at levels designed by utilities to provide necessary cost recovery for the utility and to encourage water conservation by water users	FDEP	Florida Water Conservation Initiative (2002)	Do not use because some rate structures are not water-conserving. Choose water-conserving rate structure instead.
Seasonal Period Rate Structure	A variation of the seasonal rate structure that differentiates between base (usually winter) water use and discretionary water use (water use typically associated with summer activities). Base usage is charged at one rate, and discretionary use is subject to higher unit charge(s). This form of seasonal rate is also a form of inclining block rate, with the inclining block implemented on a time-differentiated basis.	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002	

Term	Definition	Agency/Authority	Document	Comment
Seasonal Rate Structure	Charges that vary based on the period in which the service is provided. Typically, higher charges will be applicable to some or all usage in dry months as an incentive to limit peak demands.	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002	"Summer months" was changed to "dry months."
	A pricing structure for which the dollar amount charged per unit of water (such as dollars per gallon) varies by season of use; higher rates usually are charged in the season of peak demand.	USEPA	USEPA Water Conservation Plan Guidelines	F.A.C. and FDEP is more general and applicable to Florida than USEPA and Vickers.; chose F.A.C. over Florida Water Conservation Initiative.
	A pricing structure in which the amount charged per unit of water varies by season; higher rates are usually charged during the peak demand season (usually the summer months).	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	The unit price of water increases during the peak seasonal use period.	FDEP	Florida Water Conservation Initiative (2002)	
	A utility water rate structure in which the amount charged per unit of water increases during the peak demand season.	F.A.C.	62-40.210	

Rate Structures Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Surcharge	A special charge on a water bill used to send customers a specific pricing signal and recover costs associated with a particular activity.	USEPA	USEPA Water Conservation Plan Guidelines	
	A special charge included on a water bill to recover costs associated with a particular activity or use to convey a message about water prices to customers.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
	An additional monetary charge levied by a utility over and above the fixed and variable charge portions of the rate structure.	FDEP	Florida Water Conservation Initiative (2002)	
	An additional monetary charge levied by a utility over and above the fixed and variable charge portions of the rate structure; used to recover costs associated with a particular activity and/or convey a message about water prices to customers..	FDEP plus Vickers	Handbook of Water Use and Conservation (2001) and Florida Water Conservation Initiative (2002)	
Tariff	The schedule of a utility's rates and charges.	USEPA	USEPA Water Conservation Plan Guidelines	Vickers is more descriptive than USEPA.
	The schedule of a utility's rates and charges; rate for marginal cost of water.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
Uniform rate	A pricing structure for which the dollar amount charged per unit of water (such as dollars per gallon) does not vary with the amount of water usage.	USEPA	USEPA Water Conservation Plan Guidelines	FDEP/Vickers definition is similar to the USEPA definition but more direct.
	A pricing structure in which the price per unit of water is constant, regardless of the amount used.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
		FDEP	Florida Water Conservation Initiative (2002)	
Value of Service Pricing Rate Structure	A departure from conventional ratemaking methods that focuses on cost recovery. This pricing structure involves consideration of factors that reflect customer perceptions about the value of utility service as well as their willingness to pay for different levels or types of service.	Georgia Department of Natural Resources	Regional Water Conservation Initiatives Implementation Process, August 2002	

Rate Structures Terms/Definitions

Term	Definition	Agency/Authority	Document	Comment
Variable charge	The portion of a water bill that varies with water usage; also known as a **commodity charge**.	USEPA	USEPA Water Conservation Plan Guidelines	FDEP/ Vickers definition is exactly the same as USEPA except for the term "use" instead of "usage."
	The portion of a water bill that varies with water use; also known as a **commodity charge**.	Vickers, Amy	Handbook of Water Use and Conservation (2001)	
		FDEP	Florida Water Conservation Initiative (2002)	
Volume-based rates	Rates for water that are based on the amount of water used; may or may not be water-conserving rates.	FDEP	Florida Water Conservation Initiative (2002)	
Water Conservation Promoting Rate Structure	A water supply utility rate structure designed to encourage the utility's water customers to reduce discretionary water use by providing financial incentives to the customers to conserve water.	SJRWMD	CUP APPLICANT'S HANDBOOK:Ch. 40C-2, F.A.C 4/2002	Choose water-conserving rate structure instead.
Water-conserving rate structure	See **conservation pricing** and **conservation rate structure**.			

Appendix C

Water Management District Survey Responses

Survey Response from

Southwest Florida Water Management District

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section A: General Information				
A-1.	Water Management District (WMD):			
	Southwest Florida Water Management District			
A-2.	Respondent's Name:	Respondent's Name:	Respondent's Name:	Respondent's Name:
	Lois Ann Sorensen	Jay Yingling	Christine Jackson	Karen Lloyd
A-3.	Respondent's Title:	Respondent's Title:	Respondent's Title:	Respondent's Title:
	Demand Management Coordinator	Sr. Economist	Senior P.G. (Tech Services)	Assistant General Counsel
A-4.	Address:	Address:	Address:	Address:
	2379 Broad St / Brooksville / 34604-	2379 Broad St / Brooksville /	2379 Broad St / Brooksville / 34604-	2379 Broad St / Brooksville / 34604-
A-5.	Telephone No.:	Telephone No.:	Telephone No.:	Telephone No.:
	352-796-7211 x 4335	x 4406	x 4397	x 4651
A-6.	Email Address:	Email Address:	Email Address:	Email Address:
	Lois.Sorensen@swfwmd.state.fl.us	jay.yingling@swfwmd.state.fl.us	christine.jackson@swfwmd.state.fl.us	karen.lloyd@swfwmd.state.fl.us
A.-7.	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:
	All	Section E	Sections B, E & F	Sections B, E & F

WATER MANAGEMENT DISTRICT SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require public supply permittees to provide a Water Conservation Plan or similar report? Yes; for more information on this entire section, please contact the Technical Services Department within Resource Regulation.
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, or special permit conditions on a case-by-case basis). It is required by rule and included as a permit condition (see below), although the plan for those water user for less than 100,000 gpd can be less formal than is required for the general and individual water use permittees.
B-3.	Does the requirement apply unilaterally or only to some permittees? Explain the conditions for which a plan would be required (i.e., utility exceeded a per capita threshold, utility is located within a Water Use (or Resource) Cautionary Area). Applies uniformly as follows: By rule, it is made a special condition of the permit that applies to all public suppliers with annual average permitted quantity of 500,000 gpd or above. (Called "special" by the District because it applies to only public suppliers, not all use type permittees throughout the District). In a WUCA, by rule, conservation plans are required and included as a general condition on the permit of public suppliers with an annual permitted quantity of 100,000 gpd or greater (see below), for all significant uses deducted from the per capita rate calculation, and may be required on a case-by-case basis to address a permit-specific concern or compliance issue.
B-4.	How often is this plan required to be updated? General condition for 500,000 gpd: during the permit application/renewal process, with progress reports (typically midway through the permit life and 6 months before expiration). WUCA condition for 100,000 gpd: water conservation plan for "Significant Uses" is part of an annual reporting requirement, if the public supplier wants to deduct the "Significant Uses" from its per capita calculation. Case-by-case: varies.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction from conservation? What is it? Within the WUCAs there is by rule a per capita requirement of 150 gpd. When a permittee is below this requirement the per capita is tailored to the permitees utility characteristics and circumstances. Often within a WUCA, additional goals are proposed by the permittee to ensure that the per capita is met and/or to further conservation, for example development of a toilet rebate program to replace X number of inefficient toilets. Outside WUCA's there is not a goal by rule but as described above there may be a permit condition that requires that certain conservation goals or programs be implemented.
B-6.	Is there a certain time by which the goal must be met? When is it? The time line is proposed by the public supply utility and reviewed, modified or approved as appropriate by the District.
B-7.	Is there a performance measure(s) that is required to be used in the Plan? What is it? Within the WUCAs, the per capita is used as a performance measure. Other performance measure(s) are based on proposals from the permittee subject to District approval prior to permitting and any other permit condition that the plan is designed to achieve.
B-8.	What performance measures does the WMD use to evaluate the conservation programs? See sections E and F.
B-9.	Does the WMD compile information from the Conservation Plans submitted? Yes.
B-10.	If yes, what is the name of the WMD publication that includes this information? Not a single publication. Catalogued online and maintained as a library by Conservation Projects.

WATER MANAGEMENT DISTRICT SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	When evaluating co-operative funding or grant applications, does the WMD require that the application include the results from similar programs?
	May be used as part of justification for proposed project. For this entire section, consult Conservation Projects staff for additional information.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Depends on nature of proposed cooperative funding project (typically some variation on savings per measure or participating account).
C-3.	Does the WMD require public supply permittees to report the success or outcomes of programs that receive co-operative funding or grants?
	Yes.
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Depends on nature of cooperative funding project (typically some variation on savings per measure or participating account).
C-5.	What performance measures does the WMD use to evaluate the programs?
	Depends on nature of cooperative funding project, as described above.
C-6.	Does the WMD compile the conservation information submitted by the permittees under these requirements?
	Yes.
C-7.	If yes, what is the name of the WMD publication that includes this information?
	Not a single publication. Catalogued online and maintained as a library by Conservation Projects. Special reports issued by staff or consultants on an as-needed basis.

WATER MANAGEMENT DISTRICT SURVEY

Section D: Public Supply Conservation Requirements through WMD Rules and Permit Conditions.	
D-1.	Please identify the WMD's water use permitting rules that refer to water conservation and/or water-use efficiency (e.g., standard permit conditions, Xeriscape incentives, year-round water conservation measures other than permit conditions as stated in WMD rules). Please cite specific rule number and accompanying text or cite rule number and attach entire rule. Please download these rules in their entirety from the District's website (www.WaterMatters.org): 40D-2 (Water Use Permitting, including Basis of Review that contains permit conditions language) , 40D-22 (Year-Round Water Conservation Measures), and 40D-24 (Xeriscape Incentives).
D-2.	How are the rules enforced? Normal District compliance processes; for more information, please contact Technical Services Department within Resource Regulation. Pursant to 373.609, F.S., local governments are required to assist the District with location-specific investigations related to Rule 40D-22 that do not involve a Water Use Permit holder.
D-3.	Do the rules cite any specific performance measurement? If yes, please describe the measurement. See sections E and F.
D-4.	Please identify special permit conditions (conditions unique to a permittee and not stated in the WMD rule) that refer to water conservation and/or water-use efficiency. Conditions unique to permits are too numerous to be listed here; refer to Rule 40D-2 Basis of Review (Chapter 6) for standard and common "special" permit condition language.
D-5.	How are the permit conditions enforced? Normal District compliance processes; for more information, please contact Technical Services Department within Resource Regulation.
D-6.	Do the conditions cite any specific performance measurement? If yes, please describe the measurement. See sections E and F.
D-7.	Do these conditions appear in every public supply permittee's permit? No; see section B for details.
D-8.	If not, under what circumstances would these conditions be applied to the permit? See sections B, E and F.

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water-use measurements (e.g. gross, seasonal, adjusted) used by the WMD. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. For complete details, including equations and defintions, please refer to Rule 40D-2 and its accompanying Basis of Review (Chapter 3, section 3.6 and Chapter 7, section 7.3) . The attached summary provides a general overview; please contact the Technical Services Department for additional information on this entire section.
E-2.	Do all Water or Consumptive Use Permits include a permitted per capita value? Which per capita measurement is used for permitting? A per capita rate is given in the file of record for each Public Supply water use permit. Some permit documents contain this number also; however due to changes over time in the structure of the document, not all will show this number. Where it is shown, it is the Adjusted Gross Per Capita. Any Compliance Per Capita is found only in the file of record. The Per capita is a factor in determining the permitted quantities. A maximum of 150 gpcd (adjusted gross or compliance) is generally used in the Water Use Caution Areas.
E-3.	How often are the permittees required to report their per capita water use? What measurements are they required to report? Public Supply permittees in a Water Use Caution Area that have an annual average permitteed quantity of 100,000 gpd are required to report per capita water use and the data used to generate this calculation on an yearly basis. Outside the WUCA's, reporting on a per capita requirement, if any, is on a case by case basis.
E-4.	How does the WMD apply the per capita water use to determine permitted water quantities for public supply permittees? That is, what values are used? Do the per capita values or measurements differ among permittees and why do they differ? See E-2. Existing permittees have a track record, and their existing per capita is calculated. If less than 150 gpcd or in an area where they are not restricted to 150 gpcd, this per capita is multiplied by their population to generate proposed quantities. If outside a water use caution area, and their calculated per capita is well in excess of 150 gpcd, the District will consider their request, setting interim goals for them to achieve, and require additional conservation measures to reduce the per capita.
E-5.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs funded by the WMD? Generally 150 gpcd; however this depends on intended use of these data; please contact Conservation Projects staff for additional information.
E-6.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs not funded by the WMD? Generally 150 gpcd; however, this depends on intended use of these data; please contact Conservation Projects staff for additional information.

WATER MANAGEMENT DISTRICT SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the WMD use to evaluate conservation programs? Please define each performance measure and provide calculations.
	In addition to per capita, two other performance measures are used to determine the system-level efficiency of a public supply system in the Water Use Caution Areas: Unaccounted Use and existance of a water-conserving rate structure. A system-level water audit in accordance with the AWWA Manual 36 is required within two years of permit issuance and any time that the public supplier's annual report indicates Unaccounted Use is exceeding 12% of total annual average system use; appropriate remedial action is necessary when that threshold is exceeded. A water-conserving rate structure had to be adopted by a certain date by all existing public suppliers (January 1, 2004 in the Southern WUCA). New public suppliers must adopt such a rate structure within two years of permit issuance and submit a report estimating its effectiveness within one year following adoption. If the utility cannot meet the 150 gpcd requirement, a more rigorous water conserving rate may be required.
F-2.	Please list all WMD Reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	Not a single publication. Please refer to the District's online reports, including but not limited to those catalogued online and maintained as a library by Conservation Projects.
F-3.	Please list water-use efficiency performance measures that are the most widely used and accepted by the WMD.
	See F-1.
F-4.	Does the WMD consider what is cost beneficial to the permittee when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	The District's first concern in a regulatory setting is compliance with performance measures and intent of Rule; beyond that, staff certainly understands that the permittee will take cost and cost-effectiveness into consideration when proposing or submitting a water conservation plan as part of a permit application or compliance negotiation process.
F-5.	Does the WMD provide any incentives for water supply permittees to improve water-use efficiency? If yes, please describe the incentive programs.
	Yes. Cooperative funding program (typically 50-50 matching dollars) and other basin and governing board initiatives.
F-6.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
	An appropriate per capita calculation is the current "best" performance measure of a public supplier's comprehensive water conservation program within a regulatory setting.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
	Average cost per unit water saved, for an entire water conservation program and over a program element's useful life, are useful tools to use when evaluating the cost-effectiveness.

WATER MANAGEMENT DISTRICT SURVEY

F-8.	What are your recommendations on implementing a system of water-use measurement that is fair and accountable for WMDs and Public Supply Permittees?
	Take into account the human resources and other costs to the water management districts needed to implement any new measurement system. Provide assurance that compliance with intent of Rule will be acheived by including a mechanism by which any new measurement system can be directly compared to current regulatory performance measures (in other words, do not allow reduction in system-level efficiency, especially in Water Use/Resource Caution Areas). Do not mandate implementation of any measure that may be achievable for large public supply utilities but which may be hard to impossible for smaller, less funded utilities.

PER CAPITA CALCULATIONS IN THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

please refer to Rule 40D-2 and its Basis or Review for complete details

Adjusted Gross Per Capita Within The Southern Water Use Caution Area

Adjusted gross per capita = (WD + IM - EX - TL - SU - EM) / FP.

In this calculation, WD=total withdrawals of ground and surface water, IM=water imported or bought from another supplier, EX=water exported or sold to other suppliers, TL=treatment losses, SU=significant uses, EM=water used for environmental mitigation, and FP = functional population.

Deduction of "Significant Uses" is only applicable in a water use caution area, and at this time, it is generally optional for a permittee to report significant users in their annual report. A "Significant Use" is an individual, non-residential customer using 25,000 gallons per day or greater on an average annual basis, an individual, non-residential customer using an amount representing 5% or more of the utility's annual use, or in the Southern Water Use Caution Area, the sum of multiple small, similar non-residential uses that is greater than the District average. . Each non-residential use deducted as a significant use has to be identified along with a water conservation plan for it. Golf courses do not qualify as a significant use.

Deductions for "Environmental Mitigation" are optional and are only allowed if the mitigation is required as a District permit condition. Environmental mitigation only applies to a small number of regional wellfield permits.

Functional population is a monthly average population. It must include permanent population and may also include seasonal resident, tourist, and commuter populations. Seasonal residents and tourists are included only for the months in which they reside in the service area. Commuter population is the net value of persons coming into or exiting the service area. Documentation is required for all components of a functional population.

Compliance Per Capita

Compliance per capita takes into account whether the utility proactively saves ground water from use by giving a credit (deduction) for using a source that requires desalination technology to make it potable, or provides reuse water to a user that independently uses ground water so that the user ceases their own ground water withdrawals. It can be taken only in the Eastern Tampa Bay, Highlands Ridge, and Northern Tampa Bay Water Use Caution Areas (the Eastern Tampa Bay and Highlands

Ridge Water Use Caution Areas are part of the Southern Water Use Caution Area, which also includes the land between these two original areas).

Compliance per capita water use = (WD + IM - EX - TL - SU – EM – (RC + DC)) / FP. All other terms are used as described above. RC = reuse credit; DC=desalination credit.

Reuse credit: The utilities that provide reuse water to their own customers reduce their per capita "up front" by reducing their withdrawals. The reuse credit reduces the per capita "at the back end" by allowing the permittee to subtract the amount of eligible reuse water from their annual pumpage. This credit levels the playing field for those utilities that provide reuse water to customers who were not originally served. The credit is limited to deducting quantities that would normally be permitted for the activity (e.g., if reuse is supplied for golf course irrigation, the acreage of greens, tees, and fairways must be submitted, and only the quantity of potable water that would be permitted for that use can be deducted, not a larger disposal quantity).

Desalination credit: The desalination credit allows a permittee to deduct 50% of the finished water from desalination sources. A desalination source is a plant which removes or reduces salts and other chemicals from highly mineralized water of greater than 500 mg/l Total Dissolved Solids.

Additional Information

In any part of the District, if construction in the service area began after 1983, the residential per capita water use should not exceed 132 gpcd. This threshold recognizes the water savings intended by the Unified Building Code, Section 553.73, Florida Statutes.

The three original Water Use Caution Areas (ETBWUCA, NTBWUCA, HRWUCA) currently have maximum allowable per capita (adjusted gross or compliance, as applicable) of 150 gpcd. The portion of the SWUCA that was not previously in a WUCA have 150 gpcd as a goal, just as in the remainder of the District. Even though 150 gpcd is a goal, utilities who have a per capita use greater than this work with the District through conservation measures and cooperative projects to reduce their withdrawals from the natural resource. All areas of the District which were constructed after 1983 should have a per capita rate of no more than 132 gpcd; if an applicant proposes a per capita rate if higher than this, it must be supported with detailed information explaining the high rate and the applicant may be required to address the reduction of the high rate.

Survey Response from

South Florida Water Management District

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section A: General Information				
A-1.	Water Management District (WMD): South Florida Water Management District			
A-2.	Respondent's Name: Tom Colios	Respondent's Name: Bruce Adams	Respondent's Name:	Respondent's Name:
A-3.	Respondent's Title: Water Use Regulation.	Respondent's Title: Water Supply	Respondent's Title:	Respondent's Title:
A-4.	Address: 3301 Gun Club Road, West	Address: 3301 Gun Club Road, West	Address:	Address:
A-5.	Telephone No.: 561-682-6318	Telephone No.: 561-682-6785	Telephone No.:	Telephone No.:
A-6.	Email Address: tcolios@sfwmd.gov	Email Address: badams@sfwmd.gov	Email Address:	Email Address:
A.-7.	Survey section(s) you are responding to: public water supply (PWS)	Survey section(s) you are responding to: Water Conservation Planning	Survey section(s) you are responding to:	Survey section(s) you are responding to:

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require public supply permittees to provide a Water Conservation Plan or similar report? Yes.
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, or special permit conditions on a case-by-case basis). Section 2.6.1. of the SFWMD Basis of Review (BOR) for Water Use Applications outlines the requirements of the Water Conservation Plan. The BOR is incorporated by reference into Chapter 40E-2, Florida Administrative Code (FAC).
B-3.	Does the requirement apply unilaterally or only to some permittees? Explain the conditions for which a plan would be required (i.e., utility exceeded a per capita threshold, utility is located within a Water Use (or Resource) Cautionary Area). All public water supply (PWS) utilities that receive an allocation greater than 15 million gallons per month (MGM) are required to submit a Water Conservation Plan.
B-4.	How often is this plan required to be updated? An update is required every five years from the date of permit issuance for PWS permits with an annual allocation greater than 10 MGD and a permit duration of 20 years.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction from conservation? What is it? No.
B-6.	Is there a certain time by which the goal must be met? When is it? No.
B-7.	Is there a performance measure(s) that is required to be used in the Plan? What is it? The implementation of leak detection programs by utilities with unaccounted-for water losses of greater than 10% is required. In addition, the adoption of an ordinance requiring the installation of ultra-low volume plumbing fixtures in all new construction, such that plumbing fixtures are installed to comply with the following maximum flow volumes at 80 psi: Toilets: 1.6 Gal./Flush; Shower Heads: 2.5 Gal./Min.; and Faucets 2.0 Gal./Min.
B-8.	What performance measures does the WMD use to evaluate the conservation programs?
B-9.	Does the WMD compile information from the Conservation Plans submitted? No.
B-10.	If yes, what is the name of the WMD publication that includes this information?

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	When evaluating co-operative funding or grant applications, does the WMD require that the application include the results from similar programs?
	No
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
C-3.	Does the WMD require public supply permittees to report the success or outcomes of programs that receive co-operative funding or grants?
	Yes
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Gallons saved per year
C-5.	What performance measures does the WMD use to evaluate the programs?
C-6.	Does the WMD compile the conservation information submitted by the permittees under these requirements?
	No
C-7.	If yes, what is the name of the WMD publication that includes this information?

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section D: Public Supply Conservation Requirements through WMD Rules and Permit Conditions.	
	Please identify the WMD's water use permitting rules that refer to water conservation and/or water-use efficiency (e.g., standard permit conditions, Xeriscape incentives, year-round water conservation measures other than permit conditions as stated in WMD rules). Please cite specific rule number and accompanying text or cite rule number and attach entire rule.
	Section 2.6.1. of the BOR contains the elements required in a PWS Water Conservation Plan. 2.6.1 Water Conservation Plans All public water supply utilities applying for an individual permit are required to develop and implement a water conservation plan. The water conservation elements of each plan need to be identified as part of the application. A timetable outlining the implementation schedule of each of the required water conservation elements will be required to be submitted or shown to already exist prior to issuance or renewal of a public water supply water use permit. The conservation plan shall be prepared and implemented for the service area incorporating, at a minimum, the following mandatory components. For those components which require ordinance adoption, such ordinance should incorporate the entire boundary of the enacting jurisdiction. The Permittee shall provide a copy of the ordinances for each of the mandatory elements for which ordinances are adopted. The mandatory water conservation elements are as follows:
D-1.	A. The limitation of all lawn and ornamental irrigation to the hours, at a minimum, of 4:00 P.M. to 10:00 A.M. The permit Applicant or enacting local government may adopt an ordinance which includes exemptions from the irrigation hour restrictions for the following circumstances, irrigation systems and/or users: 1. Irrigation using a micro-irrigation system; 2. Reclaimed water end users; 3. Preparation for or irrigation of new landscape; 4. Watering in of chemicals, including insecticides, pesticides, fertilizers, fungicides, and herbicides when required by law, recommended by the manufacturer, or constituting best management practices; 5. Maintenance and repair of irrigation systems; 6. Irrigation using low volume hand watering, including watering by one hose attended by one person, fitted with a self-canceling or automatic shutoff nozzle or both or 7. Users irrigating with 75% or more water recovered or derived from an aquifer storage and recovery system.

WATER MANAGEMENT DISTRICT SURVEY

	B. Where the local government operating the public water supply utility, pursuant to section 125.568 or 166.048, F.S., determines that Xeriscape would be of significant benefit as a water conservation measure relative to the cost of Xeriscape implementation, the local government operating the public water supply utility is required to adopt a Xeriscape landscape ordinance meeting the requirements of section 373.185(2)(a)-(f), F.S. In the event such a Xeriscape ordinance is proposed for adoption, the permit Applicant shall submit the draft ordinance to the District for determination of compliance with section 373.185(2)(a) - (f), F.S. If the ordinance which the local government has or proposes to adopt includes an alternative set of requirements which do not encompass those contained in section 373.185(2)(a)-(f), F.S., eligibility for the incentive program will not be achieved.
D-1.	The District, in compliance with section 373.185, F.S., offers the following incentive program, to those local governments who are eligible, consisting generally of information and cost-benefit analysis assistance. Specifically, the information provided interested parties will consist of an explanation of the costs and benefits of Xeriscape landscapes; the types of plants suitable for Xeriscape landscapes within the local government's jurisdiction; the types of irrigation methods suitable for Xeriscape landscaping and the use of solid waste compost.
	Further, if requested, the District will assist local governments in determining whether the benefits of requiring Xeriscape landscaping outweigh the costs within that local government's jurisdiction; this assistance may consist of economic considerations, technical information or referral to other agencies that can provide information the local government may need to perform its cost/benefit determination. The Governing Board finds that the implementation and use of Xeriscape landscaping, as defined in section 373.185, F.S., contributes to the conservation of water. The Governing Board further supports adoption of local government ordinances as a significant means of achieving water conservation through Xeriscape landscaping.
	C. The adoption of an ordinance requiring the installation of ultra-low volume plumbing fixtures in all new construction, such that plumbing fixtures are installed to comply with the following maximum flow volumes at 80 psi: Toilets: 1.6 Gal./Flush; Shower Heads: 2.5 Gal./Min.; and Faucets 2.0 Gal./Min.
	D. The adoption of water conservation-based rate structures. Such rate structures should include at least one of the following alternative components: increasing block rates, seasonal rates, quantity based surcharges and/or time of day pricing as a means of reducing demands.

WATER MANAGEMENT DISTRICT SURVEY

D-1.	E. The implementation of leak detection programs by utilities with unaccounted-for water losses of greater than 10% is required. Such leak detection program must include water auditing procedures, in-field leak detection efforts and leak repair. The program description should include the number of man-hours devoted to leak detection, the type of leak detection equipment being used and an accounting of the water saved through leak detection and repair. It is the policy of the District to encourage public water supply systems to have no more than 10% unaccounted-for water losses.
	F. For local government applicants, the adoption of an ordinance requiring any person who purchases and installs an automatic lawn sprinkler system to install, operate and maintain a rain sensor device or automatic switch which will override the irrigation cycle of the sprinkler system when adequate rainfall has occurred pursuant to Section 373.62, F.S.
	G. The implementation of water conservation public education programs.
	H. For those potable public water supply utilities who control, either directly or indirectly, a wastewater treatment plant, an analysis of the economic, environmental and technical feasibility of making reclaimed water available. Use of the Guidelines for Preparation of Reuse Feasibility Studies published by the Department in November, 1991 is suggested.
	I. Procedures and time-frames for implementation shall be included in the conservation plan.
D-2.	How are the rules enforced?
	As stated in the permit limiting conditions, if any condition of the permit is violated, the permit shall be subject to review and modification, enforcement action, or revocation pursuant to Chapter 373.
D-3.	Do the rules cite any specific performance measurement? If yes, please describe the measurement.
	No.
D-4.	Please identify special permit conditions (conditions unique to a permittee and not stated in the WMD rule) that refer to water conservation and/or water-use efficiency.
D-5.	How are the permit conditions enforced?
	As stated in the permit limiting conditions, if any condition of the permit is violated, the permit shall be subject to review and modification, enforcement action, or revocation pursuant to Chapter 373.

WATER MANAGEMENT DISTRICT SURVEY

D-6.	Do the conditions cite any specific performance measurement? If yes, please describe the measurement.
D-7.	Do these conditions appear in every public supply permittee's permit?
D-8.	If not, under what circumstances would these conditions be applied to the permit?

WATER MANAGEMENT DISTRICT SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water-use measurements (e.g. gross, seasonal, adjusted) used by the WMD. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations.
	Per capita use is outlined in Section 2.6.3 of the BOR. In addition, a max month peaking ratio (Section 2.6.4 of the BOR) and population data (Sections 2.6.5 and 2.6.5.1 of the BOR) are factored to calculate demand.
	2.6.3 Per Capita Daily Water Use Per capita daily water use is a guideline used to measure the reasonable withdrawal requests of public water supply applicants for an individual or general permit. Per capita water use includes population-related withdrawals associated with residential, business, institutional, industrial, miscellaneous metered, and unaccounted uses. The average per capita daily use rate is calculated for the last five years or period of record, whichever is less, by dividing the average daily water withdrawals for each year of record by the permanent or seasonally adjusted population served by the utility for the same period of time. The per capita use rate that is most representative of the anticipated demands, considering the water conservation plans required by criteria in section 2.6.1, shall be identified and used for water demand projection purposes. The historical demand patterns may not always be appropriate for projection purposes. This may occur when there are current large users whose growth is not related to population, or when future development may take on characteristics very different than those of present development.
	2.6.4 Maximum Monthly Peaking Ratio: Public Water Supply The recommended maximum monthly allocation for a public water supply general or individual permit is based on the average monthly demand for the duration of the permit times the maximum monthly to average monthly peaking ratio. Listed below are methodologies used to calculate the maximum monthly to average monthly peaking ratio depending on the available data. Extensive non-domestic use may cause variations in methodologies.
	A. In cases where several years of pumpage records are available, the maximum monthly peaking ratio is calculated for each year. The ratio is generally the average of the peaking ratios of the last three years of record, unless changes in the historic water use patterns require the use of a more representative timeframe (such as when there is a projected significant increase for commercial/industrial demands or the applicant enters into a new large user agreement).
	B. For proposed developments, a ratio between 1.3 and 1.7 will be used, depending upon the operation of the utility, although engineering documents justifying a different ratio will be considered. C. When a utility operates more than one treatment plant and the plants operate independently (no interconnections), the maximum monthly peaking ratio must be determined for each treatment plant and its associated wellfield(s).

WATER MANAGEMENT DISTRICT SURVEY

E-1.	2.6.5 Population Estimates In service areas without significant seasonal population fluctuations, the use of permanent population estimates is appropriate. In service areas where there are significant seasonal population changes, the general or individual permit applicant shall estimate the seasonal population for use in conjunction with permanent population in the calculation of per capita daily water demand. The Applicant is advised that if significant seasonal population fluctuations are not accounted for, per capita water daily water use may be over-estimated. Permanent and seasonal (if applicable) population growth must be projected for the requested duration of the permit, on a yearly basis, for the area served by the application. When population estimates are required for years in between published or referenced estimates, the Applicant must interpolate the data. The Applicant may assume that population increases in equal increments in the years between established estimates.
	2.6.5.1 Population Data Population data should be derived from the prevailing Comprehensive Land Use Plan (developed under Chapter 9J-5, F.A.C.). If the Applicant's population estimate varies from the Comprehensive Plan, other accepted sources of population data to validate the variance include the following: (1) University of Florida Bureau of Economics and Business Research (BEBR), (2) Regional Planning Council (RPC), (3) County Planning Departments, or the (4) District Planning Department.
E-2.	Do all Water or Consumptive Use Permits include a permitted per capita value? Which per capita measurement is used for permitting?
	Yes. As per Section 2.6.3 of the BOR, the average per capita daily use rate is calculated for the last five years or period of record, whichever is less, by dividing the average daily water withdrawals for each year of record by the permanent or seasonally adjusted population served by the utility for the same period of time. The per capita use rate that is most representative of the anticipated demands, considering the water conservation plans required by criteria in section 2.6.1, shall be identified and used for water demand projection purposes.
E-3.	How often are the permittees required to report their per capita water use? What measurements are they required to report?
	An update is required every five years from the date of permit issuance for PWS permits with an annual allocation greater than 10 MGD and a permit duration of 20 years. A comparison of the permitted allocation and the allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates.

WATER MANAGEMENT DISTRICT SURVEY

E-4.	How does the WMD apply the per capita water use to determine permitted water quantities for public supply permittees? That is, what values are used? Do the per capita values or measurements differ among permittees and why do they differ?
	In the event the permit allocation is greater than the allocation provided for under District rule, the permittee shall apply for a letter modification to reduce the allocation consistent with District rules and the updated population and per capita use rates to the extent they are considered by the District to be indicative of long term trends in the population and per capita use rates over the permit duration. In the event that the permit allocation is less than allowable under District rule, the permittee shall apply for a modification of the permit to increase the allocation if the permittee intends to utilize an additional allocation, or modify its operation to comply with the existing conditions of the permit.
E-5.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs funded by the WMD?
	Gallons saved per year
E-6.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs not funded by the WMD?

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the WMD use to evaluate conservation programs? Please define each performance measure and provide calculations.
	Recommendations in regional water supply plansand the advancing of AWS projects.
F-2.	Please list all WMD Reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
F-3.	Please list water-use efficiency performance measures that are the most widely used and accepted by the WMD.
F-4.	Does the WMD consider what is cost beneficial to the permittee when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	yes- specifically permit conditions requiring reuse evaluations.
F-5.	Does the WMD provide any incentives for water supply permittees to improve water-use efficiency? If yes, please describe the incentive programs.
	Consideration for grant funding includes criteria stressing consistency with regional water supply plan recommendations
F-6.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
	Using the calculation of gallons saved divided by cost in $$$. Also, by removing the demand from the resouce and substtuting with an alternative source.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
	Gallons saved per expenditure of District funds
F-8.	What are your recommendations on implementing a system of water-use measurement that is fair and accountable for WMDs and Public Supply Permittees?
	Comparison of use within each water use sector and use type

Survey Response from

St. Johns River Water Management District

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section A: General Information				
A-1.	Water Management District (WMD): St. John's River WMD			
A-2.	Respondent's Name: Don Brandes	Respondent's Name: Catherine Walker	Respondent's Name:	Respondent's Name:
A-3.	Respondent's Title: Senior Project Manager	Respondent's Title: Assistant Division Director	Respondent's Title:	Respondent's Title:
A-4.	Address: 4049 Reid Street, Palatka 32177	Address: 975 Keller Road, Altamonte	Address:	Address:
A-5.	Telephone No.: 386-329-4126	Telephone No.: 407-659-4880	Telephone No.:	Telephone No.:
A-6.	Email Address: dbrandes@sjrwmd.com	Email Address: cwalker@sjrwmd.com	Email Address:	Email Address:
A.-7.	Survey section(s) you are responding to: C, E, some of F	Survey section(s) you are responding to: B, D, Parts of E and F	Survey section(s) you are responding to:	Survey section(s) you are responding to:

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require public supply permittees to provide a Water Conservation Plan or similar report? Yes,
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, or special permit conditions on a case-by-case basis). WMD Rules and permit conditions. 40C-2.301(4) (e), and Applicant's Handbook, Section 12.2.5
B-3.	Does the requirement apply unilaterally or only to some permittees? Explain the conditions for which a plan would be required (i.e., utility exceeded a per capita threshold, utility is located within a Water Use (or Resource) Cautionary Area). Requirement applies to all applicants.
B-4.	How often is this plan required to be updated? The conservation plan is reviewed at the time of permit application.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction from conservation? What is it? Some permits incorporate anticipated demand reductions into the allocation, but this is on a case-specific basis and normally not related directly to a water conservation plan goal.
B-6.	Is there a certain time by which the goal must be met? When is it? Certain elements of a plan may be required by permit condition to be implemented within a specified time frame, again on a case-specific basis.
B-7.	Is there a performance measure(s) that is required to be used in the Plan? What is it? No.
B-8.	What performance measures does the WMD use to evaluate the conservation programs? Overall consumption.
B-9.	Does the WMD compile information from the Conservation Plans submitted? Not in a systematic manner.
B-10.	If yes, what is the name of the WMD publication that includes this information?

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	When evaluating co-operative funding or grant applications, does the WMD require that the application include the results from similar programs? For the Conservation Cost Share program the results of similar programs need not be specifically documented only addressed as it relates to the need and benefits for the project funding that is being requested. Further support may be requested by District to substantiate the funding request. Many projects already have a widespread understanding of the benefit, such as toilet retrofits or can not be quantified, such as conservation awareness campaigns.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required? In cases where the amount can be calculated it is usually expressed in gallons per day, per capita or MGD.
C-3.	Does the WMD require public supply permittees to report the success or outcomes of programs that receive co-operative funding or grants? No
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
C-5.	What performance measures does the WMD use to evaluate the programs? Were they completed?
C-6.	Does the WMD compile the conservation information submitted by the permittees under these requirements? Not systematically.
C-7.	If yes, what is the name of the WMD publication that includes this information?

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section D: Public Supply Conservation Requirements through WMD Rules and Permit Conditions.	
D-1.	Please identify the WMD's water use permitting rules that refer to water conservation and/or water-use efficiency (e.g., standard permit conditions, Xeriscape incentives, year-round water conservation measures other than permit conditions as stated in WMD rules). Please cite specific rule number and accompanying text or cite rule number and attach entire rule.
	Rule 40C-21 Rule 40C-23,Rule 40C-2.301(4) (e), and Applicant's Handbook, Section 12.2.5
D-2.	How are the rules enforced?
	Rules are generally enfoced through monitoring compliance with permit conditions. Durng water shortage periods, District staff or contractors perform "sweeps" to ensure residential irrigation complies with the terms of the water shortage order. Consent orders and fines are assessed against permittees or individual violators.
D-3.	Do the rules cite any specific performance measurement? If yes, please describe the measurement.
	During a water shortage declaration as described in Rule 40C-21, specific demand reduction percentages are identified. Please see 40_C 21.251(2).
D-4.	Please identify special permit conditions (conditions unique to a permittee and not stated in the WMD rule) that refer to water conservation and/or water-use efficiency.
	A typical permit condition related to water conservation plan implementation will state "Permittee must implement the conservation plan approved by the District in accordance with the schedule contained therein. A report detailing the progress of plan implementation must be submitted to the District on or before the midpoint of the permit duration"
D-5.	How are the permit conditions enforced?
	Permit conditions are enforced through periodic compliance review of required submittals. Non-compliance with permit conditions typically results in a warning notice, followed by enforcement action, such as a consent order with monetary or other penalties and/or required corrective actions if the permittee does not respond to the warning notice.
D-6.	Do the conditions cite any specific performance measurement? If yes, please describe the measurement.
	Generally, no.
D-7.	Do these conditions appear in every public supply permittee's permit?
	The requirement to implement the water conservation plan is included in every public supply permit.
D-8.	If not, under what circumstances would these conditions be applied to the permit?

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water-use measurements (e.g. gross, seasonal, adjusted) used by the WMD. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. FOR PLANNING PURPOSES: PUBLIC SUPPLY Historically public supply per capita was calculated by dividing the MOR data by the (# of service connections times county wide average pph). The MOR, service connections, and pph was obtained from DEP. Current estiamtes from 2000 on utilize MOR data divided by the service area boundary population obtained through modeled BEBR data. DOMESTIC SELF SUPPLY: Historically, utilized the state wide per capita. From 2000 on the county wide total CUP household water use is divided by the county population not served by PS utilties.
E-2.	Do all Water or Consumptive Use Permits include a permitted per capita value? Which per capita measurement is used for permitting? No. Public supply allocations are closely related to projected population and per capita use, but the per capita value is permit-specific and based on the characteristics of the service area
E-3.	How often are the permittees required to report their per capita water use? What measurements are they required to report? Permittees report per capita use at the time of permit application (renewal or modification). Applicants must report population served and past and projected water use.
E-4.	How does the WMD apply the per capita water use to determine permitted water quantities for public supply permittees? That is, what values are used? Do the per capita values or measurements differ among permittees and why do they differ? Please refer to Applicant's Handbook, Section 12.2. Per capita values differ among permittees based on the characteristics of the service area. Generally, per capita use is calculated by dviding average day withdrawals by the permanent population for the same period of time. The average daily withdrawals also can include commercial and industrial uses, so the per capita figure will vary widely. Where the information is availabble, attempts will be made to separate commercial and industrial demands, or large irrigation demands, but the per capita number is generally used to evaluate historic use with projections of future demands.
E-5.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs funded by the WMD? Not applicable.
E-6.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs not funded by the WMD? Not applicable.

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the WMD use to evaluate conservation programs? Please define each performance measure and provide calculations.
	Performance measures generally are not used.
F-2.	Please list all WMD Reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	Extensive literature search by HDR. Demand Reduction Study by Burton and Associates, currently undergoing final edits.
F-3.	Please list water-use efficiency performance measures that are the most widely used and accepted by the WMD.
	N/A
F-4.	Does the WMD consider what is cost beneficial to the permittee when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	Yes. In accordance with Section 10.3 (e), of the Applicants Handbook, all available water conservation measures must be implemented, unless the applicant demonstrates that implementation is not economically, environmentally, or technically feasible. While "cost beneficial" does not equate to "economically feasible", the cost of implementation and the anticipated results are considered by the reviewer. There is not a specific ratio or defined threshold for consideration of feasibility, however.
F-5.	Does the WMD provide any incentives for water supply permittees to improve water-use efficiency? If yes, please describe the incentive programs.
	There are no defined incentive programs, but the level of water use efficiency is a significant consideration in determining permit duration.
F-6.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
	Gallons per unit of demand - where units of demand can be isolated. Units of demand may be persons, commercial production units, irrigated acreages, etc. - any unit that can be isolated.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
	Can vary widely - cost of implementation is a major factor, but tangible and intangible benefits need to be considered. "No-action" alternatives must also be considered.
F-8.	What are your recommendations on implementing a system of water-use measurement that is fair and accountable for WMDs and Public Supply Permittees?

Survey Response from

Northwest Florida Water Management District

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section A: General Information				
A-1.	Water Management District (WMD): Northwest Florida Water Management District			
A-2.	Respondent's Name: Angela Chelette	Respondent's Name: Guy Gowens	Respondent's Name:	Respondent's Name:
A-3.	Respondent's Title: Chief, Bureau of GW Regulation	Respondent's Title: Director, Div. of Resource Regulation	Respondent's Title:	Respondent's Title:
A-4.	Address: 152 Water Management Dr., Havana FL 32333	Address: 152 Water Management Dr., Havana FL 32333	Address:	Address:
A-5.	Telephone No.: 850.539.5999	Telephone No.: 850.539.5999	Telephone No.:	Telephone No.:
A-6.	Email Address: angela.chelette@nwfwmd.state.fl	Email Address: guy.gowens@nwfwmd.state.fl.us	Email Address:	Email Address:
A.-7.	Survey section(s) you are responding to: all	Survey section(s) you are responding to: all	Survey section(s) you are responding to:	Survey section(s) you are responding to:

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require public supply permittees to provide a Water Conservation Plan or similar report? Most of the larger public supply systems
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, or special permit conditions on a case-by-case basis). specific conditions to the CUP on a case-by-case basis
B-3.	Does the requirement apply unilaterally or only to some permittees? Explain the conditions for which a plan would be required (i.e., utility exceeded a per capita threshold, utility is located within a Water Use (or Resource) Cautionary Area). Not all permittees are required to submit a plan. Requirement for a plan is based on total system withdrawals, permitting area and per capita use.
B-4.	How often is this plan required to be updated? Typically every five years or at permit modification/renewal.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction from conservation? What is it? less than 10% water loss/less that 110 gallons per capita daily (GPCD)
B-6.	Is there a certain time by which the goal must be met? When is it? Timeframes vary according to resource concerns or limitations in the area of the withdrawals.
B-7.	Is there a performance measure(s) that is required to be used in the Plan? What is it? less than 10% water loss/less that 110 GPCD
B-8.	What performance measures does the WMD use to evaluate the conservation programs? per capita demand, system losses, the ration of average daily to maximum daily withdrawals
B-9.	Does the WMD compile information from the Conservation Plans submitted? No
B-10.	If yes, what is the name of the WMD publication that includes this information? NA

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	When evaluating co-operative funding or grant applications, does the WMD require that the application include the results from similar programs?
	NA-NWFWMD doesn't fund conservation programs at present.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	NA
C-3.	Does the WMD require public supply permittees to report the success or outcomes of programs that receive co-operative funding or grants?
	NA
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	NA
C-5.	What performance measures does the WMD use to evaluate the programs?
	NA
C-6.	Does the WMD compile the conservation information submitted by the permittees under these requirements?
	NA
C-7.	If yes, what is the name of the WMD publication that includes this information?
	NA

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section D: Public Supply Conservation Requirements through WMD Rules and Permit Conditions.	
D-1.	Please identify the WMD's water use permitting rules that refer to water conservation and/or water-use efficiency (e.g., standard permit conditions, Xeriscape incentives, year-round water conservation measures other than permit conditions as stated in WMD rules). Please cite specific rule number and accompanying text or cite rule number and attach entire rule. 40A-2.802 (1)(b)-(c), 40A-2.802 (2)(c) see copy of rule at http://www.state.fl.us/nwfwmd/permits/rules/ch40A2.pdf
D-2.	How are the rules enforced? through CUP specific conditions
D-3.	Do the rules cite any specific performance measurement? If yes, please describe the measurement. less than 10% water loss/less that 110 GPCD
D-4.	Please identify special permit conditions (conditions unique to a permittee and not stated in the WMD rule) that refer to water conservation and/or water-use efficiency. See Attachment 1 for examples
D-5.	How are the permit conditions enforced? Via CUP enforcement
D-6.	Do the conditions cite any specific performance measurement? If yes, please describe the measurement. less than 10% water loss/less that 110 GPCD
D-7.	Do these conditions appear in every public supply permittee's permit? No
D-8.	If not, under what circumstances would these conditions be applied to the permit? Requirement for a plan is based on total system withdrawals, permitting area and per capita use.

WATER MANAGEMENT DISTRICT SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water-use measurements (e.g. gross, seasonal, adjusted) used by the WMD. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. gross
E-2.	Do all Water or Consumptive Use Permits include a permitted per capita value? Which per capita measurement is used for permitting? No, none.
E-3.	How often are the permittees required to report their per capita water use? What measurements are they required to report? At CUP modification/renewal. Permittees report use and population/ERC's so staff can calculate per capita use.
E-4.	How does the WMD apply the per capita water use to determine permitted water quantities for public supply permittees? That is, what values are used? Do the per capita values or measurements differ among permittees and why do they differ? The District staff use historic per capita use to calculate future demand. Values vary due to variations in individual system operation and efficiency.
E-5.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs funded by the WMD? NA
E-6.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs not funded by the WMD? NA

WATER MANAGEMENT DISTRICT SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the WMD use to evaluate conservation programs? Please define each performance measure and provide calculations.
	NA
F-2.	Please list all WMD Reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	NA
F-3.	Please list water-use efficiency performance measures that are the most widely used and accepted by the WMD.
	less than 10% water loss/less that 110 GPCD
F-4.	Does the WMD consider what is cost beneficial to the permittee when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	The District considers what is cost beneficial to the permittee.
F-5.	Does the WMD provide any incentives for water supply permittees to improve water-use efficiency? If yes, please describe the incentive programs.
	The District allows application for longer permit durations.
F-6.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
	Per capita demand/per ERC demand, system losses
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
	NA
F-8.	What are your recommendations on implementing a system of water-use measurement that is fair and accountable for WMDs and Public Supply Permittees?
	We're not sure what this question pertains to. Please call and discuss it with us.

Attachment 1

Example of NWFWMD Conservation Conditions

- The Permittee shall provide a plan for 100 percent utilization of available reuse supplies. The Plan shall provide for the expansion of existing pressurized distribution systems and give primary consideration to customers that utilize the Floridan Aquifer for non-potable uses.

  The Permittee, as part of the compliance reports required by Specific Condition No. 1, shall provide the District with regular progress reports. The required progress reports shall identify the number of residential, commercial and other type of users being served by the pressurized distribution systems and the total volume of reclaimed water distributed by each system annually. The report shall also identify the amounts of water distributed to golf courses, spray irrigation fields, percolation ponds, and other disposal sites each year. Finally, the report shall identify the progress and plans being made to fulfill the permit conditions and the achievement of the specified reuse goal. The Permittee, by January 31 of each year, shall submit a copy of the referenced reuse data compiled for the preceding year.

- The Permittee shall consider refining its rate structure to promote water use efficiency and discourage waste. Any refinements shall take into consideration the water use characteristics of each service area and provide financial incentives to customers to conserve and use water efficiently. The Permittee shall initiate the evaluation of the rate structure by <<DATE>>. The Permittee, by January 31 of each year, shall submit to the District a copy of the present rate structure. The Permittee, as part of the compliance reporting required by Specific Condition No. 1, shall also submit to the District the most recently adopted structure.

- The Permittee shall consider revising existing membership and/or tap fees (non-rate) fees to promote the use of Xeriscape landscaping techniques and the installation of high-efficiency plumbing fixtures which exceed the present standards of the southern building code. The Permittee shall initiate the evaluation of the recommended revisions by <<DATE>>. The Permittee, by January 31 of each year, shall report to the District the actions undertaken by each utility as a result of the required evaluation. The Permittee, as part of the compliance reports required by Specific Condition No. 1, shall also submit to the District the most recently adopted membership and tap fees and identify any incentive provided by the fee structure.

- The Permittee shall not provide for the installation of yard meters and shall develop a plan for the removal of existing yard meters, or shall provide a rate structure and tap fees for yard meters that discourage their use and promote conservation. The required actions shall be initiated by December 31, 2003. Full discontinuation of yard meters or the adoption of a rate structure and tap fee to discourage their use, shall be achieved by <<DATE>>. The Permittee, by January 31 of each year, shall report to the District the actions undertaken by each utility to comply with this condition. The Permittee, as part of the compliance reports required by Specific Condition No. 1, shall also submit to the District, a summary on the achievement of the requirements of this condition.

- The Permittee shall not provide water to customers to fill or augment the level of water bodies used for aesthetic, irrigation, or other similar non-potable purposes (excluding swimming pools). Any such existing uses shall be terminated by <<DATE>>.

- The Permittee, for all inland and coastal production wells, shall implement a formal meter evaluation and replacement program. Any meter determined defective must be replaced within 30 days of its discovery. The meters shall be calibrated per manufacture's recommendations and re-evaluated on a specified, periodic basis. A copy of the individual meter evaluation and replacement programs shall be submitted to the District by <<DATE>>.

- The Permittee, from the date of operation, shall maintain water losses and unaccounted for supplies to less than ten percent of the water withdrawn (amount withdrawn verses amount delivered).

  The Permittee, by January 31 of each year, shall provide a progress report to the District of the unaccounted for totals and the actions taken by it to reduce system water losses. The Permittee, as part of the compliance reports required by Specific Condition No. 1, shall also submit to the District an update on the actions undertaken and achievement of the requirements of this condition.

- The Permittee shall draft a Xeriscape and Irrigation Efficiency Ordinance for consideration by the county. The Permittee shall actively promote the adoption of said Ordinance by the county. The Ordinance, at a minimum, shall meet the provision of Chapter 373.185, Florida Statutes, and substantially incorporate the guidelines provided in *A Water-Efficient Landscaping Guide for Local Governments, 2nd Edition*. The ordinance shall include limiting irrigation to specific times (e.g., 4 p.m. to 10 a.m., specific days, etc.). The required action shall be initiated by <<DATE>>. The Permittee, by January 31 of each year, shall provide a progress report to the District of the actions undertaken. The Permittee, as part of the compliance reports required by Specific Condition No. 1, shall also submit to the District, an update on the achievement of the requirements of this condition.

- The Permittee shall implement a plumbing fixtures retrofit program within the respective service areas designed to enhance water use efficiency. The Programs shall include providing toilet tank displacement and faucet and showerhead aerators/flow-restrictors to all of the customers. The customers' kits shall provide sufficient units to retrofit all faucets and showerheads within a household or business establishment.

  The program implementation shall be initiated by <<DATE>> and completed by <<DATE>>. The Permittee, by January 31 of each year, shall provide a status report on the implementation of the required actions within each service area. The Permittee, as part of the compliance reports required by Specific Condition No. 1, shall also submit to the District an update on the actions undertaken, and success achieved.

- The Permittee shall undertake a comprehensive public education and information campaign to promote water conservation and efficiency. The campaign shall consist of newspaper notices and articles, periodic radio and television announcements, periodic mail-outs to customers and the posting of signs in the rooms of hotels, motels and rental property. The campaign shall be oriented to emphasize the program being implemented and water

conservation in general. The campaign shall be designed to regularly reach permanent and part-time residents and tourists.

The program implementation shall be achieved by <<DATE>>. The Permittee, by January 31 of each year, shall provide a status report on the implementation of the required actions within each service area. The Permittee, as part of the compliance reports required by Specific Condition No. 1, shall also submit to the District an update on the actions undertaken, and success achieved.

Survey Response from

Suwannee River Water Management District

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section A: General Information				
A-1.	Water Management District (WMD): Suwannee River Water Management District			
A-2.	Respondent's Name: David Still	Respondent's Name:	Respondent's Name:	Respondent's Name:
A-3.	Respondent's Title: Deputy Executive Director	Respondent's Title:	Respondent's Title:	Respondent's Title:
A-4.	Address: 9225 C.R. 49, Live Oak, FL 32060	Address:	Address:	Address:
A-5.	Telephone No.: 386-362-1001	Telephone No.:	Telephone No.:	Telephone No.:
A-6.	Email Address: still_d@srwmd.state.fl.us	Email Address:	Email Address:	Email Address:
A.-7.	Survey section(s) you are responding to: All	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:

Joint Statement of Commitment for the Development and Implementation of a
Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require public supply permittees to provide a Water Conservation Plan or similar report? Yes
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, or special permit conditions on a case-by-case basis). Permit Conditions
B-3.	Does the requirement apply unilaterally or only to some permittees? Explain the conditions for which a plan would be required (i.e., utility exceeded a per capita threshold, utility is located within a Water Use (or Resource) Cautionary Area). It applies unilaterally to all Public Supply permittees. They must submit a Conservation Plan with their permit renewal application.
B-4.	How often is this plan required to be updated? 20 yrs (all Public Supply permits are 20-yr permits)
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction from conservation? What is it? No
B-6.	Is there a certain time by which the goal must be met? When is it? N/A
B-7.	Is there a performance measure(s) that is required to be used in the Plan? What is it? No
B-8.	What performance measures does the WMD use to evaluate the conservation programs? The District reviews the Conservation Plan to determine if the water allocation for the permittee can be reduced based on reuse or other conservation measures.
B-9.	Does the WMD compile information from the Conservation Plans submitted? No
B-10.	If yes, what is the name of the WMD publication that includes this information? N/A

Joint Statement of Commitment for the Development and Implementation of a
Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	When evaluating co-operative funding or grant applications, does the WMD require that the application include the results from similar programs? No, currently the District does not provide co-operative funding for conservation programs.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required? N/A
C-3.	Does the WMD require public supply permittees to report the success or outcomes of programs that receive co-operative funding or grants? N/A
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required? N/A
C-5.	What performance measures does the WMD use to evaluate the programs? N/A
C-6.	Does the WMD compile the conservation information submitted by the permittees under these requirements? N/A
C-7.	If yes, what is the name of the WMD publication that includes this information? N/A

WATER MANAGEMENT DISTRICT SURVEY

Section D: Public Supply Conservation Requirements through WMD Rules and Permit Conditions.	
D-1.	Please identify the WMD's water use permitting rules that refer to water conservation and/or water-use efficiency (e.g., standard permit conditions, Xeriscape incentives, year-round water conservation measures other than permit conditions as stated in WMD rules). Please cite specific rule number and accompanying text or cite rule number and attach entire rule. Conservation requirements are not in the rules.
D-2.	How are the rules enforced?
D-3.	Do the rules cite any specific performance measurement? If yes, please describe the measurement. No.
D-4.	Please identify special permit conditions (conditions unique to a permittee and not stated in the WMD rule) that refer to water conservation and/or water-use efficiency. Standard permit condition includes the submittal of a conservation plan during permit renewal.
D-5.	How are the permit conditions enforced? The Consumptive Use Permit is not provided until the Water Conservation Plan is submitted. When the plan is not submitted with permit renewal applications, the plan will be requested as "additional information" needed to complete the permit renewal process.
D-6.	Do the conditions cite any specific performance measurement? If yes, please describe the measurement. No
D-7.	Do these conditions appear in every public supply permittee's permit? Yes
D-8.	If not, under what circumstances would these conditions be applied to the permit? N/A

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water-use measurements (e.g. gross, seasonal, adjusted) used by the WMD. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. gallons/estimated population = per capita
E-2.	Do all Water or Consumptive Use Permits include a permitted per capita value? Which per capita measurement is used for permitting? no
E-3.	How often are the permittees required to report their per capita water use? What measurements are they required to report? never
E-4.	How does the WMD apply the per capita water use to determine permitted water quantities for public supply permittees? That is, what values are used? Do the per capita values or measurements differ among permittees and why do they differ? When the USGS report comes out the district evaluates per capita for each permittee
E-5.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs funded by the WMD?
E-6.	Which per capita water-use measurement(s) is used by the WMD to evaluate conservation programs not funded by the WMD?

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

WATER MANAGEMENT DISTRICT SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the WMD use to evaluate conservation programs? Please define each performance measure and provide calculations.
	none
F-2.	Please list all WMD Reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	n/a
F-3.	Please list water-use efficiency performance measures that are the most widely used and accepted by the WMD.
	per capita
F-4.	Does the WMD consider what is cost beneficial to the permittee when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	Consider what is cost-beneficial
F-5.	Does the WMD provide any incentives for water supply permittees to improve water-use efficiency? If yes, please describe the incentive programs.
	none
F-6.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
F-8.	What are your recommendations on implementing a system of water-use measurement that is fair and accountable for WMDs and Public Supply Permittees?

Appendix D

Public Water Supply Utility Survey Responses

Survey Response from

City of Clearwater

Located in SWFWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name: Clearwater			
A-2.	Water Management District (WMD): Southwest Florida Water Management District			
A-3.	County utility is located in: Pinellas			
A-4.	Respondent's Name: Jerry Wells	Respondent's Name:	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: Public Utilities Coordinator	Respondent's Title:	Respondent's Title:	Respondent's Title:
A-6.	Address: 1650 N. Arcturas Ave. Clwr., FL.	Address:	Address:	Address:
A-7.	Telephone No.: 562-4960	Telephone No.:	Telephone No.:	Telephone No.:
A-8.	Email Address: jerry.wells@myclearwater.com	Email Address:	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	Yes, annually
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	general permitt conditions
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	ensure overall goal of the reduction of potable water consumption
B-4.	How often is this plan required to be updated?
	Annually
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	No
B-6.	Is there a certain time by which the goal must be met? When is it?
	Jan. 2011
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	Yes, overall reduction in per capita demand.

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	yes
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	provide proof of 50% offset of potabe demand with the reclaimed projects, 3 year post construction report detailing actual # of connections and actual use of reclaim water versus potable water before and after,
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	yes
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	number of customers and their reduction of potable water within the specific reclaimed service areas

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name: Low Flow Toilet Rebate Program
D1-2.	Program Description: customer can receive up to $ 100.00 rebate for the installation of a low flow toilet
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single, Multi, Commercial
D1-4.	Program funding source (WMD, utility, etc.): Joint program with Pinellas County Utilities and Southwest Florida Water Management District
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Comprehensive approach.
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Estimated savings
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? If 93,000 high flow toilets were replaced in 5 years it would equal 2 million gpd of potable water savings. Utility of WMD?
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Managed by Pinellas County
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Managed by Pinellas County
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? No, not the City of Clearwater, Pinellas Co. Utilities has Volt VIEW Tech manage the program and they submit monthly production reports for all

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: Reclaimed Water System
D2-2.	Program Description: Installation of a city wide reclaimed water distribution system- phased in over several years
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): single, multi, commercial, large users- (businesses, parks, cooling towers)
D2-4.	Program funding source (WMD, utility, etc.): Joint funding between the City Of Clearwater and Southwest Florida Water Management District
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Yes, permit condition
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? billing data
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? The goal is based on cost/benefit. Lower cost per 1000 gallon projects have been approved and implemented.
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? proof of 50% commitment for large users, 3 year post construction report containing connection rates, potable water offset of each sector of users within the project boundaries
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? proof of 50% commitment for large users, 3 year post construction report containing connection rates, potable water offset of each sector of users within the project boundaries
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? All reports are sent to SWFWMD office.

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations.
	Gross- The accepted methodology for calculating "gross" per capita consumption allows the permittee to account for the impact of seasonal residents, tourists, large commercial and industrial users (also termed "significant users"), and treatment loss. **Adjusted**- for the purpose of determining compliance with the standards established in the WUCA rules, SWFWMD allows permittees a credit fo rthe reuse of effluent if the reclaimed water replaces withdrawals from a drinking water source.
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes?
	Adjusted
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD?
	Annually, Yes
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)?
	Yes, defined by WMD
E-5.	Which per capita measurement do you report to the WMD?
	Both
E-6.	Which per capita measurements do you use to evaluate conservation programs?
	Adjusted

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations.
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness.
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications. N/A
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility. WMD reports
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure? Cost/Ratio benefit
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs. None that we know of
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency? Monthly water demand measures
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for WMDs and Public Supply permittees? Please elaborate and be specific.

Survey Response from
Hillsborough County Water Department
Located in SWFWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name: Hillsborough County Water Department			
A-2.	Water Management District (WMD): Southwest Florida Water Management District			
A-3.	County utility is located in: Hillsborough			
A-4.	Respondent's Name: Norman H. Davis IV	Respondent's Name:	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: Water Conservation Manager	Respondent's Title:	Respondent's Title:	Respondent's Title:
A-6.	Address: 925 East Twiggs Street, Tampa	Address:	Address:	Address:
A-7.	Telephone No.: (813) 272-5977	Telephone No.:	Telephone No.:	Telephone No.:
A-8.	Email Address: DavisN@HillsboroughCounty.org	Email Address:	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to: All.	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	Yes
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	General permit conditions and permit conditions specific to a permit. Water Use Permits are generally held by Tampa Bay Water, from which Hillsborough County purchases its raw water supply.
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	Environmental protection.
B-4.	How often is this plan required to be updated?
	Annually, for five year planning horizon.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	Goal is to maintain compliance with water management district's requirement to not exceed 150 gallons per capita per day (gpcd) annual average consumption. District may revise rules in future to lower requirement to 140 gpcd or further to 130 gpcd.
B-6.	Is there a certain time by which the goal must be met? When is it?
	Ongoing.
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	Unaccounted for water must not exceed 12%. If it does, the utility is required to conduct a water audit to identify losses.

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	Not necessarily.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	n/a
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	Yes.
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Any of those listed, as applicable to the program.

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name: Hillsborough County Ultra Low Volume (ULV) Toilet Rebate Program. Program participants since 1994: 52,704.
D1-2.	Program Description: Provision of monetary incentives to encourage accelerated voluntary replacement of high volume toilets with ULV type.
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D1-4.	Program funding source (WMD, utility, etc.): Largely utility funded with supplemental funding from SWFWMD.
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Part of comprehensive approach to meet per capita consumption target.
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Savings estimated based on published value of savings from research project conducted in Tampa, Florida.
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Designed to meet goal of per measure reduction of water use. Reduction target is 33 gallons per measure per day. Goal is utility set.
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Cost per thousand gallons saved vs. cost per thousand gallons purchased from Tampa Bay Water.
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Program participant survey.
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Annual report produced by County contractor.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: Automatic Rain Sensing Irrigation Shutoff Device Program. Program participants 1994 - 1998: 3,006.
D2-2.	Program Description: Provision of monetary incentive to install equipment on irrigation systems constructed prior to May 1, 1991, as Florida Statutes address those systems constructed after May 1, 1991.
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D2-4.	Program funding source (WMD, utility, etc.): Utility funded.
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Part of comprehensive approach to meet per capita consumption target. Program was initiated with a local ordinance requirement that all irrigation systems be so equipped by October 1, 1996.
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Savings estimated based on published value of savings from research conducted by the University of Florida's Institute of Food & Agricultural Sciences.
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Not necessarily. Program was designed to ease the negative public reaction to the implementation of the Ordinance. Utility designed.
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? n/a
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response. Positive response from WMD executive director.
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? No.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name: Water Use Restrictions Enforcement.
D3-2.	Program Description: Routine patrolling of unincorporated County area enforcing water restrictions through civil citation process.
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D3-4.	Program funding source (WMD, utility, etc.): Utility funded.
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Satisfaction of Florida Statues § 373-609.
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? This measure's water savings has not been disaggregated from other measures.
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Goal is to encourgae compliance with mandatory water use restrictions and to build public awareness of environmental stewardship.
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Trend of issued warnings and citations.
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response. Collected penalties are deposited to Hillsborough County Water Conservation Trust Fund, available to fund conservation efforts at the approval of the Board of County Commissioners.
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Presented "Water Restrictions Enforcement - A Draconian Measure, or a Necessary Evil?" at 2004 Water Sources Conference, Austin TX.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 4	
D4-1.	Program Name: Inclining Block Rate Structure.
D4-2.	Program Description: Four-tiered rate structure to encourage water use efficiency.
D4-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D4-4.	Program funding source (WMD, utility, etc.): Utility funded.
D4-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Specific WMD permit condition and part of comprehensive approach to fulfill condition of water use permits.
D4-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Billing data.
D4-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? n/a
D4-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Rate structure is designed to minimize fixed costs tied to water consumption.
D4-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? n/a
D4-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Annual Ordinance regarding utility rates.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 5	
D5-1.	Program Name: Micro-Irrigation Mini Grants Program
D5-2.	Program Description: Provision of grants of up to $2,500 to homeowner associations to convert irrigation systems at community entryways and in common areas to Micro-irrigation.
D5-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-family & Multi-family
D5-4.	Program funding source (WMD, utility, etc.): Utility funded.
D5-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Part of a comprehensive approach to fulfill conservation requirements.
D5-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Program is intended to leverage a change in the paradigm of irrigation system design and installation. Irrigation contractors are becoming familiarized with low volume irrigation techniques.
D5-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? No specific goal established. This is an educational program moreso than anything else.
D5-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Evaluation of program will help to determine costs per square foot for installation of this type of irrigation.
D5-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Participants become aware of the ability to maintain curb appeal, while lawn irrigation continues to be restricted by rules of the SWFWMD.
D5-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? No.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 6	
D6-1.	Program Name: Theatre Arts Program
D6-2.	Program Description: In-School educational program in cooperation with City of Tampa and Hillsborough County Arts Council.
D6-3.	Target Sector (Single-family, Multi-family or Non-Residential): Grade school students & teachers.
D6-4.	Program funding source (WMD, utility, etc.): Utility, water management district, City of Tampa.
D6-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Only as far as being an educational program.
D6-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? n/a
D6-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? n/a
D6-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Cost per attendee.
D6-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? n/a
D6-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 7	
D7-1.	Program Name: Reclaimed Water Program
D7-2.	Program Description: Provision of reclaimed water to offset potable water use in cooling, process andf irrigation applications.
D7-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D7-4.	Program funding source (WMD, utility, etc.): Funded primarily by utility, with assistance from WMD for transmission lines. Neighborhood distribution systems funded by developers or residents.
D7-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Part of a comprehensive approach to suppress potable demand, and to protect the environment through minimized discharges.
D7-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Per capita, master metering of neighborhoods.
D7-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Long term goal is 100% beneficial reuse.
D7-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Cost per connection.
D7-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response - particularly in Reclaimed Water Improvement Units where the distribution system is paid through property assessments.
D7-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? No.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 8	
D8-1.	Program Name: Senior Citizens Water Resource Training Program.
D8-2.	Program Description: Education of Senior Citizens on water resources, developing them as environmental stewards to impart the information in their respective friends, colleagues and other community contacts.
D8-3.	Target Sector (Single-family, Multi-family or Non-Residential): Senior Citizens.
D8-4.	Program funding source (WMD, utility, etc.): Utility funded.
D8-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Only as far as being an educational program.
D8-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? n/a
D8-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? n/a
D8-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? n/a
D8-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? n/a
D8-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? In draft format as of 10/14/04.

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. Gross per capita = total water withdrawals (metered at point of withdrawal) divided by population served. Adjusted per capita = (WD + IM - EX - TL - SU - EM) divided by FP, Where: WD = ground water and surface water withdrawals, IM = water imported or bought from another supplier, EX = water exported or sold to another supplier, TL = tretment loss, SU = significant uses, EM = environmental mitigation, if required as a permit condition, and FP = functional population.
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes? Adjusted per capita is defined by the SWFWMD as above. If deducting significant uses, the WMD requires a conservation plan for each entity being deducted.
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD? Annually. Yes, it is a requirement of the SWFWMD.
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)? Yes, at 100 gpcd, as established by the utility.
E-5.	Which per capita measurement do you report to the WMD? Adjusted, without deduction of significant uses.
E-6.	Which per capita measurements do you use to evaluate conservation programs? Inidividual accounts.

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations.
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness. Yes, because this utility is largely residential in nature.
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility.
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure? Focus is primarily on per capita compliance; however, projects are only required if feasible and cost effective.
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs. The SWFWMD sponsors an annual cooperative funding program which generally can provide up to 50% of the cost of a program or project.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency? Per capita consumption.
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for WMDs and Public Supply permittees? Please elaborate and be specific.

Survey Response from

City of Boca Raton

Located in SFWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name: City of Boca Raton Utility Services			
A-2.	 SFWMD			
A-3.	County utility is located in: Palm Beach			
A-4.	Respondent's Name: Cindy Martin	Respondent's Name:	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: Special Projects Coordinator	Respondent's Title:	Respondent's Title:	Respondent's Title:
A-6.	Address: 1401 Glades Rd, Boca Raton, FL 33431	Address:	Address:	Address:
A-7.	Telephone No.: 561.338-7310	Telephone No.:	Telephone No.:	Telephone No.:
A-8.	Email Address: cmartin@ci.boca-raton.fl.us	Email Address:	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to: all	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	Yes
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	Section 2.6.1 Basis of review
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	Not required
B-4.	How often is this plan required to be updated?
	Based on continual review & assessment
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	Not required
B-6.	Is there a certain time by which the goal must be met? When is it?
	Not required
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	Not required

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	No funding received
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	NA
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	NA
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	NA

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name: Permanent Irrigation Ordinance
D1-2.	Program Description: Adopted 1990, no daytime, no Fridays, max 3 times/week
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): All
D1-4.	Program funding source (WMD, utility, etc.): none
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. part of water conservation plan
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? systemwide per capita
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? none
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Friday demands are generally lowest of the week
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? none
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? September1990 memo to budget director

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: Xeriscape Ordinance, adopted July 1990
D2-2.	Program Description: Comprehensive ordinance, including use of native plants, mulch, separate irrigation zones, efficient irrigation systems, alternatives to turfgrasses, etc
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): other than single family
D2-4.	Program funding source (WMD, utility, etc.): none
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Part of water conservation plan
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? none
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? none
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? proposed landscape plans conformance to provisions of ordinance
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name: Ultra-low Volume Plumbing Fixture ordinance, adopted 1991
D3-2.	Program Description: Toilet, faucet showerhead restricted to specified flow rates or flush volumes
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential): All sectors, new or replacement fixtures
D3-4.	Program funding source (WMD, utility, etc.): none
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. part of water conservation plan
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? none
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? none
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? absence of violations of the ordinance
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 4	
D4-1.	Program Name: Water Conservation Rate Structure
D4-2.	Program Description: Three tiered structure adopted in 1989
D4-3.	Target Sector (Single-family, Multi-family or Non-Residential): all sectors
D4-4.	Program funding source (WMD, utility, etc.): none
D4-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. part of water conservation plan
D4-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? none
D4-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D4-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? reduction in per capita water use
D4-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? none
D4-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? September 1990 memo to budget director

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 5	
D5-1.	Program Name: Rain Sensor Device ordinance, adopted 1996
D5-2.	Program Description: requires new automatic irrigation systems to be equipped with rain sensing device
D5-3.	Target Sector (Single-family, Multi-family or Non-Residential): all sectors
D5-4.	Program funding source (WMD, utility, etc.): none
D5-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. part of water conservation plan
D5-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? none
D5-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D5-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? none
D5-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? none
D5-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 6	
D6-1.	Program Name: Project IRIS
D6-2.	Program Description: Reclaimed water production & distribution systems
D6-3.	Target Sector (Single-family, Multi-family or Non-Residential): all sectors, including public areas
D6-4.	Program funding source (WMD, utility, etc.): $27 million, funded by revenues from water conservation rate structure
D6-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. part of water conservation plan
D6-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? number of customers, average & max day demands
D6-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D6-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? number of customers, average & max day demands
D6-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? appearance of landscaped areas during dry periods
D6-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. 1. Estimates & projections for permanent and equivalent populations 2. Average and max day demands 3. Raw and finished water demands
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes? Recently mandated 10-year water supply facilities workplan includes : raw water average day demand; raw water 1:10-yr drought daily demand; and finished water average day demand, all using equivalent population projections
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD? varies, not required
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)? Draft revised Comprehensive Plan recommends adoption of six levels of service: raw and finished average day demands for years 2005, 2010 and 2015
E-5.	Which per capita measurement do you report to the WMD? we do not report a per capita measurement to the WMD on a regular basis
E-6.	Which per capita measurements do you use to evaluate conservation programs? NA. We do not consider potable water demand divided by census population to be a useful metric for at least two reasons. It does not include a measure of total aquifer withdrawal demands within our service area, and it does not take into consideration the water needs of non-residents. We supply potable water to many large customers with no "population", e.g. a State university, a regional hospital, a regional shopping mall, and a regional employment center. In addition, replacing untreated fresh groundwater withdrawals with reclaimed water is not included in any measurement based on potable water demand.

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations. Reclaimed water demands
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness. Yes. Knowing that a large percentage of our potable water is used for irrigation, we target those uses to be served by reclaimed water.
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility.
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for WMDs and Public Supply permittees? Please elaborate and be specific. Please see E-6 above.

Survey Response from
City of North Miami Beach
Located in SFWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name: City of North Miami Beach Public Services			
A-2.	Water Management District (WMD): South Florida WMD			
A-3.	County utility is located in: Miami-Dade County			
A-4.	Respondent's Name: Lloyd Hathcock	Respondent's Name:	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: Water Conservation Coordinator	Respondent's Title:	Respondent's Title:	Respondent's Title:
A-6.	Address: 17050 NE 19 Avenue, NMB, FL	Address:	Address:	Address:
A-7.	Telephone No.: 305-957-3509	Telephone No.:	Telephone No.:	Telephone No.:
A-8.	Email Address: Lloyd.hathcock@citynmb.com	Email Address:	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to: All	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	Yes
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	General permit conditions
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	n/a
B-4.	How often is this plan required to be updated?
	currently, updated for permit renewals
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	No demand reducation specified
B-6.	Is there a certain time by which the goal must be met? When is it?
	n/a
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	n/a

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	No
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	n/a
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	Results are required for SFWMD cooperative funding programs
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Unit of measurement depends on BMP being implemented.

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name: Showerhead Exchange Program
D1-2.	Program Description: Voluntary residential retrofit measure placing new, high-efficiency showerheads, faucet aerators in customer's homes. Toilet leak detection tablets are also offered as a part of this program.
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-family; multi-family
D1-4.	Program funding source (WMD, utility, etc.): Utility operating funds
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. no
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? potential savings are estimated based on the quanity of units distributed.
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? n/a
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? number of kits distributed and water savings potential per kit.
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Responses on customer satisfaction surveys
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? n/a

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: Water Use Assessment Survey
D2-2.	Program Description: A voluntary customer survey and customized water use analysis. Customers provide detailed responses to questions about their household water use. Information from the survey is coupled with actual water use data from historical billing to advise customer where and how additional water savings can be achieved.
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-family
D2-4.	Program funding source (WMD, utility, etc.): Utility operating funds
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. no
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? n/a
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? n/a - this is an informational/educational measure
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Customer responses
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name: Inclining Block Rate Structure
D3-2.	Program Description: Financial measure comprising of a three tier rate structure to promote conservation of water.
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential): All classes of customers
D3-4.	Program funding source (WMD, utility, etc.): no cost to implement
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. yes - permit condition
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? n/a
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? n/a
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? n/a
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? n/a
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 4	
D4-1.	Program Name: Pressure Sustaining Valves
D4-2.	Program Description: Series of pressure sustaining valves placed implemented in distribution system. During times of peak water demand, valves help to maintain consistent pressures throughout network. Therefore, water savings are achieved by eliminating areas of higher pressure during peak demands.
D4-3.	Target Sector (Single-family, Multi-family or Non-Residential): Supply-side measure
D4-4.	Program funding source (WMD, utility, etc.): Utility operating funds with partial cost share from SFWMD
D4-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. No
D4-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Measure curbs peak demands - still being evaluated
D4-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Peak demand management
D4-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? ??
D4-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Operational capability
D4-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? No

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 5	
D5-1.	Program Name: Alternative Water Supply
D5-2.	Program Description: Implementation of 5 MGD of water from Floridan Aquifer. Floridan water use will help reduce demand on Biscayne Aquifer.
D5-3.	Target Sector (Single-family, Multi-family or Non-Residential): Supply-side measure
D5-4.	Program funding source (WMD, utility, etc.): Utility operating funds, partial funding from SFWMD
D5-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. yes - permit condition
D5-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? 5 MGD withdrawal daily (full implementation 2006)
D5-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Yes. The goal was to reduce the demands on Biscayne Aquifer by 5 MGD
D5-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Million gallons of Biscayne water saved
D5-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? treatability
D5-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 6	
D6-1.	Program Name: Water Education & Outreach
D6-2.	Program Description: Suite of water education initiatives comprising of NMB Waterfest (an annual water festival), water conservation poster contest, in school presentations and other initiatives.
D6-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-family, multi-family, adult and youth
D6-4.	Program funding source (WMD, utility, etc.): Utility operating funds with partial financial sponsorships from various sources
D6-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. SFWMD requires a education programs to promote water conservation ethic
D6-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? participation rates, no quantifiable water savings tracked
D6-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D6-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? n/a
D6-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? public response, implementation, participation rates
D6-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? yes, NMB Waterfest was presented at AWWA ACE in 2003

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. Gross per capita = sales/population served
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes? Gross per capita = sales/population served
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD? Annually
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)? No
E-5.	Which per capita measurement do you report to the WMD? Gross per capita = sales/population served
E-6.	Which per capita measurements do you use to evaluate conservation programs? Gross per capita = sales/population served

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations. n/a
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness. no
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications. n/a
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility. cost/benefit, potential water savings and public acceptance
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure? no
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs. yes - Water Savings Incentive Program (cost sharing program for non-capitol conservation measures)
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency? water savings
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness? Cost/benefit analysis
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for WMDs and Public Supply permittees? Please elaborate and be specific. Cost/benefit analysis should be the first measure applied. Although it is sometimes difficult to do such an analysis on some BMPs. If all permit holders were given a menu of BMPs they could implement that were applicable to their needs/region, permit holders would probably implement more complex BMPs. Also the WMDs should help with basic cost/benefit analyses when possible. SWFWMD has a basic model online.

Survey Response from

City of Deland

Located in SJRWMD

Joint Statement of Commitment for the Development and Implementation of a
Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information		
A-1.	Utility Name:	
	City of DeLand, Public Utilities Dept. Service Connects:18,000 including outside city limits, Population approx. 40,000	
A-2.	Water Management District (WMD):	
	St Johns River Water Management District	
A-3.	County utility is located in:	
	Volusia	
A-4.	Respondent's Name:	Respondent's Name:
	Keith Riger	Deborah Green
A-5.	Respondent's Title:	Respondent's Title:
	City Engineer	Water Conservation Coordinator
A-6.	Address:	Address:
	336 W. Michigan Ave, DeLand, FL 32720	WAV, 1190 Pelican Bay Dr. Daytona Beach Fl 32119
A-7.	Telephone No.:	Telephone No.:
	386 740-5813	386-322-5160 ext 33
A-8.	Email Address:	Email Address:
	Rigerk@deland.org	dgreen@wavh2o.com
A.9.	Survey section(s) you are responding to:	Survey section(s) you are responding to:
	All.	all

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	District does not require water conservation plan, but has specific water conservation requirements in CUP rules, for which documentation is required.
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	General Permit Conditions.
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	Compliance report required every five years for our 20 year permit.
B-4.	How often is this plan required to be updated?
	When directed to change at five year intervals.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	Not required.
B-6.	Is there a certain time by which the goal must be met? When is it?
	N/A
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	None.

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	Yes, estimates of water savings are required with cost-share application.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Cost per thousand gallons saved.
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	Yes, see question 40.
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Savings per measure (monthly water use compared to water use prior to measure).The results are forwarded to the District upon completion of the program(s) prior to reimbursement

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name:
	Water Conservation Program
D1-2.	Program Description:
	Low flow toilet rebates, $50.00 per toilet and limit of 2 per household; also sale of 100 flapperless toilets for $25 each
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	All.
D1-4.	Program funding source (WMD, utility, etc.):
	Utility, through WAV and Utility alone.
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Not required.
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	Monthly customer billing data, pre and post measure.
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	Yes, to lower per capita use to extend current water supply. Goal set by utility.
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	None yet
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public Response, growing demand.
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	Publicity for program in city newsletter.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name:
	Rain Sensor Program in cooperation with WAV.
D2-2.	Program Description:
	Required installation of rain sensors for all automatic sprinkler systems and gave away approximately 500 devices at Water Efficiency Workshops taught by University Extension specialists.
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	Single-Family.
D2-4.	Program funding source (WMD, utility, etc.):
	Utility through WAV. Supplemented with cost-share through WMD. $690.00 spent on devices.
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Yes, to lower per capita use to extend current water supply. Goal set by utility and WAV.
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	Billing data pre and post measure.
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	Yes, to lower per capita use to extend current water supply. Goal set by utility.
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	Reduction in monthly water use after measure. Weather normalization not attempted. Years of study included drought.
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public Response through surveys.
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	Yes, non quantitative results published in Utilities newsletter, Florida Water Resources Journal article and FSAWWA talk.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name:
	Reclaimed Water Program.
D3-2.	Program Description:
	Extending reclaimed water throughout the City of DeLand
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	All, but primary emphasis on golf courses and large users plus Stetson University
D3-4.	Program funding source (WMD, utility, etc.):
	Utility, Capital Improvement Program using some monies from WMD and Florida Forever
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Yes, reduction of potable water use for irrigation.
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	Savings per measure (monthly utility pumpage, compared to water use prior to measure).
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	Yes, reduce golf course and institutional use
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	Estimate of groundwater saved by use of DeLand water
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response, demand for reclaimed water very high.
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	No

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 4	
D4-1.	Program Name:
	Showerhead Exchange Program.
D4-2.	Program Description:
	Residents received free low flow showerheads when they brought in an older high flow showerhead. Residents received water conservation literature including a home water audit form.
D4-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	Single-Family.
D4-4.	Program funding source (WMD, utility, etc.):
	WAV, WMD and Utility.
D4-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	No.
D4-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	Tried to track pre and post measure monthly billing data but results were not significant.
D4-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	No.
D4-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	No.
D4-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response.
D4-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	No.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 5	
D5-1.	Program Name:
	Water Conservation Handouts, Volusia-specific, developed by WAV
D5-2.	Program Description:
	Displays and hand outs through City Hall, Library, workshops, talks, fairs, and to all new water customers.
D5-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	Single-Family.
D5-4.	Program funding source (WMD, utility, etc.):
	WAV (Utility)
D5-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Yes, basic water conservation dissemination of information.
D5-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	None.
D5-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	No.
D5-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	None.
D5-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public Response.
D5-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	2003 FSAWWA Award for New Customer Water Conservation Information Packet (writeup describes program)

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 6	
D6-1.	Program Name:
	Contractor Visit
D6-2.	Program Description:
	Residents received free one hour educational and corrective visits by irrigation auditor/contractor. On pilot basis, customers offered cost-share on irrigation retrofit.
D6-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	Single-Family.
D6-4.	Program funding source (WMD, utility, etc.):
	WAV, WMD and Utility.
D6-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Yes. Comprehensive approach.
D6-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	Monthly customer billing data, pre and post water usage. No weather normalization attempted.Weather affects outdoor water use, with rain sensors.
D6-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	General water use reduction.
D6-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	Monthly, pre and post water usage. No weather normalization attempted.
D6-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response, telephone survey.
D6-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	Mentioned by WAV in FSAWWA talks .

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 7	
D7-1.	Program Name:
	Watering Hours.
D7-2.	Program Description:
	Since 1998, entire county has been under two day a week restrictions. Warnings issued for watering violations. Magnets and City Newsletters publicizes the hours. Residents can call hotline to report violators.
D7-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	All.
D7-4.	Program funding source (WMD, utility, etc.):
	Utility, WAV and Volusia County Environmental Management (magnets)
D7-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Restrictions linked to WMD water shortage rule.
D7-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	None.
D7-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	No.
D7-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	Absence of violations is indicator of compliance.
D7-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response.
D7-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	City Newsletter, and Utility Statements.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 8	
D8-1.	Program Name:
	Water Wise (Landscape) Ordinance
D8-2.	Program Description:
	Since July 2004, new homes have no more than 50 % high water use and other requirements for irrigation system.
D8-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	All.
D8-4.	Program funding source (WMD, utility, etc.):
	Permit fees pay for inspection by Volusia County Health Dept.
D8-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	House Bill 293 and WMD encourages Utilities to enact landscape ordinances.
D8-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	None.
D8-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	No.
D8-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	General water usage reduction.
D8-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response.
D8-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	Builders Newsletter, FSAWWA talk, and various meetings.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 9	
D8-1.	Program Name:
	Water Wise Demonstration Landscape
D8-2.	Program Description:
	Demonstration landscape using all waterwise, 65% native plants was established in city park through WAV, Utility, and WMD. Purpose is to demonstrate plant combinations that will save residents water.
D8-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	All.
D8-4.	Program funding source (WMD, utility, etc.):
	WAV/Utility/WMD
D8-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Publicizing waterwise landscapes is a CUP water conservation requirement
D8-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	None.
D8-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	No.
D8-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	None.
D8-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response.
D8-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	FSAWWA talk and various meetings.

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations.
	Gross. No equation. Utility supplies WMD with monthly water use for potable and reclaimed water within the service area. Utility makes gross per capita computation based on population for internal reports .
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes?
	CUP does not specify per capita water use, just that water be used in an efficient manner.
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD?
	Annuallly. No, it is not a requirement, however- monthly water use is required to be reported.
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)?
	Yes, 100 gallons per day per person. WMD and Utility.
E-5.	Which per capita measurement do you report to the WMD?
	Gross.
E-6.	Which per capita measurements do you use to evaluate conservation programs?
	Utility supplies WMD with monthly water use for potable and reclaimed water within the service area. Utility makes gross per capita computation based on population for internal reports .

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations.
	Public interest in programs, # of participants.
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness.
	Limit low-flow toilet rebates to older residential areas. Post 1995 subdivisions are excluded from program.
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	Annual report discusses measures taken qualitatively. Also, can show resident consumption report from their utilities bill upon demand.
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility.
	Low flow toilet rebates and reclaimed water program.
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	No. WMD focuses on per-capita.
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs.
	Yes, cost sharing programs and CUP requirements.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
	Pre and post monthly water usage. However, for outdoor water use, weather normalization is required. i.e. Water varies month to month because residents either use rain sensors or may turn off systems manually. Existence of private irrigation wells (and continued permitting) confuses water savings in rain sensor/contractor visit programs.
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-
	Cost per thousand gallons saved/produced.
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and
	Will follow recommendations of State-wide program. However, consideration of wells should be included.

Survey Response from

City of Edgewater

Located in SJRWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information		
A-1.	Utility Name:	
	City of Edgewater, Public Utilities Dept.Service Connects: 9622 Population as of April 2002 19,515	
A-2.	Water Management District (WMD):	
	St Johns River Water Management District	
A-3.	County utility is located in:	
	Volusia	
A-4.	Respondent's Name:	Respondent's Name:
	Donna Nichols	Deborah Green
A-5.	Respondent's Title:	Respondent's Title:
	Utility Admin. Secretary	Water Conservation Coordinator
A-6.	Address:	Address:
	P.O. Box 100, Edgewater, FL 32132	WAV, 1190 Pelican Bay Dr. Daytona Beach Fl 32119
A-7.	Telephone No.:	Telephone No.:
	(386) 424-2460	386-322-5160 ext 33
A-8.	Email Address:	Email Address:
	dnichols@cityofedgewater.org	dgreen@wavh2o.com
A.9.	Survey section(s) you are responding to:	Survey section(s) you are responding to:
	All.	all

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	District does not require water conservation plan, but has specific water conservation requirements in CUP rules, for which documentation is required.
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	General Permit Conditions.
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	Compliance report required every five years for our 20 year permit.
B-4.	How often is this plan required to be updated?
	When directed to change at five year intervals.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	Not required.
B-6.	Is there a certain time by which the goal must be met? When is it?
	N/A
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	None.

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	Yes, estimates of water savings are required with cost-share application.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Cost per thousand gallons saved.
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	Yes, see question C-1.
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Savings per measure (monthly water use compared to water use prior to measure).The results are forwarded to the District upon completion of the program(s) prior to reimbursement

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name:
	Rain Sensor Program in cooperation with WAV.
D1-2.	Program Description:
	Required installation of rain sensors for all automatic sprinkler systems and gave away approximately 500 devices at Water Efficiency Workshops taught by University Extension specialists.
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	Single-Family.
D1-4.	Program funding source (WMD, utility, etc.):
	Utility through WAV. Supplemented with cost-share through WMD. $690.00 spent on devices.
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Yes, to lower per capita use to extend current water supply. Goal set by utility and WAV.
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	Billing data pre and post measure.
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	Yes, to lower per capita use to extend current water supply. Goal set by utility.
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	Reduction in monthly water use after measure. Weather normalization not attempted. Years of study included drought.
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public Response through surveys.
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	Yes, non quantitative results published in Utilities newsletter, Florida Water Resources Journal article and FSAWWA talk.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name:
	Reclaimed Water Program (Irrigation)
D2-2.	Program Description:
	Extending reclaimed water throughout one Dev. Regional Impact Florida Shores 2500 on reclaimed
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	Single-Family, a few duplexes
D2-4.	Program funding source (WMD, utility, etc.):
	Utility
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Yes, reduction of potable water use for irrigation.
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	Not metered, sold at flat fee, resident can connect or use more costly potable water. Volusia County controls well permits and will not allow well if reclaimed is available.
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	Yes, to conserve potable, no specific target amount.
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	Only approximately 2 single-family residents in Edgewater use potable water for irrigation. Expansion of the Water Treatment Plant was postponed .
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response, demand for reclaimed water very high.
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	No.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name:
	Showerhead Exchange Program.
D3-2.	Program Description:
	Residents received free low flow showerheads when they brought in an older high flow showerhead. Residents received water conservation literature including a home water audit form.
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	Single-Family.
D3-4.	Program funding source (WMD, utility, etc.):
	WAV, WMD and Utility.
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	No.
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	Tried to track pre and post measure monthly billing data but results were not significant.
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	No.
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	No.
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response.
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	No.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 4	
D4-1.	Program Name:
	Water Conservation Handouts, Volusia-specific, developed by WAV
D4-2.	Program Description:
	Displays and hand outs through City Hall, Library, workshops, talks, fairs, and to all new water customers.
D4-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	Single-Family.
D4-4.	Program funding source (WMD, utility, etc.):
	WAV (Utility)
D4-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Yes, basic water conservation dissemination of information.
D4-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	None.
D4-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	Every new customer would receive the literature packet.
D4-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	City clerk keeps numbers of packets given out.
D4-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public Response.
D4-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	2003 FSAWWA Award for New Customer Water Conservation Information Packet (writeup describes program)

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 5	
D5-1.	Program Name:
	Watering Hours.
D5-2.	Program Description:
	Since 1998, entire county has been under two day a week restrictions. Warnings issued for watering violations. Magnets and City Newsletters publicizes the hours. Residents can call hotline to report violators. Inspectors are reclaimed water inspectors and wastewater plant operators, start at 5AM patrol until 8AM and again 5-9PM.
D5-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	All.
D5-4.	Program funding source (WMD, utility, etc.):
	Utility for enforcement, ads in newspaper, newsletter articles, WAV and Volusia County Environmental Management (magnets)
D5-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Compliance with County restrictions (linked to WMD water shortage rule). City/utility thought was worthwhile program to pursue
D5-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	2004 to October 871 violations, including 1st, 2nd ($100), 3rd ($150), and 4th violations ($500) only one 4th ; enforcement also in 2002 and 2003
D5-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	No.
D5-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	Absence of violations is indicator of compliance.
D5-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response.
D5-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	Report to WAV Board and City Council.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 6	
D6-1.	Program Name:
	Water Wise (Landscape) Ordinance
D6-2.	Program Description:
	Since July 2004, new homes have no more than 50 % high water use and other requirements for irrigation system.
D6-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	All.
D6-4.	Program funding source (WMD, utility, etc.):
	Permit fees pay for inspection by Volusia County Health Dept.
D6-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please
	House Bill 293 and WMD encourages Utilities to enact landscape ordinances.
D6-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	None.
D6-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal
	No.
D6-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	General water usage reduction.
D6-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response.
D6-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	Builders Newsletter, FSAWWA talk, and various meetings.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 7	
D7-1.	Program Name:
	Water Wise Demonstration Landscape
D7-2.	Program Description:
	Demonstration landscape using all waterwise, 65% native plants was established in city park through WAV, Utility, and WMD. Purpose is to demonstrate plant combinations that will save residents water.
D7-3.	Target Sector (Single-family, Multi-family or Non-Residential):
	All.
D7-4.	Program funding source (WMD, utility, etc.):
	WAV/Utility/WMD
D7-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify.
	Publicizing waterwise landscapes is a CUP water conservation requirement
D7-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure?
	None.
D7-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
	No.
D7-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
	None.
D7-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)?
	Public response.
D7-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name?
	FSAWWA talk and various meetings.

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations.
	Gross. No equation. Utility supplies WMD with monthly water use for potable and reclaimed water within the service area. Utility makes gross per capita computation based on population for internal reports .
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes?
	CUP does not specify per capita water use, just that water be used in an efficient manner.
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD?
	Annuallly. No, it is not a requirement, however- monthly water use is required to be reported.
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)?
	No.
E-5.	Which per capita measurement do you report to the WMD?
	Gross.
E-6.	Which per capita measurements do you use to evaluate conservation programs?
	Utility supplies WMD with monthly water use for potable and reclaimed water within the service area. Utility makes gross per capita computation based on population for internal reports .

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations.
	Public interest in programs, # of participants.
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness.
	NA
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	Monthly report to District and City Manager. Also, can show resident consumption report from their utilities bill upon demand.
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility.
	Reclaimed water program and watering restrictions.
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	No. WMD focuses on per-capita.
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs.
	Yes, cost sharing programs and CUP requirements.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
	Pre and post monthly water usage. However, for outdoor water use, weather normalization is required. i.e. Water varies month to month because residents either use rain sensors or may turn off systems manually. Existence of private irrigation wells (and continued permitting) confuses water savings in rain sensor/contractor visit programs.
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
	Cost per thousand gallons saved/produced.
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for
	Will follow recommendations of State-wide program. However, consideration of wells should be included.

Survey Response from

City of Melbourne

Located in SJRWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name: City of Melbourne			
A-2.	Water Management District (WMD): St. Johns River Water Management District			
A-3.	County utility is located in: Brevard			
A-4.	Respondent's Name: Jennifer Wilster	Respondent's Name: Harold C. Nantz, PE	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: Environ. Community Outreach	Respondent's Title: Asst. Utilities Director	Respondent's Title:	Respondent's Title:
A-6.	Address: 2881 Harper Rd., Melbourne, FL	Address: 2881 Harper Rd., Melbourne, FL	Address:	Address:
A-7.	Telephone No.: (321) 674-5761	Telephone No.: (321) 674-5761	Telephone No.:	Telephone No.:
A-8.	Email Address: jwilster@melbourneflorida.org	Email Address: hnantz@melbourneflorida.org	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to: All except Section E	Survey section(s) you are responding to: Section E	Survey section(s) you are responding to:	Survey section(s) you are responding to:

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	Yes
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	CUP permit conditions
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	N/A
B-4.	How often is this plan required to be updated?
	Every five years
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	N/A
B-6.	Is there a certain time by which the goal must be met? When is it?
	N/A
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	N/A
Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	If it is applicable (requested, not required)
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	It depends on the program being implemented.
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	Yes
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	N/A

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name: Toilet Retrofit Rebate Program
D1-2.	Program Description: $50 rebate provided for changing out non-water efficient toilets with water-conserving units
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-family
D1-4.	Program funding source (WMD, utility, etc.): Utility with cost-share funding provided by WMD
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Chapter 40C Consumptive Uses of Water, Section 12.2.5.1 (e) - St. Johns River Water Management District
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Analysis of billing data from selected recipients and estimated savings data from the "Handbook of Water Use and Conservation" by Amy Vickers
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Estimated water savings
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response, ease of implementation
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Melbourne Messenger Newsletter, articles in Florida Today Newspaper

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: Showerhead Exchange Program
D2-2.	Program Description: Exchange non-conserving showerheads with conserving units at the mall during National Drinking Water Week
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): Residential customers
D2-4.	Program funding source (WMD, utility, etc.): Cost share with the Water Management District and other Brevard County public water utilities
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Chapter 40C Consumptive Uses of Water, Section 12.2.5.1 (e) - St. Johns River Water Management District
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Estimated savings data from the "Handbook of Water Use and Conservation" by Amy Vickers
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)?
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)?
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response and ease of implementation
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? N/A

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name: Water Conservation Placemats
D3-2.	Program Description: Placemats for family-friendly restaurants featuring word searches and other children's activities
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential): Families with children
D3-4.	Program funding source (WMD, utility, etc.): Cost share with the WMD and other Brevard County pulbic water utilities
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Chapter 40C Consumptive Uses of Water, Section 12.2.5.1 (e) - St. Johns River Water Management District
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? N/A
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? N/A
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Response by restaurants
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? N/A

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 4	
D4-1.	Program Name: "Conserving Water on the Space Coast" video and worksheets
D4-2.	Program Description: Water conservation video with worksheets geared toward middle-school students
D4-3.	Target Sector (Single-family, Multi-family or Non-Residential): Middle-school students
D4-4.	Program funding source (WMD, utility, etc.): Cost share with the WMD and other Brevard County pulbic water utilities
D4-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Chapter 40C Consumptive Uses of Water, Section 12.2.5.1 (e) - St. Johns River Water Management District
D4-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? N/A
D4-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D4-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? N/A
D4-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Response by teachers and students
D4-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? N/A

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 5	
D5-1.	Program Name: Florida Friendly Landscape Seminars
D5-2.	Program Description: Annual seminars to educate homeowners on water conserving landscaping and maintenance
D5-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single familiy residential customers
D5-4.	Program funding source (WMD, utility, etc.): Cost share with the WMD and other Brevard County pulbic water utilities
D5-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Chapter 40C Consumptive Uses of Water, Section 12.2.5.1 (e) - St. Johns River Water Management District
D5-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? N/A
D5-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D5-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? N/A
D5-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Interest by the public, which continues to be very strong. Last year, 600 people attended and there was a waiting list.
D5-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? N/A

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 6	
D6-1.	Program Name: Water Conservation Posters
D6-2.	Program Description: Series of two educational posters, one geared to adults and the other to children
D6-3.	Target Sector (Single-family, Multi-family or Non-Residential): Adults and children
D6-4.	Program funding source (WMD, utility, etc.): Cost share with the WMD and other Brevard County pulbic water utilities
D6-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Chapter 40C Consumptive Uses of Water, Section 12.2.5.1 (e) - St. Johns River Water Management District
D6-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? N/A
D6-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D6-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? N/A
D6-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response and ease of implementation
D6-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? N/A

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 7	
D7-1.	Program Name: Conservation Through Education
D7-2.	Program Description: Water conservation program for school students
D7-3.	Target Sector (Single-family, Multi-family or Non-Residential): School children
D7-4.	Program funding source (WMD, utility, etc.): Funded by City of Melbourne utility
D7-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Chapter 40C Consumptive Uses of Water, Section 12.2.5.1 (e) - St. Johns River Water Management District
D7-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? N/A
D7-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D7-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? N/A
D7-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Response by the schools
D7-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? N/A

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 8	
D8-1.	Program Name: "Conservation News" newsletter
D8-2.	Program Description: Quarterly newsletter featuring conservation information
D8-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single familiy residential customers
D8-4.	Program funding source (WMD, utility, etc.): City of Melbourne utility
D8-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Chapter 40C Consumptive Uses of Water, Section 12.2.5.1 (e) - St. Johns River Water Management District
D8-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? N/A
D8-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D8-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? N/A
D8-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response and ease of implementation
D8-10.	N/A

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. Gross - calculated by SJRWMD and represents five-year average; Residential - calculated by utility - actual annual average daily demand divided by the equivalent population served
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes? Gross - we use SJRWMD measurements; none
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD? Every five years
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)? No. We strive to maintain as low a per capita use as possible.
E-5.	Which per capita measurement do you report to the WMD? Gross - via five-year update
E-6.	Which per capita measurements do you use to evaluate conservation programs? Neither.

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations.
	N/A
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness.
	N/A
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	CUP & Water Conservation Plan - updated every five years
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility.
	Public response, ease of implementation, estimated water savings that results from program
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs.
	Cost-share funding for water conservation programs
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
	Estimated water savings and per capita decrease in water consumption
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
	Cost of program versus estimated water savings benefit
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for WMDs and Public Supply permittees? Please elaborate and be specific.
	Estimated water savings and per capita decrease in water consumption , along with public response and ease of implementation

Survey Response from
City of Palm Bay Utilities
Located in SJRWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name City of Palm Bay Utilities			
A-2.	Water Management District (WMD): St. Johns River Water Management District			
A-3.	County utility is located in: Brevard			
A-4.	Respondent's Name: Rick Nipper	Respondent's Name:	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: Utilities Director	Respondent's Title:	Respondent's Title:	Respondent's Title:
A-6.	Address: 1105 Troutman Blvd. Palm Bay	Address:	Address:	Address:
A-7.	Telephone No.: 321-952-3410	Telephone No.:	Telephone No.:	Telephone No.:
A-8.	Email Address:	Email Address:	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to: Section A,B,C, D,E aand F	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report? NO
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit). N/A
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement? N/A
B-4.	How often is this plan required to be updated? N/A
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD? N/A
B-6.	Is there a certain time by which the goal must be met? When is it? N/A
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it? N/A

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	YES
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	VARIES WITH EACH SUBMISSION AND THE FUNDS AVAILABLE FROM THE WMD
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	REQUESTS A PROJECT SUMMARY TO INCLUDE INFORMATION ABOUT THAT SPECIFIC EVENT
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	ATTENDANCE AND FEED BACK FROM THE ATTENDEES

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name: INSERTS FOR WATER BILLS
D1-2.	Program Description: SUPPLY INFORMATION REGARDING HOW TO CONSERVE WATER USAGE INDOORS AND OUTDOORS
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): SINGLE FAMILY
D1-4.	Program funding source (WMD, utility, etc.): UTILITY
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. NO
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? WE DO NOT TRACK - IT IS ALMOST IMPOSSIBLE TO TRACK BASED ON THE INSERT. THIS IS MORE INFORMATIONAL TO THE CUSTOMER
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? N/A
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? N/A
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? NO

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: FLORIDA FRIENDLY LANDSCAPE SEMINARS
D2-2.	Program Description: TO EDUCATE BREVARD COUNTY HOMEOWNERS ABOUT BASIC CONSERVATION AS THEY RELATE TO LANDSCAPING
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): SINGLE FAMILY
D2-4.	Program funding source (WMD, utility, etc.): CITY OF PALM BAY UTILITIES AND WATER MANAGEMENT DISTRICT AND OTHER PARTCIPATING UTILITIES.
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. NO
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? N/A
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? THE PROGRAM WAS DESIGNED TO EDUCATE AND INFORM CUSTOMERS IN CONSERVATION MATTERS REGARDING LANDSCAPING
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? N/A
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? N/A
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? YES -A SURVEY OF THE ATTENDEES AND THE FEEDBACK FROM THEM

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name: SHOWERHEAD EXCHANGE
D3-2.	Program Description: EXCHANGE THE OLDER SHOWERHEADS FOR NEW AND MORE WATER EFFICIENT SHOWERHEADS
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential): SINGLE FAMILY
D3-4.	Program funding source (WMD, utility, etc.): CITY OF PALM BAY UTILITY
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. NO
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? N/A
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? N/A
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? KEEP TRACK OF HOW MANY HAVE BEEN EXCHANGED
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? N/A
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? NO

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. THE UTILITY DOES NOT MONITOR PER CAPITA WATER USAGE.
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes? N/A
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD? N/A
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)? N/A
E-5.	Which per capita measurement do you report to the WMD? N/A
E-6.	Which per capita measurements do you use to evaluate conservation programs? N/A

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations.
	N/A
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness.
	N/A
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	N/A
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility.
	SEE SECTION D
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	N/A
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs.
	N/A
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
	REDUCED USAGE - SINGLE FAMILY
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
	N/A
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for WMDs and Public Supply permittees? Please elaborate and be specific.
	NONE AT THIS TIME

Survey Response from

City of Port Orange

Located in SJRWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name: City of Port Orange, Public Utilities Dept.			
A-2.	Water Management District (WMD): St Johns River Water Management District			
A-3.	County utility is located in: Volusia			
A-4.	Respondent's Name: Mary Kronenberg	Respondent's Name: Deborah Green	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: City Engineer	Respondent's Title: Water Conservation Coordinator	Respondent's Title:	Respondent's Title:
A-6.	Address: 1000 City Center Cir., Port	Address: WAV, 1190 Pelican Bay Dr.	Address:	Address:
A-7.	Telephone No.: (386)-506-5756	Telephone No.: 386-322-5160 ext 33	Telephone No.:	Telephone No.:
A-8.	Email Address: mkronenberg@port-orange.org	Email Address: dgreen@wavh2o.com	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to: All.	Survey section(s) you are responding to: all	Survey section(s) you are responding to:	Survey section(s) you are responding to:

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	District does not require water conservation plan, but has specific water conservation requirements in CUP rules, for which documentation is required.
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	General Permit Conditions.
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	Compliance report required every five years for our 20 year permit.
B-4.	How often is this plan required to be updated?
	When directed to change at five year intervals.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	Not required.
B-6.	Is there a certain time by which the goal must be met? When is it?
	N/A
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	None.

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	Yes, estimates of water savings are required with cost-share application.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Cost per thousand gallons saved.
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	Yes, see question C-1.
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	Savings per measure (monthly water use compared to water use prior to measure).The results are forwarded to the District upon completion of the program(s) prior to reimbursement

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name: Water Conservation Program
D1-2.	Program Description: Low flow toilet rebates, $50.00 per toilet and limit of 2 per household
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D1-4.	Program funding source (WMD, utility, etc.): Utility. One year WMD provided supplementary cost-share funding. City Manager and Utilities Director set aside $10,000.00 annually (from impact fees) per year from 1991 to present.
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Not required.
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Monthly customer billing data, pre and post measure.
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Yes, to lower per capita use to extend current water supply. Goal set by utility.
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? The toilet rebate program and the reclaimed water program together postponed the necessity of expansion of the water treatment plant 8 years.
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public Response.
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Graph of savings post-retrofit for large condominium utilized in newsletter and talks.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: Rain Sensor Program in cooperation with WAV.
D2-2.	Program Description: Required installation of rain sensors for all automatic sprinkler systems and gave away approximately 1000 devices at Water Efficiency Workshops taught by University Extension specialists.
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-Family.
D2-4.	Program funding source (WMD, utility, etc.): Utility through WAV. Supplemented with cost-share through WMD. $13,780.00 spent on devices.
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Yes, to lower per capita use to extend current water supply. Goal set by utility and WAV.
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Billing data pre and post measure.
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Yes, to lower per capita use to extend current water supply. Goal set by utility.
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Reduction in monthly water use after measure. Weather normalization not attempted. Years of study included drought.
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public Response through surveys.
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Yes, non quantitative results published in Utilities newsletter, Florida Water Resources Journal article and FSAWWA talk.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name: Reclaimed Water Program.
D3-2.	Program Description: Extending reclaimed water throughout the City of Port Orange.
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D3-4.	Program funding source (WMD, utility, etc.): Utility, Capital Improvement Program using some monies from WMD for alternative water supply.
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Yes, reduction of potable water use for irrigation.
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Savings per measure (monthly utility pumpage, compared to water use prior to measure).
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Yes, 100 gallons per day per person. WMD and Utility.
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Expansion of the Water Treatment Plant was postponed 8 years due to this program in addition to the low flow toilet rebate program.
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response, demand for reclaimed water very high.
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Yes, nonquantitative results published in City newsletter, WAV Workshops and Public Meetings.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 4	
D4-1.	Program Name: Showerhead Exchange Program.
D4-2.	Program Description: Residents received free low flow showerheads when they brought in an older high flow showerhead. Residents received water conservation literature including a home water audit form.
D4-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-Family.
D4-4.	Program funding source (WMD, utility, etc.): WAV, WMD and Utility.
D4-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. No.
D4-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Tried to track pre and post measure monthly billing data but results were not significant.
D4-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? No.
D4-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? No.
D4-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response.
D4-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? No.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 5	
D5-1.	Program Name: Water Conservation Handouts, Volusia-specific, developed by WAV
D5-2.	Program Description: Displays and hand outs through City Hall, Library, workshops, talks, Family Days (fairs) and to all new water customers.
D5-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-Family.
D5-4.	Program funding source (WMD, utility, etc.): WAV (Utility)
D5-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Yes, basic water conservation dissemination of information.
D5-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? None.
D5-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? No.
D5-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? None.
D5-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public Response.
D5-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? 2003 FSAWWA Award for New Customer Water Conservation Information Packet (writeup describes program)

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 6	
D6-1.	Program Name: Contractor Visit
D6-2.	Program Description: on irrigation retrofit.
D6-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-Family.
D6-4.	Program funding source (WMD, utility, etc.): WAV, WMD and Utility.
D6-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Yes. Comprehensive approach.
D6-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Monthly customer billing data, pre and post water usage. No weather normalization attempted.Weather affects outdoor water use, with rain sensors.
D6-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? General water use reduction.
D6-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Monthly, pre and post water usage. No weather normalization attempted.
D6-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response, telephone survey.
D6-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Mentioned in FSAWWA talks.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 7	
D7-1.	Program Name: Water Wise Landscape Awards (in progress)
D7-2.	Program Description: Residents/Builders enter homes and are judged based on specific criteria.
D7-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single-Family
D7-4.	Program funding source (WMD, utility, etc.): WAV/Utility (only cost is several hundred dollars for prizes and printing announcements)
D7-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. No.
D7-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? None.
D7-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Increasing knowledge of and practice of water wise landscaping.
D7-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? None.
D7-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response.
D7-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Yes, City newsletter and WAV publications.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 8	
D8-1.	Program Name: Watering Hours.
D8-2.	Program Description: Since 1998, entire county has been under two day a week restrictions. Warnings issued for watering violations. Magnets and City Newsletters publicizes the hours. Residents can call hotline to report violators.
D8-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D8-4.	Program funding source (WMD, utility, etc.): Utility, WAV and Volusia County Environmental Management (magnets)
D8-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Restrictions linked to WMD water shortage rule.
D8-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? None.
D8-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? No.
D8-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Absence of violations is indicator of compliance.
D8-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response.
D8-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? City Newsletter, and Utility Statements.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 9	
D9-1.	Program Name: Water Wise (Landscape) Ordinance
D9-2.	Program Description: Since July 2004, new homes have no more than 50 % high water use and other requirements for irrigation system.
D9-3.	Target Sector (Single-family, Multi-family or Non-Residential): All.
D9-4.	Program funding source (WMD, utility, etc.): Permit fees pay for inspection by Volusia County Health Dept.
D9-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please House Bill 293 and WMD encourages Utilities to enact landscape ordinances.
D9-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value None.
D9-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the No.
D9-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? General water usage reduction.
D9-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Public response.
D9-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Builders Newsletter, FSAWWA talk, and various meetings.

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. Gross. No equation. Utility supplies WMD with monthly water use for potable and reclaimed water within the service area. Utility makes gross per capita computation based on population for internal reports .
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes? CUP does not specify per capita water use, just that water be used in an efficient manner.
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD? Annuallly. No, it is not a requirement, however- monthly water use is required to be reported.
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)? Yes, 100 gallons per day per person. WMD and Utility.
E-5.	Which per capita measurement do you report to the WMD? Gross.
E-6.	Which per capita measurements do you use to evaluate conservation programs? Utility supplies WMD with monthly water use for potable and reclaimed water within the service area. Utility makes gross per capita computation based on population for internal reports .

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations. Public interest in programs, # of participants.
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness. Limit low-flow toilet rebates to older residential areas. Post 1995 subdivisions are excluded from program.
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications. Annual report discusses measures taken qualitatively. Also, can show resident consumption report from their utilities bill upon demand.
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility. Low flow toilet rebates and reclaimed water program.
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure? No. WMD focuses on per-capita.
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs. Yes, cost sharing programs and CUP requirements.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency? Pre and post monthly water usage. However, for outdoor water use, weather normalization is required. i.e. Water varies month to month because residents either use rain sensors or may turn off systems manually. Existence of private irrigation wells (and continued permitting) confuses water savings in rain sensor/contractor visit programs.
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness? Cost per thousand gallons saved/produced.
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for WMDs and Public Supply permittees? Please elaborate and be specific. Will follow recommendations of State-wide program. However, consideration of wells should be included.

Survey Response from
Seminole County Environmental Services Department
Located in SJRWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name: Seminole County Environmental Services Department			
A-2.	Water Management District (WMD): SJRWMD			
A-3.	County utility is located in: Seminole County, office is in Sanford			
A-4.	Respondent's Name: Liz Block	Respondent's Name:	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: Water Conservation Coordinator	Respondent's Title:	Respondent's Title:	Respondent's Title:
A-6.	Address: 500 W. Lake Mary Blvd.,	Address:	Address:	Address:
A-7.	Telephone No.: 407-665-2121	Telephone No.:	Telephone No.:	Telephone No.:
A-8.	Email Address: lblock@seminolecountyfl.gov	Email Address:	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to: all	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report? yes
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit). WMD rules
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement? High per capita use in our Northwest Service Area (NWSA)
B-4.	How often is this plan required to be updated? WMD rules require it be submitted with a permit renewal application, otherwise no additional specific requirements for the WC plan to be updated. There are reporting requirements in the permit
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD? Right now, we manage ten permits and are going through a process to consolidate the four largest into one permit. For the NWSA, there is a specific condition to reduce residential per capita by 2007, which was defined by the WMD. Other conditions addressing rate structure and reclaimed water will influence demand, but do not have specific demand reduction goals. For the Southwest Service Area (SWSA), allocation is reduced from 1.69 to 1.37 mgd in 2013.
B-6.	Is there a certain time by which the goal must be met? When is it? See B-5
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it? NWSA - overall annual allocation, individual wellfield annual allocation, per capita, irrigation times, percent of reclaimed water used, meter calibration, water level measurements on specific wells, water quality measurements, water audits, characterization of harm to wetlands based on groundwater modeling, hydrologic characteristics of lakes and wetlands, rainfall data, etc. SWSA - annual allocation, meter calibration.

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	Not that I know of. I have not submitted an application in a few years.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
	Yes
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
	The last project funded was for irrigation evaluations. Results were reported in gallons per watering day per house.

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented

In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.

PROGRAM 1

D1-1.	Program Name: Free Irrigation Evaluations for Residential Customers
D1-2.	Program Description: High water use residents are contacted through letters, or informed about the program when they call customer service about high water bills. The pilot program included 18 customers, and the fullscale program is running about 250 customers per year. Customer contact information is provided to our contractor who schedules with the customer, spends about 1 hour checking system and educating, and then provides a written report with recommendations to the customer and to us.
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single Family Residential high water users
D1-4.	Program funding source (WMD, utility, etc.): SJRWMD provided a 50% cost share for the pilot program. Otherwise the utility has funded.
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. The program fulfills a NWSA Consent Order requirement to spend $50,000/year on irrigation audits. It is also part of a comprehensive approach to reduce per capita.
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? billing data
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no specific goal, just reduce per capita
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? change in water use (gpd or gpm) compared to the same period last year
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Informal customer feedback
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? For the pilot program, we provided the results in a letter report to SJRWMD to complete the cost share contract and published the results in the Sept 2003 Florida Water Resources Journal. Last year's results are reported in the 2004-05 WC Plan (currently draft).

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: Free Landscape Evaluations for Residential Customers
D2-2.	Program Description: Similar to the irrigation evaluations, but performed by staff and focused on recommendations for minor to moderate changes to landscaping to reduce water use. At the beginning of this and the irrigation evaluation program, customers frequently signed up for both. Later in the program more customers received one or the other evaluation depending on lot size and the status of the irrigation evaluation contract.
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single Family Residential high water users
D2-4.	Program funding source (WMD, utility, etc.): Part of staff workload, no specific funding.
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Comprehensive to reduce per capita
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? No analysis has been done to date
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? No
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? When analysis is performed it will be based on change in water use (gpd or gpm) compared to the same period last year
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Getting out in the field keeps the water conservation coordinator happy
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no findings to date

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 3	
D3-1.	Program Name: Showerhead Exchange Day
D3-2.	Program Description: A multi-utility event held in 2003, 2004, and planned for 2005. Three or four utilities scheduled a day, sent billing inserts, and arranged for distribution points at several regional malls. Customers brought their old showerheads in and received a kit including low flow showerhead, faucet aerators, toilet leak test, toilet displacement bag, teflon tape.
D3-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single family residents (multi-family were not excluded, but were unlikely to receive a flyer)
D3-4.	Program funding source (WMD, utility, etc.): SJRWMD has provided a 50% cost share for the program each year.
D3-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. no
D3-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Savings from showerheads were based on the number distributed and published values. Since they brought in their old showerhead, it could safely be assumed that the low flow showerheads were installed. Additional savings were probably realized from other items in the kit, but were not estimated.
D3-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D3-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? number of showerhead kits distributed
D3-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? ease of implementation
D3-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Last year's results are reported in the 2004-05 WC Plan (currently draft).

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 4	
D4-1.	Program Name: Free Landscaping Workshops with Florida Yards and Neighborhoods Program
D4-2.	Program Description: Half day program was announced through billing inserts and provided education on waterwise principles. Over two years, we hosted 6 homeowner workshops and one landscape professionals workshop.
D4-3.	Target Sector (Single-family, Multi-family or Non-Residential): mostly single family residents
D4-4.	Program funding source (WMD, utility, etc.): utility
D4-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Comprehensive to reduce per capita
D4-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? billing data
D4-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D4-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? Regression analysis was used to determine whether customer's water use declined after participating in the program
D4-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? The FYN distributed pre- and post-surveys to determine customer knowledge gained
D4-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Results were published in the Sept 2003 Florida Water Resources Journal.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 5	
D5-1.	Program Name: Free Faucet Washer Giveaway
D5-2.	Program Description: Billing inserts announced the give-away and asked the customer to call in to receive free faucet washers, which were mailed to them
D5-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single family residents (multi-family were not excluded, but were unlikely to receive a flyer)
D5-4.	Program funding source (WMD, utility, etc.): utility
D5-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. Comprehensive to reduce per capita
D5-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? no tracking
D5-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D5-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? none
D5-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? number of washer kits distributed
D5-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 6	
D6-1.	Program Name: Free Toilet Conservation Kit Giveaway
D6-2.	Program Description: Billing inserts announced the give-away and asked the customer to call in to receive free toilet conservation kits, which were mailed to them. Kits included toilet displacement bags, flow cycle diverters, and leak tests.
D6-3.	Target Sector (Single-family, Multi-family or Non-Residential): Single family residents (multi-family were not excluded, but were unlikely to receive a flyer)
D6-4.	Program funding source (WMD, utility, etc.): utility
D6-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. no
D6-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? Postage paid post cards were included with the kit, that had a set of calculations for the customer calculate how much water was saved depending on the number of devices installed and leaks detected. Amount saved was based in device specs and published values for leaks. Savings were tracked from these results.
D6-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D6-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? number of kits distributed
D6-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? public response
D6-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Results were published in the Sept 2003 Florida Water Resources Journal.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 7	
D7-1.	Program Name: Watering Restriction Enforcement
D7-2.	Program Description: Water Department staff receive code enforcement training, and record watering restriction violators while on duty or during early morning patrols. Currently, reminder post cards are sent that include information on code violation procedures.
D7-3.	Target Sector (Single-family, Multi-family or Non-Residential): all water customers
D7-4.	Program funding source (WMD, utility, etc.): utility
D7-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. SJRWMD Water Shortage Order. All restrictions except days of the week are permit conditions
D7-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? billing data comparing water use of customers receiving notices to an equal number of randomly selected customers
D7-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? Just enforcement of the rule
D7-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? none
D7-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? Most customers who received warnings did not receive additional violations
D7-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Results were published in the Sept 2003 Florida Water Resources Journal.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 8	
D8-1.	Program Name: High Water Use Letters
D8-2.	Program Description:
D8-3.	Target Sector (Single-family, Multi-family or Non-Residential): single family
D8-4.	Program funding source (WMD, utility, etc.): utility
D8-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. comprehensive approach
D8-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? billing data
D8-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D8-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? trend in water use (increase, no change, somewhat decreased, clearly decreased)
D8-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? public response and ease of implementation
D8-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? Results were published in the Sept 2003 Florida Water Resources Journal.

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 9	
D9-1.	Program Name: Rain Sensor Information Letter
D9-2.	Program Description: Waer use trends were examined for high water use customers, and those that showed no decrease during the rainy season received an informational letter. A postage-paid post card was included and the customer was asked to let us know what action(s) they took.
D9-3.	Target Sector (Single-family, Multi-family or Non-Residential): single family
D9-4.	Program funding source (WMD, utility, etc.): utility
D9-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please comprehensive approach
D9-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value billing data
D9-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the no
D9-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? no quantitative measures were made
D9-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? post card response rate
D9-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 10	
D10-1.	Program Name: Conservation Rate Implementation
D10-2.	Program Description: Conservation rates were activated in October 2003
D10-3.	Target Sector (Single-family, Multi-family or Non-Residential): single family
D10-4.	Program funding source (WMD, utility, etc.): utility
D10-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please yes, NWSA CUP condition
D10-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? billing data
D10-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? comply with CUP condition
D10-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? change in water use
D10-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? none
D10-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 11	
D11-1.	Program Name: Toilet Fill Cycle Diverter Giveaway
D11-2.	Program Description: Distributed diverters in the billing office and during events
D11-3.	Target Sector (Single-family, Multi-family or Non-Residential): all
D11-4.	Program funding source (WMD, utility, etc.): utility
D11-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please comprehensive approach
D11-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? published value from the manufacturer
D11-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D11-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? cost per gallon of water saved
D11-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? ease of implementation
D11-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations.
	please see additional spreadsheet
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes?
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD?
	irregularly several times a year, no
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)?
	For NWSA, the district set a per capita goal to reach by 2007
E-5.	Which per capita measurement do you report to the WMD?
E-6.	Which per capita measurements do you use to evaluate conservation programs?
	residential
Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define
	all are described above
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation
	Yes, yes. Billing data from the billing software and files is downloaded. There is a subroutine that adds irrigation and indoor use if an irrigation meter is present and calculates average gpd for each customer over the selected time period. Profiling has been done with the following variables: type of account (residential, apartment, business, etc.), service area, subdivision, lot size, and build year. Also a sorted list identifying top water users has identified program targets.
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance
	To date, we have produced a water conservation plan and accomplishments report every year. Performance measures are described above.
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility.
	change in gpd or gpm
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or
	Per capita reduction
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs.
	SJRWMD has a cost-share program for water conservation and for water supply improvements.
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use
	per capita
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
	I've never assessed cost-effectiveness
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and
	The WMD should provide the utility with its allocation, and it should be up to the utility to determine how that allocation is met. If the allocation is exceeded, the WMD has other legal recourses like Consent Orders. The WMD should manage the water resources, not the utility.

Survey Response from

Destin Water Users

Located in NWFWMD

Joint Statement of Commitment for the Development and Implementation of a Statewide Comprehensive Water Conservation Program for Public Water Supply

PUBLIC SUPPLY UTILITY SURVEY

Section A: General Information				
A-1.	Utility Name: Destin Water Users, Inc.			
A-2.	Water Management District (WMD): Northwest Florida Water Management District			
A-3.	County utility is located in: Okaloosa County			
A-4.	Respondent's Name: Richard F. Griswold	Respondent's Name:	Respondent's Name:	Respondent's Name:
A-5.	Respondent's Title: General Manager	Respondent's Title:	Respondent's Title:	Respondent's Title:
A-6.	Address: P.O. Box 308, Destin, FL 32540	Address:	Address:	Address:
A-7.	Telephone No.:	Telephone No.:	Telephone No.:	Telephone No.:
A-8.	Email Address: rgriswold@destinwaterusers.com	Email Address:	Email Address:	Email Address:
A.9.	Survey section(s) you are responding to: all	Survey section(s) you are responding to:	Survey section(s) you are responding to:	Survey section(s) you are responding to:

PUBLIC SUPPLY UTILITY SURVEY

Section B: Public Supply Conservation Reporting Required by WMD	
B-1.	Does the WMD require you to provide a Water Conservation Plan or similar report?
	Yes
B-2.	By what means is the Plan required (e.g., WMD rules, general permit conditions, permit conditions specific to your permit).
	Permit conditions
B-3.	If conservation reporting is required by conditions specific to your permit, what was the reason for this requirement?
	to induce water saving measures.
B-4.	How often is this plan required to be updated?
	Our permit is a 20 year permit but we provide information relative to water conservation annually.
B-5.	Does the Water Conservation Plan include a goal or specified demand reduction through water conservation? What is it? Was the goal defined by the utility or the WMD?
	The permit requires an overall reduction in pumping from our coastal wells with water conservation being only one measure to achieve that end.
B-6.	Is there a certain time by which the goal must be met? When is it?
	The conditions must be met by the expiration date of the permit which is 2017.
B-7.	Is there a performance measure(s) that is required by the WMD to be used in the Plan? What is it?
	No specific measure other than an overall reduction in production from our coastal wells.

PUBLIC SUPPLY UTILITY SURVEY

Section C: Public Supply Conservation Reporting in order to Receive Program Funding from WMD	
C-1.	Does the WMD require co-operative funding or grant applications to be accompanied by results from programs similar to the one for which funding is being requested?
	we are not eligible for grants.
C-2.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?
C-3.	As part of your funding contract, or by some other means, does the WMD require you to provide results from the funded programs?
C-4.	If so, what units of measurement (e.g., savings per measure, per capita demand reduction, per sector reduction) are required?

PUBLIC SUPPLY UTILITY SURVEY

Section D: Utility Evaluation of Conservation Programs Implemented	
In Sections B and C, you discussed conservation program reporting as required by your WMD. This section refers to conservation program evaluation and reporting that is done by the utility for its own purposes. Please answer the following questions for each program you implement (including education programs). Note that an example of a program is a toilet rebate program, adoption of a landscape ordinance, etc. Some utilities may refer to these a projects or BMPs rather than programs. Space has been provided for eight programs, if you have more than eight programs, please cut and paste rows to provide the extra space you require.	
PROGRAM 1	
D1-1.	Program Name: Water conservation at DWU
D1-2.	Program Description:
D1-3.	Target Sector (Single-family, Multi-family or Non-Residential): All customers.
D1-4.	Program funding source (WMD, utility, etc.): utility
D1-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. no - the program is just good common sense.
D1-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? We observe specific multifamily units in which water saving measures have been taken to draw information for our overall efforts.
D1-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? No but we think that a 1% reduction in overall production can be achieved through conservation.
D1-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? none
D1-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? none
D1-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

PROGRAM 2	
D2-1.	Program Name: Reclaimed water
D2-2.	Program Description:
D2-3.	Target Sector (Single-family, Multi-family or Non-Residential): all customers
D2-4.	Program funding source (WMD, utility, etc.): utility
D2-5.	Is the program in fulfillment of a specific WMD rule or permit condition or is it part of a comprehensive approach to fulfill a rule/condition? Please specify. it is in response to WMD need to reduce pressure on the Floridan and it also makes good sense.
D2-6.	What were the means of tracking savings (billing data, submetering specific uses, etc.) or are the savings estimated based on a published value of savings per measure? no
D2-7.	Was the program designed to meet a certain goal (e.g., a specific volume of water saved per account, per use or per measure)? What was the goal (e.g., 300 gallons per account per day)? Who set the goal (utility or WMD)? no
D2-8.	What quantitative performance measures are used to evaluate the program's performance (i.e., cost per gallons of water saved per measure)? none
D2-9	What qualitative performance measures are used to evaluate the program's performance (i.e., public response, ease of implementation)? none
D2-10.	Did the utility publish the findings in a department memorandum or formal publication? If so, what is the name? no

PUBLIC SUPPLY UTILITY SURVEY

Section E: Per Capita	
E-1.	Please describe all of the types of per capita water use measurements (e.g. gross, seasonal, adjusted) used by the utility. For each type, please explain what each one is used for. Please provide the equations and define each term in the equations. We measure the amount of water produced and we measure the amount of water sold to various user classes.
E-2.	Which per capita water use measurements shown above are in accordance with how the WMD defines per capita water use; which per capita measurements are used for other purposes? n.a.
E-3.	How often do you evaluate your per capita water use? Is this a requirement of the WMD? daily and it is not a requirement
E-4.	Do you have a per capita water use goal that you strive to meet? Who set this goal (WMD or utility)? n.a.
E-5.	Which per capita measurement do you report to the WMD? none - we report total water produced.
E-6.	Which per capita measurements do you use to evaluate conservation programs? not being done yet.

PUBLIC SUPPLY UTILITY SURVEY

Section F: Miscellaneous Questions	
F-1.	What other performance measures (if different than those defined above) does the utility use to evaluate conservation programs? Please define each performance measure and provide calculations.
	n.a.
F-2.	Do you consider the profile of your utility in choosing and implementing conservation programs? Is profiling part of your per capita calculation process? Profiling may consist of determining the amount of water used by the various sectors (single family, multi-family and non-residential). A utility may also geographically profile their service area. An example of geographic profiling would be determining portions of the service area that consist of pre-1980 homes so that a toilet rebate program may result in a greater savings rate. Please elaborate on your profiling procedures: what they are and how they are used to determine per capita or optimize conservation effectiveness.
	n.a.
F-3.	Please list all utility reports (not previously listed) that evaluate conservation programs or water-use efficiency. Please list the performance measures used in these publications.
	no specific reports
F-4.	Please list conservation program and water-use efficiency performance measures that are the most widely used and accepted by the utility.
	n.a.
F-5.	Does the WMD consider what is cost beneficial to the utility when negotiating conservation programs, or is the focus on per-capita reduction or some other performance measure?
	we don't know how they arrive at their numbers - we just try to do what we are told and we trust they are doing the right thing.
F-6.	Does the WMD provide any incentives for the utility to improve water-use efficiency? If yes, please describe the incentive programs.
	fear
F-7.	What performance measures do you think most accurately measure the success of a conservation program when the goal is water-use efficiency?
F-8.	What performance measures do you think most accurately measure the success of a conservation program when the goal is cost-effectiveness?
F-9.	What are your recommendations on implementing a system of measuring the success of water conservation programs that is fair and accountable for WMDs and Public Supply permittees? Please elaborate and be specific.
	Systems should be specific to the permittees. I don't think one single system can be fair to all. DWU has operated a water conservation program for about 20 years. No measurements of the success were ever made and no data was kept relative to the program. But some gross numbers have been examined that could lead one to conclude that a significant savings has happened during that 20 year period. Now, we may be reaching a point of diminishing returns so if DWU is to be compared to any other utility, then we may be shown as a poor performer while a utility that has never conserved could be hailed as a great performer after only a short period of effort. A guidance manual could be developed that allows each utility to use measures appropriate to them and the manual could offer guidance on how to establish a performance measurement.