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POTENTIAL WATER SAVINGS OF CONSERVATION TECHNIQUES



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Potential Water Savings of Conservation Techniques

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In Association with:

PBS&J & GIS Associates

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I. INTRODUCTION

The St. Johns River Water Management District (SJRWMD) contracted with a team of professional consultants to evaluate the effectiveness of water conservation techniques implemented by utilities within SJRWMD. This report describes the analysis conducted during the Study and presents the results of the Study

A. **Objective**

The objective of this Study was to determine the opportunity for savings in indoor and outdoor water use from the implementation of water conservation techniques by local utilities within SJRWMD.

This determination of savings as a result of the implementation of various water conservation techniques is intended to serve as a basis for use by SJRWMD to assess expected savings in overall water use for development of SJRWMD's 2005 Water Supply Plan.

B. <u>Scope</u>

The scope of the Study included the following items:

- 1. Existing Literature Review and New Literature Search – Burton & Associates conducted a review of existing literature collected by SJRWMD on the effectiveness of conservation initiatives and conducted an additional literature search to identify water conservation techniques that have been implemented throughout the United States in order to determine the opportunity for water savings from implementation of each identified water conservation technique.
- 2. Survey of Utilities - PBS&J conducted a survey of selected utilities within SJRWMD to identify water conservation techniques that have been implemented by the utilities participating in the survey.

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- 3. <u>Evaluation of the Effectiveness of Water Conservation Techniques</u> Burton & Associates and GIS Associates conducted an evaluation of billing data received from the utilities participating in the survey to determine the effectiveness of implemented water conservation techniques upon water use. This included the following activities:
 - *a.* <u>Analysis and Compilation of Billing Data</u> Burton & Associates performed an analysis and compilation of billing history data by account received from five (5) participating utilities.
 - *Compilation of Parcel and Demographic Data by Account* Upon receipt of the compiled billing history data from Burton & Associates, GIS Associates determined geo-code references for each account in the billing history of each utility at the subdivision and census tract level. This allowed compilation of a) parcel attribute data by subdivision for each utility from the applicable county property appraiser's data base and b) demographic data by census tract for each utility from the Census Bureau data base. This parcel attribute data and census tract data was then associated with the billing history data of all accounts by subdivision and alternatively by census tract as observations for input to the econometric modeling described below.
 - c. <u>Econometric Modeling of Water Use</u> Burton & Associates developed econometric models to determine the effect upon water usage of implemented water conservation techniques based upon billing history data from participating utilities summed at the subdivision level (with parcel attribute data as explanatory variables), and alternatively at the Census Tract level (with demographic data as explanatory variables). Econometric models were developed for each utility using account data compiled as observations at the subdivision level and econometric models were developed for the combined utilities using account data compiled

as observations at the census tract level. Based upon the modeling results, Burton & Associates developed conclusions regarding the use of the results of this Study to estimate probable and possible water usage reductions by implementation of water conservation techniques at the utility level.

C. <u>Methodology</u>

Tasks were assigned to each consulting firm involved in the Study as follows:

Burton & Associates:

- 1. Review of existing literature provided by SJRWMD and conduct of an additional literature search regarding the effectiveness of water conservation techniques in reducing water use.
- 2. Compilation of billing data from the participating utilities and development of an econometric model to evaluate the effectiveness of water conservation techniques in reducing water use in surveyed utilities within SJRWMD.
- 3. Preparation and coordination of this report to include the results of all consultants involved in the project.

<u> PBS&J:</u>

- 1. Preparation of an e-mail survey of utilities to determine a) those utilities interested in participating in the study, and b) what water conservation techniques have been implemented by each surveyed utility.
- 2. Conduct of the e-mail survey of the utilities described above and compilation of the results.

GIS Associates:

1. Geo-coding of billing addresses from billing records of participating utilities to append subdivision codes and census tract codes to account records and to match with a) subdivision codes on the property appraiser's data base to derive physical attributes of the properties that could be explanatory variables relative to water use, and b) census tract on the Census Bureau data base to derive socio-demographic attributes that could be explanatory variables relative to water use.

Weekly progress meetings were held via conference calls during the course of the study in order to ensure that the work of all consultants was coordinated on a regular basis. An interactive work session was conducted with District staff at the conclusion of the analysis to review the results of the econometric modeling of the effectiveness of water conservation techniques implemented by surveyed utilities in reducing water use. The modeling was finalized based on input from District staff and this report was prepared.

II. ANALYSIS

A. Literature Search

SJRWMD provided Burton & Associates with the results of a previous literature search conducted for SJRWMD to serve as the basis for this task. Burton & Associates conducted a review of the provided literature to determine the applicability of the results of the studies included in the literature to the objectives of this Study. The results of the literature review indicated that, although the studies contained within the literature compilation varied in timeliness, methodology, scope, target result and findings, the results may be useful in drawing conclusions concerning expected ranges of water use reductions that might be expected from implementation of the water conservation techniques evaluated in the literature. The results of the review of the literature search provided by SJRWMD are discussed in Section III – Results, including a summary of the ranges of water savings by conservation technique, and are summarized by source in Appendix A.

It was determined that the data derived from the literature review, although useful as a general guide regarding ranges of water use reductions for conservation initiatives, was too non-specific and/or varied in the reported results to be useful in benchmarking of the econometric modeling conducted in this Study. Therefore, it was determined by SJRWMD and Burton & Associates that an additional, targeted literature search should be conducted to identify more relevant and current research or publications, that specifically deal with indoor and outdoor water use and changes in water use in response to specific water conservation practices to serve as benchmarks against which to evaluate the accuracy of the results of the econometric modeling conducted in this Study.

This literature search conducted by Burton & Associates identified several additional relevant papers, studies, articles and books. After review of this additional literature, it was determined that one publication provided the most meaningful, timely data for use in this Study. That publication was "Residential End Uses of Water", which was published by the American Water Works Association (AWWA) in 1999. This reference is discussed in Section III – Results and is more fully described in Appendix A.

Because of the limited applicability of the references included in the original literature search provided by SJRWMD these references were not considered in the econometric modeling conducted in this Study. However, the AWWA reference sited above, identified in the additional literature search, was considered in the econometric modeling and served to establish benchmark parameters for expected indoor and outdoor water use with and without conservation. This information was very helpful in making assessments concerning validity of model results.

B. <u>Survey of Selected Utilities</u>

PBS&J developed a digital survey instrument that was distributed by e-mail to the twenty-five (25) largest utilities in SJRWMD and a few additional selected utilities in east central Florida that had indicated an interest in the Study. A total of thirty-eight (38) utilities were invited to participate and twenty-one (21) responded with completed surveys. A total of eight (8) of the respondents provided billing data, of which five (5) were useful for econometric modeling. The three (3) billing data sets that were not used were either not correctly compiled or substantial errors occurred when attempting to append additional data.

The survey was intended to invite participation in this Study and to solicit information from those utilities that chose to participate. PBS&J developed an initial survey form and distributed it to SJRWMD and other participating consultants for review and comment. The survey was finalized based upon input from that review and e-mailed to the utilities on the distribution list.

PBS&J conducted follow-up contacts with utilities that did not respond to the initial e-mailing, compiled information as it was received, and prepared the final compilation of the survey results (Appendix B).

C. <u>Compilation of Billing Data</u>

During the course of the Study, as utilities committed to being a part of the Study, Burton & Associates contacted the billing representative of each participating utility with a request to obtain one year of monthly water billing history for each water account on their system. When billing data was received from the utilities, Burton & Associates reviewed the data, compiled it into a consistent format and e-mailed each utility billing data file to GIS Associates for geo-coding and compilation as described in the following section.

D. <u>Appending of Property and Demographic Data by Account</u>

GIS Associates added subdivision and census tract codes to the utility billing data files received from Burton & Associates. This was done by using the service address in a GIS overlay of subdivisions and census tracts.

This process resulted in each account record being assigned a subdivision code and a census tract code. Physical attribute data was then appended to each account record from each county property appraiser's file based on its subdivision code and the billing records were then compiled at the subdivision level. Demographic data was then appended to each account record from the Census Bureau database based upon its census tract code and the billing records were then compiled at the census tract level. This resulted in one observation per subdivision in the subdivision analysis and alternatively one observation per census tract in the analysis at the census tract level.

E. <u>Econometric Modeling of Water Use</u>

Burton & Associates began developing an econometric model for each billing data set to evaluate water use relative to a number of explanatory variables as geo-coded billing data was received from GIS Associates. The model was refined as additional geo-coded billing data was received from GIS associates.

The model was constructed to accomplish a cross sectional analysis of water use 1) by individual utility and 2) across all utilities in the Study relative to the identified explanatory variables in order to evaluate the effects of each explanatory variable on water use. Detailed descriptions of the model and the modeling approach, including the explanatory variables identified, are included in Appendix B.

III. RESULTS

Although the data available from the literature review and search was not specific enough to be used in the econometric modeling, it was definitive enough to identify ranges of expected water savings from the implementation of a number of water conservation techniques. These expected ranges of water savings are shown in Table 1.

The results of the econometric modeling process provided acceptable estimates of water use related to the explanatory variables included in the various models by utility and for all utilities combined. However, the survey and billing data provided by the participating utilities included specific data regarding only one conservation initiative (other than inclining block rates and reclaimed water) implemented by only one utility in a limited section of its service area. This limited the ability of the modeling process to evaluate the effectiveness of any other specific water conservation techniques.

Notwithstanding the limitation to evaluate specific water conservation techniques because of the lack of specific data about such techniques, the modeling provided valuable information and insights regarding indoor and outdoor water use in the participating utilities as well as the effect upon water use of:

- a. Price/cost,
- b. Reclaimed water,
- c. Property attributes (house size, lot size, yard area, age of structure, etc.), and
- d. Household attributes persons per household.

The specific results of both the literature review/search and the econometric modeling are described in the following sub sections.

A. Literature Review/Search Results

The literature search consisted of two parts 1) review and evaluation of relevant studies, reports and analyses contained in a prior literature search provided to Burton & Associates by SJRWMD, and 2) a new literature search to identify additional current and relevant studies, reports and analyses related to the effects of water conservation practices upon water use.

1. <u>Review of Prior Literature Search</u>

Review of the prior literature search provided by SJRWMD revealed a number of studies and analyses dealing with a broad array of water conservation techniques. The studies and analyses varied in terms of scope, isolation of the water conservation techniques from other explanatory variables that affect water use, and level of quantification of the expected water savings from implementation of the water conservation technique.

However, it may be useful to understand the ranges of expected savings for the water conservation techniques identified in the literature search, with the understanding that expected values within the ranges could be highly dependent upon factors affecting water use that were not specifically accounted for in the analyses.

For example, one study identified a range of water savings that was achieved as a result of a program to install flow reducing plumbing fixtures. However, the study noted that during the installation of the plumbing fixtures, a significant number of leaks were discovered and repaired prior to, or as a part of, the installation of the flow reducing fixtures. The study noted the contribution of the leak repairs to the reduction in water use, but did not attempt to assign a portion of the water savings to leak repairs versus flow reducing plumbing fixtures, nor did the study address the age of the dwellings involved.

Therefore, if the results of the literature review were to be used to predict water savings from the implementation of identified water conservation techniques within SJRWMD, it should be used cautiously. It is probably reasonable to assume that no

greater water savings than represented by the lower quartile of the ranges of water savings identified herein for any water conservation technique will be realized.

Table 1 presents a summary of the results of the literature review/search of expected ranges of water savings. We encourage the reader to review the summaries (presented in Appendix A) which were the source for the ranges of water use reductions included in Table 1. Valuable insights can be gained from the individual summaries that can not be included in a table.

A legend for abbreviations used in Table 1 and Appendix A is as follows:

DU	=	dwelling Unit
gpd	=	gallons per day
gpcd	=	gallons per capita per day
gpad	=	gallons per average day
pr	=	pressure reduction
g/yr	=	gallons per year
fixture	=	plumbing fixture (eg, toilet, sink, etc.)
SF	=	single family
NR	=	non residential
ULFT	=	ultra low flow toilets
HWOI) =	hot water on demand
AF	=	acre feet

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SECTION III – RESULTS

Table 1 – Estimated Ranges of Water Savings Potential per Literature Search

Estimated Ranges of Water Savings Potential per Literature Search

Conservation Initiative	-	Range Of Estimated Water		
Conservation miliative	Savings Potential			
INDOOR				
Indoor use as a percentage of indoor and outdoor use	40% to 50%	in Florida		
Plumbing Retro Fit Kits	9.5 to 61.58 gpd	per DU		
Plumbing Retro Fit Kits - SF	12.49 to 14.13 gpd	, per DU		
Plumbing Retro Fit Kits - MF	5.10% to 27%	per DU		
Plumbing Retro Fit Kits - City Wide Average (SF &Com.)	13.50%	per account		
Apartment Retrofits	15.6 gpd	per DU		
Jr. High School Retrofits	668 gpd	per school		
Hotel/Motel Retrofits	6 gpd	per room		
ULF Toilets - Single Family	5 to 47 gpcd	per capita		
ULF Toilets - Multi-Family	19.5 to 10.9 gpcd	per capita		
ULF Toilets - Combined	10.5 to 38 gpd	per toilet		
ULF Toilets - Com/Inst/Indus.	76.8 gpd/toilet	per toilet		
Toilet Retrofit/Water Displacement Devices	.65 gpcd	per capita		
Dual Flush Toilets	40%	per toilet		
1.0 GPF Urinals	10 gpd/fixture	per fixture		
Kitchen Faucet	13.10%	per fixture		
Water Efficient Clothes Washers	3 to 5.7 gpcd	per capita		
Water Efficient Clothes Washers - Multi-Housing Common Area	60% 40%	per washer		
EcoSafe Washing Machines Water Use Surveγs:	40 %	per washer		
Single Family	14.70%	per DU		
Single Family Multi-Family	14.80%	per DO per DU		
Industrial	5,250 gpad	per account		
Educational Institution	1720 gpad	per account		
Hotel/Motel	3,467 gpad	per account		
RetailWholesale	1,774 gpad	per account		
Restaurants	562 gpad	per account		
Office Buildings	2,790 gpad	per account		
Nursing Facilities	594 gpad	per account		
Low Flow Showerheads	5.05 to 7.8 gpcd	per capita		
Bath Faucets	27.90%	per fixture		
Faucet Aerators	1.2 gpd/fixture	per fixture		
Indoor Audit Survey Program	NA NA	NA		
Efficient Dishwashers	13.60%	per washer		
Plumbing Leak Repair Programs	20.9 to 73.97 gpd/home	per DU		
Toilet Leak Repair	50%	of indoor use		
Jr. High School Leak Repair	851 gpd	per school		
Pressure Reduction Pgrms -SF	1.9% w/17.6% pr	per DU		
Pressure Reduction Pgrms - MF	4.1% w/17.5% pr	per DU		
Graywater Systems	21.7% to 30%	per DU		
Sub-Metering Programs - Apts	18% to 39%	per DU		
Hot Water On Demand Systems	7.8 to 17.4 gpd	per DU		
Shower	1 to 3 g/shower	per shower		
Bathroom Sink	398 to 3,042 g/yr	per sink		
Kitchen Sink	2,045 g/yr	per sink		
Household Points of Use (4)	3,600 to 12,000 g/yr	per DU		
Public Education Programs	, NA	NA .		
Public Education Programs - MF	7.4 gpd	per capita		
Youth Education Programs	14.13 gpd/person	per capita		
Retro-Fit Homes Program	41% to 57%	per DU		
Average Water Savings Indoor/Retrofit	25%	of indoor use		

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SECTION III – RESULTS

Table 1 (Cont'd) – Estimated Ranges of Water Savings Potential per Literature Search

Estimated Ranges of Water Savings Potential per Literature Search

	Range Of Estimated	
Conservation Initiative	Savings Potential	
	U	
OUTDOOR		
Outdoor use as a percentage of indoor and outdoor use	60% to 50%	in Florida
Water Efficient Landscape & Irrigation System Rebates - Single Family	132 gpad	per account
Water Efficient Landscape & Irrigation System Rebates - Multi-Family	324 gpad	, per account
Water Efficient Landscape & Irrigation System Rebates - Non-Residential	978 gpad	, per account
Large Landscape Water Use Surveys	428 gpad	per account
Water Efficient Landscape - Xeriscape	16% to 75%	of outdoor use
Water Efficient Irrigation	10% to 40%	of outdoor use
Sensible Sprinkler Program	21%	of outdoor use
Landscape Audits	10%	of outdoor use
Irrigation Audits (SF)	50 gpd	per account
Irrigation Audits (MF)	125 gpd	per account
Irrigation Audits (Com.)		per account
Water Audits (landscape)	42 to 55 gpd	per account
Water Budgets:		
Single Family	78 to 156 gpad	per account
Multi-Family	192 to 384 gpad	per account
Non-Residential		per account
Water Restrictions - Mandatory	10% to 55%	per utility
Water Restrictions -	NA NA	NA
Water Restrictions - Mandatory	20% to 57%	per utility
Water Restrictions - Voluntary	-2% to 7%	per utility
Rate Structures (Overall Avg.)	13.82%	per utility
Base Fac. Charge with Uniform Gallon Charge w/rate increase	6.55%	per utility
Flat Rate To Base Fac. Chg with Uniform Gallonage Charge	44.79%	per utility
Min. Usage to Base Fac. Chg with Uniform Gallonage Chg.	9.70%	per utility
Inclining Block Rates (2 tier)	10%	per utility
Soil Moisture Sensors	10% to 24%	per account
Soil Probes	14% to 69%	per account
Rain Sensor Shut Off Devices	2,670 to 3,095 gpm	per account
Rainwater Harvesting Rebates (SF)	21.6 gpd	per account
Rainwater Harvesting Rebates (MF)	2057.gpd	per account
Rainwater Harvesting Rebates (Com.)	205.7 gpd	per account
Rain Barrels (SF)	2.3 gpd to 15 gpd	per account
Graywater Systems	NA 41.00	NA
Cisterns	41%	per account
Public Education	10%	per utility
Landscape Maint. Contracts	17% to 59%	per account
Average Water Savings Outoor		
Total Indoor/Outdoor		
Total indoor and outdoor savings from comprehensive programs	9% to 50%	per utility

2. <u>New Literature Search</u>

The literature search conducted by Burton & Associates focused on identification of studies, reports and analyses that addressed a quantitative evaluation of indoor water use relative to outdoor use to serve as benchmarks against which the results of the econometric modeling could be validated. As might be expected due to the narrow specificity of the search criteria, this literature search did not result in a large volume of references; however, one reference, "Residential End Uses of Water", which was sponsored by the American Water Works Association (AWWA), was particularly helpful in providing benchmarks for expected outdoor and indoor water use, with and without conservation measures.

B. <u>Survey of Selected Utilities Results</u>

The largest twenty-five (25) utilities in SJRWMD plus an additional thirteen (13) utilities that expressed an interest in this Study were included in the survey. Responses were received from twenty-one (21) utilities. The e-mail survey form and complete compilation of the survey results are presented in a separate deliverable provided to SJRWMD by PBS&J.

Eight (8) of the utilities that responded to the survey provided billing history data. The data from five (5) of these utilities was complete enough to be used in the econometric modeling and provided sufficient observations for the development of meaningful models. The results of the modeling process provided acceptable estimates of water use related to the explanatory variables included in the various models by utility and for all utilities combined.

C. <u>Econometric Modeling of Water Use Results</u>

The compilation of billing data and parcel and demographic data by account described in Section II – Analysis, fed directly into the econometric modeling process. After all billing records received from participating utilities were compiled and geocoded by subdivision and alternatively by census tract, the data was input into a series of

econometric models developed by Burton & Associates to evaluate water use relative to a number of explanatory variables, including variables related to identified water conservation practices. Regression analysis was performed for each individual utility with billing account data compiled at the subdivision level and for all utilities combined with billing account data compiled at the census tract level. The basis for determining these modeling approaches and the results of each are described in the following sections.

1. <u>Considerations of Econometric Modeling at the Subdivision Level versus the</u> <u>Census Tract Level</u>

Each subdivision represented an observation in the econometric modeling performed based on account records compiled at the subdivision level. Subdivision was considered to be an appropriate level at which to compile billing records because 1) subdivision is the smallest level at which a geographical cross-reference could be made with the property address of each billing record, 2) property attributes could be compiled from county property appraisers' systems at the subdivision level, and 3) properties within a subdivision are likely to be more homogeneous in their attributes than properties across a larger geographic area.

Property attribute data is available on county property appraisers' systems at the subdivision level, but no demographic data is available at the subdivision level either on county systems or Census Bureau databases. However, property attribute data can provide explanatory variables relative to water use, so modeling at this level was determined to be beneficial.

Modeling performed with billing account records geo-coded and compiled at the census tract level also was considered. Each census tract represents an effective observation in this modeling approach. This approach provides the ability to include demographic data, such as persons per household, as explanatory variables, which is not possible in the subdivision modeling approach; however, there are considerably fewer observations at the census tract level than at the subdivision level.

Notwithstanding the more limited number of observations in the census tract level modeling, it was determined that there were sufficient observations for the modeling

results to be reliable for all utilities on a combined basis. It was also determined that, when evaluated in conjunction with the modeling results at the subdivision level for individual utilities (which can provide insights into water use relative to property attributes), modeling at the census tract level for the combined utilities could provide beneficial insights into water use relative to demographic factors.

Therefore, it was determined that two modeling sets, one with billing account data compiled at the subdivision level for each individual utility and one at the census tract level for all utilities on a combined basis would be performed and the results of each would be considered in determining final conclusions regarding water use relative to conservation practices. A discussion of the results of each of these modeling approaches is presented in the following sections.

2. <u>Results of the Econometric Modeling Process</u>

The results of the econometric modeling process demonstrated that 1) the models can be used to accurately determine indoor and outdoor water use within a utility, thus identifying the potential for water savings in each area, and 2) the models can be used to accurately predict water savings from specific water conservation techniques, as long as the coefficients of the independent variables for each water saving technique can be identified. This was born out on the one conservation technique for which data was provided by one of the participating utilities.

Specifically, the econometric modeling results are summarized as follows:

a. <u>Indoor Water Use</u> - Indoor water use estimated by the individual utility models ranged from 48 gallons per capita per day (gpcd) to 68 gpcd. Indoor use for the combined utility model ranged from 55 gpcd to 86 gpcd. These estimates are consistent with the results of a benchmark AWWA study that identified expected indoor use to be from 45 gpcd to 69 gpcd for conserving and non conserving households, respectively.

Potential water savings for indoor use could not be quantified in the econometric modeling process because of the very limited amount of available

data. However, the econometric models developed could assess the effectiveness of indoor water conservation initiatives, 1) if such water conservation initiatives were implemented by utilities participating in the modeling effort, and 2) if data were provided indicating the accounts that were affected by the implemented water conservation initiatives.

- b. <u>Outdoor Water Use</u> Outdoor water use ranged from 12 gallons per capita per day (gpcd) to 133 gpcd. This is a broad range and reflects the discretionary nature of outdoor water use. The most consistent correlations found between outdoor water use and the explanatory variables included in the econometric modeling were 1) cost of water and water use, 2) availability of reclaimed water and potable water use, and 3) other explanatory variables over which utilities have little or no control and water use. These relationships to water use are discussed below:
 - 1) <u>Cost of water</u>:
 - Utilities with a higher cost of water (including the cost of sewer service if included in the water bill) have lower water use than utilities with a lower cost of water. Among the five sample utilities, the relationships between average monthly water use and total water and sewer cost, measured by correlation coefficients, are .82 and .77 at 10,000 gallons per month and 20,000 gallons per month use respectively. This means that from utility to utility, there is a strong correlation between price and water use as price increases, water use decreases. While this sample of utilities is relatively small, the values for average water use and price are composed from nearly 160,000 customers. Therefore, this observed relationship is not coincidental and would be expected to hold with a larger sample size. The table below demonstrates these relationships.

Water and Sewer Charges	Average monthly Water Use (gal)	Total W&S Cost at 10,000 gal	Average Rate per 1,000 gal	Total W&S Cost at 20,000 gal	Average Rate per 1,000 gal
Utility A	5,969	\$ 62.25	\$ 6.23	\$ 91.05	\$ 4.55
Utility B	5,276	\$ 83.01	\$ 8.30	\$ 133.06	\$ 6.65
Utility C	15,760	\$ 43.65	\$ 4.37	\$ 65.85	\$ 3.29
Utility D	11,293	\$ 50.90	\$ 5.09	\$ 77.80	\$ 3.89
Utility E	6,559	\$ 57.76	\$ 5.78	\$ 87.86	\$ 4.39
Simple Correlation		-82%		-77%	

- The elasticity of demand, relative to this lower water use in response to a higher cost of water, falls consistently within a range of -0.20 to 0.40, which is consistent with the findings of much of the industry research on elasticity of demand of water use in response to the cost of water¹.
- Water customers who are also sewer customers have lower water use than water only customers, and the difference is consistent with the elasticity response to the higher cost of water (including the cost of sewer service in the "cost of water").
- The cost of water exhibits a strong correlation to water use. However, the modeling results could not conclude if, and how much, rate structure impacts water use.
 - Three (3) of the five (5) utilities included in the modeling process, had inclining block water rates and two (2) had uniform water rates. All but one of the rate programs with inclining block rates also capped sewer billings for residential customers in the range of 10,000 15,000 gallons per month. One of the uniform rates programs did not cap residential sewer billings, while the other

¹ For every 1% increase in the cost of water, water use decreases by from .20% to .40%.

uniform rate program did cap residential sewer billings at 15,000 gallons per month².

- The fact that the econometric modeling did not recognize rate structure as a significant variable relative to water use may be due to the fact that capping residential sewer billings in an inclining block rate structure effectively amounts to a declining block rate when total water and sewer cost is considered. Therefore, in the range of use where residential sewer billings are capped, a uniform rate without a residential sewer billing cap effectively elicits a similar water use response to that of an inclining block rate structure with a residential sewer billing cap.
- The modeling output included the total cost of water and sewer service at 10,000 gallons per month per household. It may be that further study of water use at higher levels could indicate a stronger response to rate structure. However, the model indicates that customer water use will respond to the total cost of water and sewer service rather than the isolated cost of water even at higher levels of use. Therefore, unless the inclining block rate structure includes rates at use levels above the residential sewer billing cap that are greater than the combined rate for water and sewer in a uniform rate without a residential sewer billing cap, the results will likely be similar to those observed in this Study.

2) Availability of reclaimed water:

• Increasing the percentage of customers using reclaimed water resulted in significant potable water use reductions for all utilities modeled for this Study.

² These rate structures, and the associated policies regarding capping of residential sewer billings are consistent with the most commonly seen rate structures in Florida today.

• Increasing the percentage of customers using reclaimed water to 100%, reduced potable water use per capita to a range that is consistent with the level of indoor water use determined in the benchmark AWWA study for all utilities modeled. Consistency of these results with the benchmark AWWA study for indoor water use gives confidence that the econometric models are providing a good estimation of water use reduction for reclaimed water; however, the presence of reclaimed water may or may not eliminate all outdoor use in all cases.

3) Other explanatory variables over which utilities have little or no control:

- The modeling results properly explained change in water use in response to changes in explanatory variables over which utilities have little or no control such as:
 - Yard size: reducing yard size to zero, effectively eliminated outdoor water use,
 - Presence of a pool: the presence of a pool indicated 10 to 15% greater water use than when no pool was present,
 - Persons per household: increasing persons per household increased water use consistent with the range of indoor use per capita determined from the benchmark AWWA study.
 - Average living area: a larger average living area indicted a higher water use (assumed to be in part, a reflection of household size in persons per household).
- The modeling results for each utility evaluated consistently predicted changes in water use relative to changes in explanatory variables over which utilities have little or no control. This is important because it

validates that the models are attributing reasonably accurate estimated changes in water use to the explanatory variables. Therefore, if conservation initiatives were implemented in the studied utilities and were included as explanatory variables in the set-up of the models, these results indicate that the models would predict the effect of those conservation initiatives upon water use and therefore the potential for water savings.

c. <u>Specific Water Conservation Initiative</u> – The results of the econometric modeling process provided an estimate of the effectiveness of expected water savings for only one specific conservation initiative, other than price and reclaimed water, because of the limited amount of available data. The one conservation initiative for which data was available involved targeting customers to inform them about potential irrigation savings and proactively providing irrigation audits to high water use customers.

The expected water savings from the implementation of this conservation initiative were determined to be 0.2 mgd for the area in which the initiative was implemented (17% of the service area). Implementation throughout the entire service area would be estimated to result in 0.8 mgd in water use savings. This equates to 8 gcpd of water savings on an overall average basis.

It is important to note that the analysis of this one water conservation technique is based upon a limited application of the technique in only one utility. Therefore, until additional observations can be made of the effects of this technique in other utilities, general conclusions should not be made as to the expected water savings or the probability of such water savings being sustained over time.

IV. CONCLUSIONS

The primary purpose of this Study was to determine the effectiveness of water conservation techniques on water use to assist SJRWMD in projection of potential water savings throughout SJRWMD if selected water conservation practices were implemented on a wide-spread basis. Conclusions can be drawn from this Study to support such projections; however, insufficient information regarding specific conservation practices was available to evaluate those practices through the econometric modeling conducted during this Study. Therefore, conclusions have been based on not only the econometric modeling, but also the results of the literature review conducted during the Study. There are three primary areas of conclusions that can be drawn from the results of this Study:

A. <u>Conclusions Regarding Specific Water Conservation Techniques</u>

The literature review provided ranges of water savings from a number of conservation techniques that were implemented. These ranges can be used to estimate the expected water savings from the implementation of these conservation initiatives (see Table 1). However, if the data in Table 1 are to be used to predict water savings from the implementation of identified water conservation techniques within SJRWMD, it should be used cautiously. Because the studies from which the water savings in Table 1 were derived vary in terms of 1) consideration of other explanatory variables, 2) reliability of the data upon which the results were derived, 3) demographic profile of utility customers within the study areas and 4) geographic area and the influence of weather patterns, it is probably reasonable to conservatively assume that no greater water savings than represented by the lower quartile of the ranges of water savings identified herein for any water conservation technique will be achieved.

B. <u>Conclusions Regarding Econometric Modeling</u>

There are three areas where specific conclusions can be drawn from the results of the econometric modeling conducted during this Study. These conclusions are presented as follows:

- <u>Value of econometric models</u> The econometric models developed in this study have proven to provide 1) a good prediction of indoor versus outdoor water use for participating utilities, and 2) a good prediction of the reduction in water use relative to changes in explanatory variables. Therefore, it is concluded that these models could be used in a more comprehensive and/or extended study of the effectiveness of water conservation techniques in achieving water use reductions.
- 2. <u>Specific Conservation Initiative</u> The results of the econometric modeling process indicated that implementation of a targeted initiative to inform customers regarding potential irrigation savings and proactively provide irrigation audits to high water use customers in order to reduce inefficient water use practices achieved water savings of 8 gcpd.
- 3. <u>Price and Rate Structure</u> The cost of water exhibits a strong correlation to water use. However, the modeling results could not conclude if and how much the specific rate structure impacts water use. Therefore, when rate structure is considered in terms of its effectiveness relative to water conservation, it is concluded that rate structure should be evaluated for its effect upon water use relative to 1) the total resultant cost of water and sewer service in the ranges of use where water conservation is desired and 2) the desired reduction in water usage in those ranges of use.
- 4. <u>Reclaimed Water</u> Availability of reclaimed water is a significant explanatory variable relative to potable water use and must be considered in any econometric modeling of water use. The modeling conducted in this Study found a direct relationship between the availability of reclaimed water and reduced potable water use.

However, reclaimed water 1) is initially a costly initiative, and 2) may present problems in terms of available supply relative to demands during extended dry seasons. Therefore, it is concluded that any consideration of reclaimed water should recognize these factors and it should be evaluated in the context of other, less costly and potentially less problematic conservation initiatives.

C. <u>General Conclusions</u>

<u>1) Water conservation data collection through CUP process</u> – This study revealed that most utilities either have not implemented significant water conservation initiatives, or do not capture data regarding the implementation of water conservation initiatives in a manner that is readily available. It is concluded that if SJRWMD desires to have this type of data available for future analyses of the effectiveness of water conservation techniques, availability of such data could be required as a condition of a utility's Consumptive Use Permit (CUP) application. This would also provide the ability to better assess the utility's water conservation efforts, and their effectiveness, in the evaluation of the CUP application.

<u>2) Water conservation data collection through SJRWMD sponsored study</u> – The required data could also be obtained as a part of a larger water conservation study sponsored by SJRWMD. Such a study could include 1) an initial study, 2) the commitment of participating utilities to implement certain water conservation techniques and to maintain certain data regarding those water conservation initiatives in their billing systems and 3) the provision for monitoring participants over time to study the effects of water conservation techniques as they are implemented.

POTENTIAL WATER SAVINGS OF CONSERVATION TECHNIQUES SECTION V – RECOMMENDATIONS

V. RECOMMENDATIONS

The following recommendations were developed based upon the analysis conducted in this study and the conclusions presented in the prior section:

1. <u>Recommendation</u> - It is recommended that the results of this study be used cautiously as a predictor of water savings for specific water conservation techniques. If the results of Table 1 are used to predict water use reductions, it is conservatively reasonable to assume that no greater water savings than represented by the lower quartile of the ranges of water savings identified therein for any water conservation technique will be achieved.

Explanation - Essentially all of the data regarding expected water savings for specific water conservation techniques presented in Table 1 was based upon the review of the results of other studies throughout Florida and the country. Caution is recommended in the use of water savings data because the studies from which the water savings were derived vary in terms of 1) consideration of other explanatory variables, 2) reliability of the data upon which the results were derived, 3) demographic profile of utility customers within the study areas and 4) geographic area and the influence of weather patterns

2. <u>Recommendation</u> – It is recommended that a more extensive study be conducted to provide a more meaningful analysis of expected water savings from specific water conservation techniques. That study should build on the results of this study and use the modeling tools and techniques developed in this study to more fully evaluate the effects of water conservation techniques upon water use for utilities within SJRWMD. The study could include sampling and other data gathering and analysis techniques to perform the initial analysis. In addition, data capture, retrieval and compilation systems should be put in place at the utility level (see Recommendation 3) to provide empirical utility level data that can be used to update and calibrate the analysis periodically.

POTENTIAL WATER SAVINGS OF CONSERVATION TECHNIQUES SECTION V – RECOMMENDATIONS

<u>Explanation</u> – During this study an extensive literature review established a significant data base of the results of other studies relative to expected water savings of water conservation techniques. These results are informative, but are not necessarily reflective of expected water savings for utilities within SJRWMD for the reasons given in the explanation of Recommendation 1. In a more extensive study, the results of the literature review could provide benchmarks against which modeling results specific to utilities within SJRWMD could be compared for validation.

In the econometric modeling component of this study, very limited data was available regarding specific water conservation techniques from the participating utilities, making it impossible to predict water savings for specific water conservation techniques.

However, the models and modeling techniques used in this study proved to provide a good prediction of 1) indoor versus outdoor water use for participating utilities, and 2) change in water use in response to changes in virtually all explanatory variables modeled. Therefore, if more complete data were available in a more comprehensive study, the models developed in this study could be used to provide a good prediction of expected water savings for each water conservation technique evaluated.

3. <u>Recommendation</u> – It is recommended that consideration be given to requiring that certain data relative to implementation of conservation techniques be maintained and reported by utilities as a condition of the consumptive use permit (CUP) application.

Explanation – To provide a meaningful assessment of the effectiveness of water conservation techniques, it is essential that as much specific data as possible be maintained at the utility level regarding experience with implementation of those techniques. This will provide the ability to study the effects of water conservation techniques over time, based upon a reliable and regularly maintained base of data.

APPENDIX A – LITERATURE SEARCH

This Appendix presents the results of the review of the literature search provided by SJRWMD. The previous research compilation divided the literature into two categories: Indoor Water Conservation Studies and Accompanying Summaries and Outside Water Conservation Studies and Accompanying Summaries. These categories are discussed in the following sections.

A. <u>CATEGORY 1 – INDOOR WATER CONSERVATION STUDY</u> <u>SUMMARIES WITH RESULTS IN TERMS OF WATER SAVINGS</u>

This category includes subcategories of selected studies on conservation initiatives such as 1) Comprehensive Programs or those programs that include multiple indoor water conservation initiatives; 2) Retrofit With Ultra Low Flow Toilet Programs; 3) Ultra Low Flow Toilets Programs; 4) Retrofit Kit Programs; 5) Efficient Clothes Washers Programs; 6) Indoor Audit Survey Programs; 7) Efficient Dishwashers Programs; 8) Plumbing Leak Repair Programs; 9) Pressure Reduction Programs; 10) Recycled Water for Plumbing Programs; 11) Sub-Metering Programs; 12) Hot Water On Demand Programs; and 13) Public Education Programs. These subcategories, and a synopsis of each study reviewed within the subcategory are discussed below.

1. <u>Subcategory 1. Comprehensive Programs</u>

This subcategory included the results of ten separate studies. Each study was different in scope, objective and duration. Each comprehensive program embodied a different combination of conservation initiatives including efficient clothes washer programs, ultra low flow toilet (ULFT) programs, plumbing retrofit kit initiatives, water use surveys, classroom education programs, flapper rebate washer programs, graywater programs, compost toilets, water metering programs, etc. Each comprehensive program was implemented with varying degrees of success as a result of variables such as the overall aggressiveness of the implementation program, implementation program budget and staff, voluntary or mandatory status of the initiative, fixture installation support, marketing/information campaign prior to and during the program, etc. The number and classification of participants varied, as did the findings with regard to estimated water conserved per participant, total water conserved or overall reduction in water use experienced.

Ayers Associates, SWFWMD – Development of Water Conservation Options (2000) – Following completion of the Regional Water Supply Plan, SWFWMD explored voluntary and mandatory non-agricultural water conservation measures to identify, evaluate and prioritize conservation measures for public and nonpublic sectors and the total amount of water that could be saved from these indoor and outdoor measures for 20 years. Specific conservation measures were selected for further analysis. The study findings in terms of water savings include the following:

Water Efficient Clothes Washers - 5.7 gpcd Plumbing Retrofit Kits – 9 gpcd to 10.5 gpcd Ultra Low Volume (ULV) Toilet Rebates – SF – 13.3 gpcd to 18.4 gpcd Ultra Low Volume (ULV) Toilet Rebates – MF – 19.5 gpcd to 20.9 gpcd Ultra Low Volume (ULV) Urinal Rebates – 59% gprd Water-Efficient Landscape and Irrigation System Rebates – SF – 132 gpad Water-Efficient Landscape and Irrigation System Rebates – MF – 324 gpad Water-Efficient Landscape and Irrigation System Rebates – NR – 978 gpad

Industrial, Commercial, and Institutional Water Use Surveys:

Industrial – 19% Potential Savings Realized or 5,250 gpad Educational Inst. – 35% Potential Savings Realized or 1,720 gpad Hotel/Motel – 67% Potential Savings Realized or 3,467 gpad Retail/Wholesale – 61% Potential Savings Realized or 1,774 gpad Restaurants – 29% Potential Savings Realized or 562 gpad Office Buildings – 63% Potential Savings Realized or 2,790 gpad Nursing Facilities – 15% Potential Savings Realized or 594 gpad Large Landscape water Use Surveys – 428 gpad Rain Sensor Shut-Off Devices – 3,095 gallons per device per month Water Budgeting – SF – 78 to 156 gpad (50% to 100% compliance) Water Budgeting – MF – 192 to 384 gpad (50% to 100% compliance) Water Budgeting – NR – 578 to 1,156 gpad (50% to 100% compliance)

As stated in this study, the water savings estimated in a 1994 study (Bamezai et al., 1994) were broken out into pre-1980 construction and post-1980 construction categories due to the different plumbing codes after 1980. The following estimates present the average of those two categories:

<u>Low Flow Showerhead Retrofits – 5.05 gpcd</u> <u>Toilet Retrofit with Water Displacement Devices – 0.65 gpcd</u> <u>Leak Repair – 0.5 gpcd</u> <u>Landscape Audit – 10% of outdoor use</u>.

GDS Associates – Texas Water Development Board Study (2002) – This study was commissioned in 2001 to quantify the effectiveness of selected water conservation techniques within the region. The results were estimated as follows:

<u>SF Toilet Retrofit – 10.5 gpd</u> <u>SF Showerhead/Aerator – 6.8gpd</u> <u>SF Clothes Washer – 5.6 gpd</u> <u>SF Irrigation Audit – 50 gpd</u> <u>SF Rainwater Harvest – 2.3 gpd</u>

MF Toilet Retrofit – 10.5 gpd MF Showerhead/Aerator – 5.5gpd MF Clothes Washer – 30 gpd MF Irrigation Audit – 125 gpd MF Rainwater Harvest – 205.7 gpd C Toilet Retrofit – 26 gpd C Clothes Washer – 24 gpd C Irrigation Audit – 125 gpd C Rainwater Harvest – 205.7 gpd

Contra Costa Water District – Contra Costa Conservation Report – This report documents overall results from the program during the year 2002. In this District, the report states that 60% of water use is indoor and 40% is outdoor. Of the conservation initiatives implemented in the District, the ULFT replacement initiative provided the most water savings. The results of the program, in terms of water savings are stated below:

<u>ULFT Replacement - SF - 32.2%</u> <u>ULFT Replacement - MF - 15.4%</u> <u>Water Conservation Survey - SF - 14.7%</u> <u>Water Conservation Survey - MF - 14.8%</u>

Single-family surveys reduced consumption by an average of 42 gpd to 55 gpd.

During FY 02, over 1800 acre-feet of water, or 1% of demand was saved through the use of quantifiable conservation activities.

The City of Guelph – Water Conservation and Efficiency Implementation Study (2000) – This program included a multi-residential toilet rebate program; multi-residential clothes washer rebate program; and public education and awareness program. The results in water savings were as follows:

<u>Toilet Rebate Program – 20-55 cubic meters/year per toilet</u> <u>Washing Machine Replacement – 77-123 cubic meters per machine</u> <u>Industrial/com./inst. buy back programs – 8,000 cubic meters per year</u> <u>Public Awareness Program – 1.5% of household demand</u>

Seattle Public Utilities (SPU) – Residential Efficiency: The Impact of Complete Indoor Retrofits (Amanda Boes) - This study included 37 homes that had been retrofitted with water conserving fixtures. The results as stated by percent of water savings by category were as follows:

Bath faucets – 27.9% water savings post retrofit Clothes Washer – 37.7% water savings post retrofit Dishwasher – 13.6% water savings post retrofit Faucet – 13.1% water savings post retrofit Leak – 66% water savings post retrofit Shower – 3.8% water savings post retrofit Toilet – 58.1% water savings post retrofit Total Indoor – 37.2% water savings post retrofit

Westminster, Colorado – Show Me the Savings! Do New Homes Use Less Water? (Amanda Boes) – This study examined the water use in four groups of homes based upon when they were built (1977 to 1998). The water use was disaggregated into component end uses (toilets, faucets, etc.) and compared at the fixture level, on a daily per capita basis, in terms of annual demand. The following results in terms of water savings were demonstrated:

<u>ULF Toilets - 5-9 gpcd</u> <u>Horizontal axis clothes washers - 3-5 gpcd</u> <u>On-Demand Hot Water Systems - Inconclusive</u>

Lafayette & Wilsonville, Oregon – The Save Water and Energy Education Program: SWEEP Water and Energy Savings Evaluation – This program included the installation and field evaluation of high-performance water- and energy-efficiency equipment including efficient clothes washers, dishwashers, toilets, low-flow showerheads, and faucet aerators. The results in terms of water savings were as follows:

Total Average Annual Per-Home Indoor Water Savings - 25%

Rocky Mountain Institute – Water Efficiency: The Next Generation (1998) – In 1992 National Plumbing Standards passed by congress marked a turning point for US manufacturers of toilets, faucets and showerheads. However this study compiled results from other studies to promote water conservation education. Some of the compiled study results include the following:

Toilets – A new dual flush mechanism that discharges 1.6 gallons for a full flush and just 3 liters for a half flush (for liquids only), provides a 40% reduction in water used.

<u>Showerheads – Use of throttling valves affords greater savings.</u>

Faucets – Laminar-flow faucets produce a more efficient water stream and a footpedal control avoids waste.

<u>Graywater – Other studies show that up to 50% reduction in home total water</u> <u>consumption can be achieved with a graywater system.</u>

<u>Composting toilets – Though only useful in certain applications, they eliminate</u> <u>the need for 28% of indoor water consumption.</u>

Water Meters – In other countries, meters are located in visible spots for easy reading by users, and they measure hot and cold water separately.

Rocky Mountain Institute – Water Efficiency for Your Home (1995) – This booklet was designed to provide the average person with information on how to cut their water use. Statements in the booklet include the following:

U.S. indoor residential water use is estimated to average 80 gallons per person/day

ULFT may save you 15,000 gallons per year Water efficient faucets reduce indoor use by 3-5% Horizontal axis washing machines reduce water needed for washing 30-60% Composting toilets reduce indoor water consumption by 30%

2. <u>Subcategory 2. Retrofit with ULF Toilet Program</u>

This subcategory included the results of three separate retrofit studies that included ULF toilets. Subcategory 3, which follows, presents the results of studies that focused on ULF toilet programs specifically.

United States General Accounting Office – Water Infrastructure: Waterefficient Plumbing Fixtures Reduce Water Consumption and Wastewater Flows (2000) – This study examines the impact of national water efficiency standards on water consumption levels and wastewater flows. The results of the study, in terms of water savings, were documented as follows:

Low Flow Toilets – 40% water savings

Water-Efficient Clothes Washers - 37% to 61% water savings

Retro-Fit Homes - 41% to 57% water savings

Overall Impact of Implementation of National Standards – 3.3% to 9.1% water savings by 2020

East Bay Municipal Utility District – Residential Indoor Water Conservation Study (2003) – This evaluation of high efficiency indoor plumbing fixture retrofits in single-family homes in the East Bay Municipal Utility District Service Area. The results in terms of water savings were stated as follows:

<u>Toilet Leak Repair – 50% of total retrofit water savings</u> <u>Total Retrofit – 35.5% water savings</u>

Aquacraft and University of Colorado, Boulder – Conservation Retrofit Effectiveness: A Risk Based Model Using Precise End-Use Data (1996) – The purpose of this project was to develop a simple model for assessing the effectiveness of a toilet and showerhead retrofit program in Boulder, Colorado. The model output for this study indicated the following in terms of water saving results:

Retrofit Project - 50% water savings (peak annual use)

3. <u>Subsection 3. Ultra Low Flow Toilets</u>

This subcategory presented the results from seventeen (17) studies that included rebate, replacement, retrofit, direct install and testing programs for ULF toilets. These studies examined through various methods, the use of Ultra Low Flow Toilets in place of old-style toilets. Each of these studies varied in the length of time the program was in place, type or size of unit studied (residential, commercial, public) and the mandatory or voluntary status of the program. In some cases, these programs earmarked a policy change requiring ULFT installation for new development and re-development and are therefore on-going. Several important findings were highlighted in this subcategory including 1) for every 15 toilets replaced, a utility can add one new household without further impacting the water resource, 2) direct install for retrofit programs solve leak issues in addition to the savings achieved by the ULFT, 3) it is cost effective to target institutional buildings for ULFT retrofit, 4) and ULFTs stay installed and continue to save for many years. On average, the ULFT programs that were similar in scope were estimated to produce water savings per unit of 38 gallons per day. Presented below are summaries for each of the studies within this subcategory.

Volt VIEWtech for Hillsborough County Water Department – Ultra Low Flow Toilet Rebate Program (2001) – This voluntary program had a goal of 7,300 rebates with 100% on site inspections and customer surveys, as well as old toilet recycling. The results of the program in terms of water savings are as follows:

ULFT Rebate Program - Approximately 47 gpcd

St. Petersburg, Florida – Ultra Low Flow Toilet and Water Use Evaluation Rebate Project (P-784) (1999) – This program began in 1997. The results of this project in terms of water savings are as follows:

<u>ULFT – 739 gpm for single-family homes</u> <u>ULFT – 1,149 gpm for multi-family homes</u>

City of Tampa Water Department – The Impact of Water Conserving Plumbing Fixtures on Institutional and Multi-Family Water Use (1993) – This project was a case study that documented levels of water savings achieved by plumbing fixture replacements with low flow equivalents in an apartment complex and a junior high school. The results of this case study in terms of water savings were reported in this study as follows:

Apartment Retrofits – 15.6 gal/apt/day or 17.4% Junior High School Retrofits (Leak Repair) – 851 gpd or 20% savings Junior High School Retrofits – 668 gpd or 33% savings Total JH School Retrofit + Leak Repair – 1,519 gpd or 53% savings

City of Tampa Water Department /SWFWMD – The Great Toilet Rebate Program (1997) – During this rebate program, 4,824 rebates were processed, (1,952 single family, 2,857 multi-family, and 15 commercial). The results of this program in terms of water savings were reported in this study as follows:

Toilet Rebate - 38 gallons per day per household

Ayres & Associates/CH2MHill/City of Tampa – Water Savings and Participant Satisfaction Realized: City of Tampa Toilet Rebate Program Evaluation - This evaluation was conducted on the rebate program that began in 1993 and ended in 1994. The purpose of the evaluation was to quantify water use reductions and customer satisfaction with this program. Approximately 530 households participated in the pilot program resulting in 700 toilets being replaced. After calculating average daily water use for the participants, the difference between participant households' average daily water use before and after the retrofit was compared to determine savings. The results of this evaluation in terms of water savings were reported as follows:

<u>ULFT Retrofit – 38 gal/house/day or a 15% savings.</u>

AWWA – Sarasota County Environmental Services Utility – Case Study: Sarasota County Environmental Services Utility – This case study provided a review of the Get Wet (Water Efficient Toilet) Toilet Rebate Program. The results of this case study were reported in terms of satisfaction rate with new toilets. Also, it was reported that "for every 15 toilets replaced, Utilities can add one new household without impacting the resource".

John Olaf Nelson Water Resources Management, Petaluma, California – A High Participation CII ULFT Replacement Strategy (2000) – This program was an aggressive direct-install program in an attempt to achieve a 19% replacement rate in the first program year. The retrofit program also included urinal valve kits, showerheads, aerators and indoor faucets. The results of this program in terms of water savings were reported in this study as follows

<u>ULFT – 25.6 gpd savings</u> <u>GPF Urinals – 10 gpd per fixture</u> <u>Low Flow Shower Heads – 13.3 gpd per fixture</u> <u>Faucet Aerators – 1.2 gpd per fixture</u>

Austin, Texas – Environmental and Conservation Services Department – Free Toilet Program: Cheaper Than Rebates – In 1994 the City of Austin began offering free ULF toilets to residential customers. The results in terms of waters savings are reported as follows:

ULFT/Showerhead & Leak Repair - 38.7 gpd per household

San Diego County Water Authority/Western Policy Research – Designing an Effective Public Institutions Plumbing Retrofit Program: A Multi-Agency Approach – With a commitment to assist in the funding of ULFT retrofit program for commercial, industrial and institutional customer classes, the Authority has reported these findings in terms of water savings:

ULFT Retrofit Program - Average savings of 76.8 gpd per toilet

San Diego County Water Authority, California – A Comprehensive Approach to Toilet Retrofitting – This program was an aggressive ULFT retrofit program. Over 200,000 ULFTs were installed by June 1995. No results in terms of water savings were documented in this report.

Regional Municipality of Waterloo, Canada – Water Conservation Program – A Case Study – 1994 Toilet Replacement Program – This study is an overview of the Tri-City area 1994 Toilet Replacement Program. A pilot program produced 20% to 30% savings and inspired this program. The results of this program in terms of water savings were reported in this study as follows:

<u>ULFT Replacement Program - 20% to 40% savings</u>

EPA – High Efficiency Toilets – This article presents documentation of various results from studies of the impact of the Energy Policy Act of 1992 that established a national manufacturing standard of 1.6 gpf for most toilets. Toilets are the greatest users of water in the average home. General statements of results in terms of water savings from EPA studies are documented below:

Residential 1.6 gpf toilets - General Average- 23-46% water savings

AWWA 1999 Study – ULFTs – 10.5 gpd water savings over traditional toilet

National Results – 7.6 billion gpd by 2020 or 20% of water supplied by public water systems in 1995.

Home Energy Magazine Online – The Big Flush Saving Water in the Big Apple (1994) – This article online discussed the City of New York's toilet rebate program that began in 1994. No results in terms of recorded water savings were reported in this article.

National Association of Home Builders Research Center for Seattle Public Utilities/East Bay Municipal Utility District – Water Closet Performance Testing – This purpose of this performance test was to develop information on product performance, water savings reliability, and physical characteristics that will assist the consumer in evaluating products and making purchasing decisions. Also, to evaluate the NAHB Research Center's flush performance test protocol. No results in terms of water savings were reported.

Kelly Faloon – Water Conservation: The Great Toilet Debate (2002) –This article includes statistics on water savings from multiple sources to support the Energy Policy Act of 1992. Listed below are some of those statements of water savings made in the article:

1.6 gpf ULFT - 7,900 gallons to 21,700 gallons per year per toilet

Metropolitan Water District of Southern California – *Verification by Inspection: What is the Truth* – This study assessed the practice of in-residence inspection programs for verification of installation of plumbing fixtures and devices. No results in terms of water savings were identified in this study.

Hillsborough County, Florida – Design and Implementation of ULFT Rebate Programs in the Southeast – This article discussed four primary components of planning and implementing successful ULFT rebate programs in Florida and the Southeast. This article did not present results of documentation of water savings for ULFT Rebate Programs.

4. <u>Subcategory 4 – Retrofit Kits</u>

This subcategory included ten studies of the results of providing (either for a fee or at no cost) plumbing retrofit kits to a varied group of participants. The kits varied in component makeup to include showerheads, shower timers, kitchen aerators, bathroom aerators, toilets, tank bags, toilet leak detection dye tablets, toilet tummies, toilet dams, etc. The degree of success of each program depended upon variables such as pre-installation education programs, whether delivery of each kit was made to the participant or pick up required, installation support availability and quality, and makeup of each kit provided. Given the many variables, the water savings fell within the range of 4.6% to 15.6%. The benefits of these programs included rapid recoup of program costs via deferred capital costs of new water supply programs. Presented below are summaries for each of the studies within this subcategory.

City of Winnipeg, Manitoba – Water and Waste Department – Evaluation of Nine Residential Retrofit Methods (Conserv 96) – This pilot program was developed to test various methods of kit distribution for the 155,000 single-family homes in Winnipeg included in the residential retrofit program. The results of this evaluation did not include documentation of water savings.

City of Gulfport – Hallenco Services – Public Services Department Water Conservation Retrofit Program Analysis & Water Savings Evaluation (1997) – This program included a public awareness program and a personalized approach to kit make-up and distribution. The program included the results of 147 participants, of which 94% installed the retrofit kit. The results of the program in terms of water savings are documented below:

Retrofit Kit Program (138 participating homes) - 56,000 gpd or a 4.6% savings

City of Plant City Utilities Department – *Water Conservation Retrofit Program Analysis & Water-Savings Evaluation* – In 1993 the City implemented a comprehensive retrofit program. A personalized approach for pre-selection and installation process was designed for the plumbing retrofit program. Approximately 2,200 personalized kits were hand-delivered to each participating household. Water use analysis was made comparing data from actual monthly statements pre- and post retrofit. The results in terms of water savings are presented below.

<u>Retrofit Program – 17% per person per year savings or 7,000 gallons per person</u> <u>per year</u>

City of Dunedin – Water Saver Kit Retrofit Program (1995) – The City implemented a plumbing retrofit program to interested residents using a "depot method". An 18-month study included pre- and post retrofit water bill consumption information in four cycles. The results in terms of water savings are presented below.

<u>Retrofit Program – 15.6% average single-family savings</u> <u>Retrofit Program – 5.1%% average multi-family savings</u> <u>Retrofit Program – 13.5% average city-wide (residential and commercial) savings</u>

Southwest Florida Water Management District –Regional Plumbing Retrofit Initiative Targeting West Central Florida Residents and Visitors – The District developed a plumbing retrofit program that provided 200,000 homes with retrofit kits. The results in terms of water savings are presented below.

Retrofit Program – 9.5 gpd savings per household

Other results stated in the report were as follows:

Pinellas County Pilot Retrofit Project - Hotel/Motel - 6 gpd per occupancy

St. Petersburg Residential Retrofit Program - 1.36 mgd savings

Pinellas County Water Systems – Water Conservation Program (1993) – This three phase program was developed to distribute 200,000 plumbing retrofit kits over 1 ½ years. Contact was made with 73.96% of the targeted households and 95.68% of those contacted installed the retrofit kit. No information on water savings was documented in this study.

City of Tampa Water Department – Conservation Phase IV Residential Retrofit Program Final Report (1994) – The final report for this residential retrofit program reported that Phase IV included the distribution of 20,000 kits. Each contained a toilet tummy, a low flow showerhead, two faucet aerators, two leak detecting tablets, a window decal and instructions. This Phase resulted in a 65.59% contact rate with a 92.57% participation rate. The results of this report in terms of water savings are documented below.

Total Retrofit Program - 512,072 gpd savings

City of Tampa Water Department – Residential Retrofit Evaluation: Analysis of Pilot Program (1991) – This program was established in 1989 with a goal to retrofit 10,000 pre-1984 homes with low-flow plumbing devices. Some or all of the devices were installed in approximately 93.8% of the targeted homes. The results of this report in terms of water savings are documented below.

Retrofit Program - 21.1 to 22.3 gpd per household savings

Pasco County, Florida – Retention Rate Survey and Water Savings Analysis (1996) – Approximately 5,243 water conservation kits distributed to single family residents who were targeted as high water users were evaluated. Billing records were examined from the participants. The billing records of a control group who

had not received the kits (251) were also examined. The results of this report in terms of water savings are documented below.

Retrofit Program - 4,558.85 gallons per household per year savings

Texas Water Development Board, Harris-Galveston Coastal Subsidence District – *Effectiveness of Retrofit in Single Family Residences and Multifamily* **Projects** – This study was conducted from the Fall of 1991 to the Spring of 1992 to assess the cost-effectiveness of water and energy consumption and user satisfaction. Three devices were chosen for the study (kitchen aerator, bathroom aerator and low-flow showerhead). Billing records were analyzed of actual preand post retrofit water use to determine the water savings. The results of this report in terms of water savings are documented below.

 $\frac{Retrofit\ Program-SF-14.13\ gpp/day\ or\ 18\%\ of\ avg.\ consumption}{Retrofit\ Program-MF-27\%}$

5. <u>Subcategory 5 - Efficient Clothes Washer Program</u>

This subcategory included the results of six studies that examined the effectiveness of using high-efficiency, horizontal-axis (h-axis) washing machines in terms of energy savings and water conservation. These Efficient Clothes Washer programs varied by user group, implementation program and method for data collection, however, the estimated water savings were found to be between 20% and 50%. Presented below are summaries for each of the studies within this subcategory.

Pacific Northwest National Laboratory – The Economics of Commercial-Grade Horizontal-Axis Clothes Washers: Detailed Metering and Real-World Savings (1999) – This study was conducted to evaluate the energy and water efficiency of high-performance (horizontal-axis) clothes washers for barracks applications. A two-phased approach was used. Phase I included baseline metering of 3 barracks laundry rooms each containing six vertical-axis clothes washers. Phase II included the installation of 18 horizontal-axis clothes washers, six from each of the three different manufacturers, putting a clothes washer from one manufacturer in every barrack laundry room. The results of this report in terms of water savings are documented below.

Efficient Clothes Washer Program (H-Axis) - 50% water savings over V-Axis

United States Bureau of Reclamation – High-Efficiency Washing Machine Demonstration, Bern, Kansas (1999) – The Department of Energy (DOE), the citizens of Bern, Maytag Corporation, the Bureau of Reclamation and the Kansas Rural Water Association cooperated to measure water and energy savings derived from h-axis washing machines in a demonstration project in Bern. Initially, 103 clothes washers were instrumented and analyzed for specific data. All of these washers were then replaced with h-axis washers and data was again collected. The results of this report in terms of water savings are documented below.

Efficient Clothes Washer Program – H-Axis – 38% estimated overall savings or 15.7 gallons per load

Seattle Public Utilities, Resource Conservation – WashWise – Successful Market Transformation in Action (1999) – This large market transformation program was developed to elevate public awareness in the regional market of efficient clothes washers. The program used cash incentives and marketing/promotional campaigns to promote distribution and use of these washers. The results of this report did not include water savings estimates, however, the report makes the following statement:

Efficient Clothes Washers are 50% more water and energy efficient.

Seattle Water and Seattle City Light - THELMA: Assessing the Market Transformation Potential for Efficient Clothes Washers in the Residential Sector (1992) – THELMA (The High Efficiency Laundry Metering & Marketing Analysis) was created in 1992 during a collaborative effort by Seattle Water and Seattle City Light. This study cited that in 1992, clothes washers used 16,200 gallons of water annually. The results of this study indicated the following in terms of water savings:

Efficient Clothes Washer Program - H-Axis - 20% estimated overall savings

U.S. Water News Online – Builders and Developers Discover "New" Way to Conserve Water (1999) –This article described the Multi-Housing Laundry Association's (MLA) efforts to promote common-area laundry rooms as a way of conserving water and energy. According to the MLA, apartments with in-unit washers waste 8,500 gallons per year on laundry. The article further indicated the following in terms of water savings:

Common Area Laundry Rooms/ Multi-Housing – 60% estimated water savings

U. S. Water News Online – Washing Machine to Reduce Water Use, Eliminate Detergent (2001) – This article depicts the benefits of new washing machine technology in terms of water savings, pollution control and energy savings. The new machines described in the article are designed to used less water, eliminate the need for detergent and cut washing time reducing the energy required for use. In terms of water savings, the article provides the following estimate:

EcoSafe Washing Machines - 40% water savings

6. <u>Subcategory 6 - Indoor Audit Surveys</u>

This subcategory included the results from four studies that differed by survey methodology/technique, sample size, and survey content. These surveys included mail surveys, on-sight audits, water use monitoring network installations, and telephone interviews.

The first survey was a mail survey of 1,200 single family residences in order to determine the saturation of water efficient technologies and water-using behaviors. The results indicated a ranking of water use by type and volume, and percentages of conservation techniques that were utilized within each category of technique.

The second survey included a residential water audit program. As a result of this survey, the indoor water savings were estimated associated with the use of water efficient showerheads and toilet displacement bags. The audit program results determined that 39.5% of the showers in the audited homes were retrofitted with water-efficient showerheads resulting in each home experiencing an indoor water savings of 8.9 gallons per day.

In the third study, water use characteristics were evaluated using an extensive water use monitoring program to better determine the potential for water conservation by investigating actual fixture-specific water use characteristics. The findings of overall water conservation from this study were determined to be minimal and/or less than expected.

It was suggested by the authors of the study that the monitoring program that was installed influenced monitoring activities (the Hawthorn Effect) on the water using habits of the homeowner.

The objective of the final study in this subsection was to collect current data on water conservation attitudes and behavior, determine the types of saturation of waterconserving hardware, assess water conservation potential for identified market sectors and relate the study findings to those of previous studies. The results of this study

estimated 13.17 million gallons per day of water conservation potential from the replacement of non-conserving toilets, showerheads and closes washers, and from the installation of aerators on indoor faucets.

A breakdown of this estimated potential includes an estimated 4.64 mgd to be saved through toilet replacements, 3.60 mgd through the use of more efficient closes washers, 3.49 mgd through showerhead replacement and 1.44 mgd through faucet aerators. An additional 1.18 mgd was saved through toilet retrofits.

Southern Illinois University at Carbondale – Existing Efficiencies in Residential Indoor Water Use (1999)_– A survey of 1,200 single-family residences in 12 North American cities was conducted to determine the level of saturation of water efficient technologies and water saving behaviors. The distribution of efficient uses was also examined in order to determine which socioeconomic and programmatic factors influence the degree of adoption of water conservation among the North American households. The results of this survey in terms of water savings are stated below by technology.

<u>ULF Toilets - 1.53 gallons to 3.41 gallons water savings per flush</u>

- Toilet flushing used 38 to 58.3 gallons per household per day
- 14% of toilets were ULF toilets

H-Axis Clothes Washers - no determination of water savings was stated

- Clothes washing used 39.2 gallons per household per day
- Only 2.2% of households surveyed had h-axis clothes washers

Low Flow Showers – the article stated "saturation of low-flow showers is relatively high"

- Showering used 30.8 gallons per household per day
 - 75% of showering events had flow of 2.5 gpm

Low Flow Faucet - no determination regarding use of low-flow devices

Household faucets used 27.4 gpd

Low Flow Dishwasher – no determination regarding use of low-flow appliance - Dishwashing used 10.48 gpd per household

Indoor Water Leak Detection - 20.9 gpd per household potential water savings

Contra Costa Water District, California – Measuring the Water Reduction From Contra Costa Water District's 1989 Residential Water Audit Program (1991) – This water audit program began in 1988. A trained water auditor was sent to participants (free of charge) to advance water conservation efforts. An empirical evaluation of water reduction attributable to this program was conducted. Water savings were estimated in association with use of water efficient showerheads and toilet displacement bags. The actual amount of water used was determined by analyzing the billing records for the 672 households who participated. The results in terms of water savings are stated below:

<u>Water Efficient Showerheads – 7.8 gpcd water savings</u> <u>Toilet Bags – water savings could not be determined</u>

Tampa, Florida – Residential Water Use Characteristics and the Potential for Conservation in Tampa, Florida (1991) – The City of Tampa conducted a study of the City's residential water use to better evaluated their potential for conservation. Detailed data was collected on 25 homes over a 30-day period. The results of the study in terms of water savings are stated below:

<u>Shower Head Retrofit – 2.5 gpm</u> <u>Water Closet Low Flow Retrofit – 6.08 gallons per day</u>

East Bay Municipal Utility District – Water Conservation Market Penetration Study (2002) – During this study, 388 single-family and 375-multi-family telephone interviews were conducted to assess customers' behavior and attitudes regarding water conservation. Also, on-site inspection was made to assess fixtures, appliances and irrigation systems at 387 single-family and 360 multifamily residences as well as 56 non-residential properties. The findings in terms of water savings are stated below:

<u>Retrofit of ULF toilets, showerheads and clothes washers, and from installation of</u> <u>aerators on indoor faucets = 13.17 mgd water savings potential</u>

<u>Toilet Retrofit – 1.18 mgd</u> <u>Toilet Replacement – 4.64 mgd</u> <u>Efficient Clotheswasher – 3.60 mgd</u> <u>Low Flow Showerhead – 3.49 mgd</u> <u>Faucet Aerators – 1.44 mgd</u>

7. <u>Subsection 7 – Efficient Dishwasher Programs</u>

A study was conducted to determine how consumers wash dishes and how they use their dishwashers. This study relied upon the results of previous studies to determine that significant reductions in water use were the result of the development and installation of more efficient wash systems. This study concluded that the dishwashing habits of the individual (prewashing, using a pre-rinsing cycle, pre-rinsing in the sink, using the dishwasher when partially full, etc.) and the type of food led to challenges in understanding the actual water savings.

Virginia Polytechnic Institute and State University – Dishwashing and Water Conservation: An Opportunity for Environmental Education (2003) – This study was conducted to assess how consumers wash dishes and how they use their dishwashers. The study stated that improvements in dishwasher design between the years of 1978 and 2000 reduced required water use from 11-15 gallons per cycle to 6-10 gallons per cycle. The study revealed that the true water savings potential for this activity lies in the individual's water conservation education and awareness.

8. <u>Subsection 8 - Plumbing Leak Repair Program</u>

This program was designed to assist low-income consumers with water leak problems that they could not afford to fix, that were also causing increased water bills they could not pay. This created an opportunity for water conservation. Preliminary estimates of water saved through leak repairs averages 27,000 gallons per household annually.

San Antonio, Texas – "Plumbers to People" (1994) - This program was designed to address water conservation opportunities for a specific population in the San Antonio Water System (SAWS) use area. The SAWS Customer Service Department has been aware that many low-income consumers become caught in a circle of rising water bills that they cannot pay, due to domestic water leaks they cannot afford to repair. A *repair grant* program was implemented to assist qualifying households fix leak problems. The results of this program to date in terms of water savings is as follows:

Plumbing Leak Repair - 27,000 gallons/household/year

9. <u>Subsection 9 – Pressure Reduction Programs</u>

Two pressure reduction programs were analyzed to determine the relationship between pressure and consumption and that relationship's effect upon water sales and/or water conservation. Findings from the study of these programs demonstrate that reducing system pressure can reduce residential water consumption, especially irrigation, without entailing any significant cost in terms of increased customer complaints. This reduction in water consumption is in proportion to how much the pressure is reduced. The more significant savings relate to outdoor water use savings.

San Antonio, Texas – Pressure Reduction: A Conservation Tool (1994) – The San Antonio Water System (SAWS) increased water system pressure to sell more water in times before water conservation was an issue. No conclusions have been made regarding water conservation through reduced water pressure, however the SAWS is pursuing several studies to evaluate whether water consumption is related to delivery pressure.

Irvine Ranch District, California – Is System Pressure Reduction a Valuable Water Conservation Tool? Preliminary Evidence from the Irvine Ranch Water District (2003) – Two selected test neighborhoods were analyzed to determine if water system pressure reductions resulted in reduced consumption. Findings of the study demonstrate that reducing system pressure can significantly reduce residential water consumption, especially irrigation, without entailing any significant costs in terms of increased customer complaints. Other findings in terms of water conservation stated in this study are as follows:

Reduced System Pressure -

<u>17.6% reduction in pressure = 1.9% reduction in single family</u> <u>consumption with average landscape</u>

<u>17.6%</u> reduction in pressure = 4.1% reduction in single family consumption with greater than average landscape

10. <u>Subsection 10 – Recycled Water for Plumbing</u>

The first program that was reviewed, analyzed the acceptance levels by the consumer of installing dual plumbing systems to supply recycled water to non-potable interior plumbing fixtures. The results of this study identified public agencies and private businesses as likely partners regarding this application. It also highlighted the need for planning increased public official involvement in the design of such systems and the need to understand each project independently.

The second analysis in this subsection was a study of graywater recycling in the home. This study examined three different designs of Supply Management Recycling (SMR) graywater units for residential use. Ten households were used in the study. Each household's newly installed SMR unit intercepted graywater from hand basins, baths and showers. This wastewater was then filtered to the outside storage unit. Graywater was then pumped back into a heater tank inside where it was disinfected before being gravity fed to the toilet cistern.

Water savings after 14 months revealed an average water savings of 21.7%; however, acceptance of this type of system by the households studied was only 20%. Complaints of disinfectant odors and problems with the SMR units in general reduced customer acceptability.

Monterey Regional Water Pollution Control Agency, California – Public Approval of Interior Plumbing Systems Using Recycled Water (1997) – The Monterey Regional Water Pollution Control Agency moved into a new building constructed with a dual plumbing system to supply recycled water to non-potable interior plumbing fixtures. The building was the first of its kind and provided a "test" for the efforts to advance public acceptance of RW use as an environmentally sound, economical solution to water shortage problems. No conclusions were made regarding the success of the RW system nor have actual water savings been reported to date.

National Water Demand Management Centre, England – Practical Aspects of Household Graywater Recycling (1999) – This study examined three "off the shelf" Supply Management Recycling (SMR) graywater units to determine their effectiveness in terms of water consumption savings and associated cost savings from reduced water bills, water quality of gray water and the acceptability to the user of having a graywater recycling system in their home. All SMR units studied allow the recycling of graywater to flush the toilet, and some units having the option of drawing graywater off for garden watering. The conclusions made in terms of water savings are listed below:

Graywater System - 21.7% average water savings

11. <u>Subsection 11 – Sub-Metering Programs</u>

The first study in this subsection assessed properties in Florida, Texas and California, in order to better understand how billing methods affect water consumption prices. The findings of this study indicated that consumers who pay directly for their water, use less water. Sub-metered apartments use between 18-39% less than properties where the units were not sub-metered.

The second study in this subsection involved installing sub-meters in a nine-unit apartment building. Tenants began receiving and paying individual water bills based upon actual consumption. Once these tenants began receiving individual bills that indicated actual use, water use dropped dramatically for an average savings of 27%. It was determined that even with these savings, retrofitting of sub-meters in existing structures is cost prohibitive; however, adding sub-meters in new construction provided substantial conservation potential.

National Apartment Association – Submetering, Rubs, and Water Conservation (1999) – The water metering of 32 properties in Florida, Texas and California was assessed to better understand how billing methods affect water consumption prices. The findings indicated that tenants who pay for their water use less. The conclusions from this study in terms of water savings include:

<u>Sub-Metered Apartments – 18-39% water savings over apartments that include</u> water service in rent

Seattle Public Utilities – Sub-Metering: The Next Big Conservation Frontier? (1998) – Approximately 35.8% of people are renters. A demonstration project in Seattle in 1995 determined that the potential for water conservation within this customer category is substantial. The results of this project in terms of water savings are stated below:

Sub-Metered Apartment - 27% water savings

12. <u>Subsection 12 – Hot Water on Demand</u>

This subsection included two studies that assessed the potential for water savings associated with water presently lost down the drain while occupants wait for the faucet water to reach the desired warm/hot temperature. Hot water re-circulation systems were studied in single-family homes which resulted in water savings of 7.8 gpd to 32 gpd, depending upon the distance from the point of use and the hot water heater, water heater temperature settings, pipe insulation and other factors.

Oak Ridge National Laboratory and City of Palo Alto Public Utility Commission – Water and Energy Savings Using Demand Hot Water Recirculating Systems in Residential Homes: A Case Study of Five Homes in Palo Alto, California (2002) – This study assessed the potential for water savings with installation of hot water recirculation systems. The results of the study in terms of water savings are stated below:

<u>Shower – 1-3 gallons/shower savings</u> <u>Bathroom Sink – 893 to 3,042 gallons/year</u> <u>Kitchen Sink – 2,047 gallons/year</u> <u>Household Points of Use (4) – 3,600 to 12,000 gallons/year</u>

Southwest Florida Water Management District and American Water Works Association – Investigation of Hot Water on Demand (HWOD) Devices for the Southwest Florida Water Management District and American Water Works Association Technical & Educational Council (2001) – This study assessed the existing HWOD devices on the market and developed recommendations for their use. The types of installations were identified and statements were made regarding water savings include the following:

HWOD Devices for Residential Use - 7.8 gpd to 17.4 gpd per household water savings

13. <u>Subsection 13 – Public Education Program</u>

Three programs were studied in this subsection. The first program included the development of an interactive indoor water conservation module presented on CD-ROM software with results of a feasibility analysis identifying measures to make the White House a model environmental residence and office building. The initiatives included installation of water efficient fixtures and devices, sub-meters and recirculating chillers.

The second program included the implementation of a training program for local multi-family professionals within a selected city, providing them with the knowledge and tools to establish their own water management plans. This program has helped to reduce the disparity between single-family sector water use and multi-family sector water use. Over a four-year period (1994-1998) a 7.4% drop in water used by apartment residents was experienced. The overall reduction equates to a citywide savings of over 450,000 gallons of water per day.

The third program in this subsection is a demonstration/display on multiple mediums of a "water conservation home" The home is a 3-bedroom, 2-bath house that has low-flow water devices in bathroom and kitchen and stores rainwater from the roof. This water conservation home display is available on CD-ROM and is instructive to adult groups and school groups and is open to the public.

Amy Vickers, Amy Vickers & Associates, Inc. – The Greening of the White House CD-ROM: Water Interactive Exercise (1994) – This CD-ROM software was developed as an interactive indoor water conservation module. The project was initiated on Earth Day for the White House. No results were documented in terms of water savings resulting from the project.

Virginia Beach Public Utilities – Virginia Beach Multi-Family Conservation Program Shows 90% Implementation Rate (1998) – In 1994 the City of Virginia Beach implemented a training program for local multi-family professionals

providing them with the knowledge and tools to establish their own water management plans. The City has 40,000 apartment units accounting for 20% of total annual water consumption. There was a large disparity between single-family residential water use and multi-family use (53 gpd per person vs. 67 gpd per person. The results of the program in terms of water savings is stated below:

<u>Multi-Family Professional Training Program – 7.4% gpd water savings</u>

University of Arizona – "Casa Del Aqua" (1998) – The University of Arizona and the City of Tucson created this demonstration house for home water conservation. The 3-bedroom, 2-bath house has low-flow water devices in the bathroom and kitchen and stores rainwater from the roof. It is landscaped to conserve water as well. No documented results in terms of actual water savings were stated in this report.

14. <u>Subsection 14 – Youth Education Programs</u>

These programs include educational outreach programs that introduce students to regulatory procedures and conservation issues and programs.

AWWA – Portland, CT – Innovative Conservation Education: The Delicate Balance in Water Supply Decisions (1996) – In 1996, the Connecticut Section Conservation Committee of the AWWA developed an educational plan for an outreach project. This outreach program introduces high school students to regulatory procedures, develops a relationship between regulatory agencies, environmental groups, local governments, water utilities and consumer groups. The program facilitates interagency cooperation and uses long distance network technology to involve other schools, and it exposes students to career opportunities in the industry and in government.

Harris-Galveston Coastal Subsidence District – Partnership in Conservation Education: Bringing the Message Home (2000) – The "Learning to be Water Wise and Energy Efficient" Youth Education Program is coordinated by the Harris-Galveston Coastal Subsidence District through public and private partnerships. The curriculum teaches how to consume less water and energy. The program has been offered to over 55,000 fifth graders in the Texas upper Gulf Coast areas. The project boasts significant influence in water use behavior, in terms of water savings, as stated below:

Youth Education Program – 14.13 gpd per person

Tampa Water Department – Water Ambassador Program: In School Education to Sustain Community Water Conservation – This in-school education program targets kindergarten through fifth grade students. The program is designed to

inspire action. Students receive a "save-it" kit and conservation devices and materials. No findings or measurements of water savings as a result of this program have been documented.

B. <u>CATEGORY II – OUTDOOR WATER CONSERVATION STUDY</u> <u>SUMMARIES WITH RESULTS IN TERMS OF WATER SAVINGS</u>

This category included subcategories of selected studies on 1) Comprehensive Programs which were those programs that included multiple outdoor water conservation initiatives; 2) Water Efficient Landscape and Irrigation; 3) Water Audits; 4) Water Budget Programs; 5) Water Restriction Programs; 6) Rate Structure Measures, Costs & Benefits; 7) Rain and Soil Moisture Sensor Measures, Costs and Benefits; 8) Gray Water and Cisterns; 9) Education Programs.

1. <u>Subsection 1 – Comprehensive Programs</u>

EPA, 2002 – *Cases in Water Conservation* - This first study in this subsection is an EPA publication that documents water-efficiency programs through 17 case studies of water systems in the U.S. Nine of the communities studied, focused on outdoor use. The results of these studies provided the following information:

Cary, North Carolina – The Cary Town Council adopted a water conservation program in 1996. The program consisted of eight elements: public education; landscape and irrigation codes; toilet flapper rebates; residential audits; conservation rate structures; new homes points programs; landscape water budget; and a water reclamation facility. The results for this program have been estimated to be a 16% reduction in retail water production by the end of 2026. The savings to date have reduced operating costs and have allowed Cary to delay two water plant expansions.

Goleta, California – In the mid 1970s, the City of Goleta established a water efficiency program. The program emphasized plumbing retrofits, including the installation of high-efficiency toilets and showerheads. The program also included free onsite water surveys, public education and changes in metering and rates structures. By 1989, a mandatory rationing plan was imposed to reduce use by 15%. By 1991, a 50% reduction in

per-capital residential water use was achieved as a result of this comprehensive program. The program also achieved a 40% reduction in wastewater flows.

Irvine Ranch Water District (TRWD), California – IRWD provides water services, sewage collection and water reclamation for the City of Irvine as well as portions of surrounding communities. In 1991, a five tier water rate structure was adopted which rewarded water conservation. The new rate structure was well received by the public and produced a 19% reduction in total water use over the next 12 months. Due to the success of the rate structure changes, the District initiated other conservation initiatives such as irrigation workshops, water audits and fixture rebates. The results of the combined initiatives have produced, on average, a 9% per household reduction in water use.

Massachusetts Water Resources Authority (MWRA) - MWRA is a wholesale water provider to over 2 million people in 46 cities towns and municipal water districts in Massachusetts. In an initial response to the press on the Authority's water supply, a water conservation plan was adopted. The plan included the following: leak repair and detection; lowflow plumbing retrofit program; commercial water management planning assistance; public and school education programs; an actual change in state plumbing codes to require ULFTs, upgrades to meters and tracking software; and rate structure changes to encourage conservation. The results of the comprehensive program have primarily been measured in savings achieved from deferring supply expansion projects. Total demand reduction between 1987 and 1997 was 80 mgd. The capacity reduction of the planned treatment facility was 95 mgd with a capital savings of \$360 million or in present value terms, \$75 to \$117 million. Average daily demand was reduced from 346 mgd in 1987 to 256 mgd in 1997. Combined, the capital savings of deferring supply expansion and reducing the water treatment plant capacity is \$1.39 million per mgd to \$1.91 million per mgd.

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Metropolitan Water District (MWD) of Southern California - The MWD is a wholesale supplier of water for Southern California. MWD provides financial support for conservation programs. One of the largest initiatives has been the toilet retrofit rebate program. Other efforts in this comprehensive effort have included water-efficiency site surveys, irrigation equipment improvements, distributions of new high-efficiency showerheads, rebates for high-efficiency washing machines and research into toilet performance and leakage rates. This comprehensive program has produced total water savings of approximately 59.1 mgd per year.

Phoenix, Arizona – In 1986 the City approved a comprehensive water conservation program including: water pricing reform; indoor residential water conservation; industrial and commercial water conservation; plant and turf irrigation efficiency; and water-efficient landscaping. Changes in the City's program over the years have concentrated less on retrofit plumbing programs and more on public education programs and rate structure alternatives to encourage behavioral changes in future water users. To date the savings continue to improve to an average annual water savings of 40 mgd per year.

Santa Monica, California – In 1992, the City initiated a "Sustainable City Program". As part of this program, the City has instituted a multifaceted approach to water conservation including numerous policies and programs such as: a new water waste ordinance; plumbing code regulations; water-conserving landscape regulations, water demand mitigation fees, wastewater mitigation for large development programs, retrofit-upon-sale ordinance, and water and wastewater rate structures that encourage conservation. Of the outdoor water programs available, the City offered demonstration sustainable gardens, sustainable landscape workshops and garden tours, sustainable landscape guidelines, and the California irrigation management information system. By 1995, the total water savings from all initiates were identified as 14%. Wastewater flow was reduced 21% during the same timeframe.

Tampa, Florida – In 1989, the Tampa Water Department implemented several measures to reduce water use. These measures included inclining block rate structures, water conserving codes, public education programs, water use restrictions, plumbing and landscaping codes. Outdoor irrigation was limited to one day per week and prohibited between 8 a.m. and 5 p.m. and all new irrigation systems were required to have rain sensors. The City provided homeowners with free Sensible Sprinkling irrigation evaluations and distributed free rain sensors. The landscape code limits the amount of irrigated turf grass to 50% in new developments and encourages the use of Florida-friendly plants and low volume irrigation methods. The Sensible Sprinkling irrigation evaluation resulted in a 25% drop in water use. Overall, the city experienced a 26% savings in per capita water use over the period from 1989 to 2001.

Tampa Water Department, 1995 – 1999 – Tampa Water Conservation Program – The City of Tampa began its water conservation program in the 1980s. The initiatives have included a two-tier rate structure, irrigation codes, landscape codes, rain sensors and plumbing codes. A Sensible Sprinkling Program with irrigation evaluations, landscape evaluations, rain sensors, landscape/irrigation workshops and water-wise landscape demonstration sites are all components of the City's overall program. Public awareness programs and in-school education programs also play a part. The implementation of conservation rates has resulted in reduced water use, as have the changes in the City's code. The only documented water savings is stated below:

Sensible Sprinkling Program - 21% reduction in total water use by participants

Ayres Associates – SWFWMD – Development of Water Conservation Options (August 2000) – This study was commissioned to identify, evaluate and prioritize conservation measures for public and non-public sectors and the total amount of

water that could be saved from these indoor and outdoor measures for 20 years. Documented results of the study in terms of water savings include:

Comprehensive Program for Single Family – 132 gpad estimated total savings Comprehensive Program for Multi - Family – 324 gpad estimated total savings Other Studies Results:

Austin, TX, 1994 Xeriscape vs Traditional Landscape – 31% water savings

<u>Nelson, 1994; Sokulsky et al 1993; Testa & Newton, 1993; Bennet, 1993</u> <u>Xeriscape vs Traditional Landscape – 25 – 33% water savings</u>

Novato, California (Nelson, 1992) Efficient Irrigation - 25 gpad

San Diego, CA (Bamezai et al, 1994) Efficient Irrigation - 10% water savings

Tampa FL (Ayers Associates, 1996) Efficient Irrigation - 32% water savings

SWFWMD, 2002 – Retrofit Programs, Reuse Projects, and Outdoor Water Conservation Efforts – This is a periodic report on the accomplishments and status of SWFWMD programs. This summary is limited to outdoor water conservation initiatives. The results in terms of water conservation are as follows:

<u>Comprehensive Outdoor Retrofit Program within Water Use Caution Areas –</u> 597,880 gpd water savings

<u>Comprehensive Outdoor Retrofit Program within Basin Board Areas – 9,715,099</u> <u>gpd water savings</u>

GDS Associates, 2002 – Texas Water Development Board Study – This study was directed to provide the 16 water-planning regions within Texas comprehensive water conservation planning alternatives. This study quantifies

the effectiveness of various water conservation techniques. The results of the study in terms of water savings are as follows:

<u>SF Irrigation Audits – 50 gpd</u> <u>SF Rainwater Harvesting Rebate – 21.6 gpd</u> <u>SF Rain Barrels – 2.3 gpd</u> <u>MF Irrigation Audit – 125 gpd</u> <u>MF Rainwater Harvesting – 205.7 gpd</u> <u>Commercial Irrigation Audit – 125 gpd</u> <u>Commercial General Rebate Program – 3% of use</u> <u>Commercial Rain Harvesting – 205.7 gpd</u> <u>Regulations – not stated</u> <u>Water Rates – 1% increase = 0.19% savings</u>

2. <u>Subsection 2 – Water Efficiency Landscape & Irrigation</u>

Many communities have implemented programs that include water efficient landscape and irrigation measures. This subsection includes the results from several such programs.

East Bay Municipal Utility District, Oakland, California – Landscape Comparison Survey - This study compared the amount of water used by water conserving versus traditional landscapes during the period of June – August of 1992. Water conserving landscapes were considered those landscapes that only used turf grasses on less than 15% of the total yard, were well-maintained and with a lot size that was regular and measurable (square or rectangular). Traditional landscapes were those where greater than 70% of the total yard was turf grass, were well maintained and with lot sizes regular and measurable (square or rectangular). Basically, the results indicated that a 42% reduction in water use was experienced by the water conserving landscapes. It was discovered that inground irrigation used 36% more water.

City of Fargo, North Dakota – National Xeriscape Demonstration Program – This is a program that studied two groups: Xeriscape Retrofit and Xeriscape New Start groups. Approximately 120 households participated in the study, however, the results are still being studied and as of the date of this Interim Report findings were inconclusive or incomplete.

Austin, Texas – Xeriscaping: Sowing the Seeds for Reducing Water Consumption (combined studies from 1984 to 1999) - In 1983/1984, when the City of Austin initiated its Water Conservation Program, including xeriscape as the major outdoor program, water savings of 43% were experienced by the small sample utilized for the study. In Phase II of that same study, however, a larger sample size was analyzed and this Phase produced a more accurate estimate of

water savings of 20%. An even larger study was conducted in 1996 that indicated that the range of water savings associated with utilizing Xeriscaping techniques range from 16% to 42%. This report was for the United Sates Bureau of Reclamation, conducted in May of 1999. The purpose of the latest study, a component of the larger, earlier 1996 study, was to examine a wider range of factors and to provide better estimates of costs and projected water savings related to Xeriscape promotion. This more recent study produced estimates of water savings due to utilization of Xeriscape techniques as 31%. Of note, the 1996 study identified factors which resulted in higher water consumption such as an increase in time spent on landscaping, increased money spent on landscaping, increased house value, pools, underground irrigation systems, and St. Augustine grass landscapes.

Mesa, Arizona –An Evaluation of a Landscape Rebate Program – In 1984, The City of Mesa initiated a Water Development Fee Rebate Program. This program provided an economic incentive to homeowners and developers to install a water efficient landscape. The results of this study indicated that the program did encourage the installation of low water use landscape, however, actual water savings resulting from this initiative had not been determined.

Las Vegas, Nevada – A Five Year Investigation into the Potential Water and Monetary Savings of Residential Xeriscape in the Mojave Desert – This study was conducted by the Southern Nevada Water Authority (SNWA) in cooperation with the US Bureau of Reclamation, in an effort to quantify water and economic savings associated with converting traditional turf grass lawns into xeriscape landscapes. The post-conversion water savings documented by this study approximated 33%.

San Diego County Water Authority – CALFED 2003 Prop 13 Grant – Commercial Landscape Incentive Program – This program targeted large commercial properties and common areas of multi-family sites and provided

financial incentives to owners to upgrade irrigation systems to enable the sites to become more water efficient. The results of this study projected that retrofit and schedule improvements could save a typical commercial site 3.52 AF/acre/year or 26 gallons per square foot.

Los Altos, California – CALFED 2003 Prop 13 Grant – ET Controller Installation in Six City Parks – In 2003 the City installed evapotranspiration (ET) based landscape irrigation controllers in the six largest public parks in Los Altos. These parks made up 21 acres, 13 of which were in turf. This study was based upon previous 15 years of studies that concluded that ET-based irrigation efficiency equates to 30-40% reductions in water use while still maintaining quality landscapes. The results from this Los Altos grant program have not been reported to date.

EPA – *Water Efficient Landscaping* – In 2002, the EPA produced a water-wise landscaping brochure for the public which highlighted results from water-efficient landscaping projects (many in Florida). The brochure highlighted the following:

- $\sqrt{30\%}$ of U.S. water use is devoted to outdoor use, mostly landscaping
- $\sqrt{}$ The typical suburban yard consumes 10,000 gallons of water above and beyond rainwater each year
- $\sqrt{}$ Households that water with a hose use 33% less water outdoors than household average; households with in-ground sprinklers use 35% more water; those with automatic timers use 47% more; those with drip systems use 15% more water than those without systems.
- $\sqrt{}$ Those homes with access to alternative sources of irrigation (gray water, reclaimed water, and collected rainwater) reduce water bills by as much as 25%.

The results stated in this brochure included:

 $\sqrt{}$ A selected applicant showcased in an Agency video for retrofitting a typical yard to Xeriscape cut outdoor water use by 75%.

Metropolitan Water District of Southern California – CALFED 2003 Prop 13 Grant – In 2003, the Metropolitan Water District of Southern California received a grant to install "Smart" ET based landscape irrigation controllers in residential and small commercial landscapes throughout the service territory with a final assessment report to address issues of new controllers. The estimated water savings over the ten year life of an ET device such as the ones supplied for this project is estimated at 38,616 acre-feet or \$19,377,439 in avoided regional cost. However, the study findings provide that water savings from ET controllers installed at 40 homes were equivalent to 18% of outdoor water use saving 57 gallons per day on 2,000 sq. ft. lot sizes. Other studies indicated weather-adjusted water savings of 21.47% average over historical five-year use determined for a first year post retrofit study of 37 homes with a control group of 800, and initial data for pilot ET controller study shows a 28% and 23% reduction compared to historic use. Therefore, the range of water savings over multiple studies is 18% to 28%.

North Marin Water District and East Bay Municipal Utility District, California – *Xeriscape: Winning the Turf War Over Water* – The Sunbelt States in the west and southwest United States have determined that approximate 40% of annual residential water demand is for turf irrigation. In a 1992 study, the East Bay Municipal Utility District in northern California compared daily water consumption of a group of single-family detached homes with "water conserving" landscapes to consumption by homes that had "traditional" turf-oriented landscapes. The water conserving landscapes saved an average of 42%, or 209 gallons per day over comparable traditional landscapes. Similar studies conducted in Austin, Texas and by the North Marin water District in California found a 43% savings. In another study the North Marin Water District looked at seven developments consisting of 548 dwelling units with mature landscapes. When converted to water-conserving landscapes the water savings were 54% compared to the traditional yards

North Marin Water District, California - Water Saved by Single Family Xeriscapes – In the summer of 1993, the District studied 250 single family homes identified as having front yard xeriscapes. For each xeriscape yard found, a nearby matching traditionally landscaped site was identified. The participants were surveyed and key finding of water savings was that the xeriscape yards used 17% less water than the traditionally landscaped yards.

3. <u>Subsection 3 – Water Audit Measures</u>

Eight studies were identified which addressed the results of water audits, irrigation audits and water use surveys. These studies were conducted between 1991 and 2000, included multiple participants in different areas of the Country, and provided different results with regard to water savings.

Contra Costa Water District (CCWD) – Residential Water Survey Evaluation (associated with outdoor irrigation) – In 2000, CCWD implemented a 1998 residential landscape survey program focused on improving landscape irrigation efficiency. The program provided 233 homes with residential water conservation surveys in the summary of 1998. A trained auditor went to homes and recommended ways to reduce water consumption focused on outdoor use. The survey results of the 233 homes suggested water savings of 42 to 55 gpd. Approximately 60 to 70% of water use was associated with irrigation use. CCWD has implemented 2,216 water use surveys between 1990-1993 with an average of 16% water savings.

City of Tampa Landscape Water Audit – The City of Tampa and SWFWMD entered a cooperative funding agreement to provide landscape water audits for 25 participating properties, primarily commercial/multi-family units. The results showed that water use reductions of 28% were achieved based solely on irrigation schedule/duration changes.

City of Tampa, Florida – An Evaluation of Sunset Park Landscape Irrigation /*System Conservation Program –* In 1995, the City of Tampa began a Sensible Sprinkling Program designed to educate homeowners and improve outdoor water use efficiency. The goal of the program was to reduce residential water use by 25%. Irrigation system evaluations were conducted for the participants and

recommendations were made regarding conservation landscaping changes that could be made to the existing landscape. Based on water use data for the 208 participants, water savings of 21% was reported 12 months after receipt of the evaluation reports.

Marin Municipal Water District, Corte Madera, California – Demand Elasticity During Drought (1999) – The District responded to a drought with numerous emergency measures including conservation kits (indoor) and denying landscape irrigation. Customers reduced consumption by 57%. The drought was followed by a wet period and pre-drought consumption resumed. Water audits during a non-drought period saved 9%.

United Water Resources, Harrington Park, New Jersey – Implementing a Lawn Watering Audit with Real Time Demand Monitoring (1999) – The affluent community of Franklin Lakes, 25 miles west of New York City, began experiencing peak water demands in the early morning due to automatic sprinkler use. A mail-out survey was sent to residential customers to gain information about lawn watering habits. Based on results of the survey, conservation suggestions were offered. An undetermined level of water savings was experienced by those residential customers who chose to comply with suggestions.

4. <u>Subsection 4 - Water Budget Measures</u>

October 1997 through October 1999, a three year pilot project was developed by the Green Industry Advisory Committee of the Southwest Florida Water Management District to test the hypothesis that "increased water savings will be achieved by allowing irrigation operators to manage their own systems using water budget or allocation strategies as compared to mandatory water restriction schedules".

This study included 35 participating project sites, including single and multifamily residences, schools and educational centers, parks/botanical gardens, medical centers/cemeteries, and commercial/institutional properties. Irrigation and landscape audits were performed at each site that resulted in annual water budget-based annual allotments equal to 46 irrigations per year.

Irrigation and landscape audits were performed at each site that resulted in annual water budgets based on annual allotments equal to 46 irrigations per year. Every site received a weather station consisting of a hi/lo thermometer, rain gauge, installed rain shut-off device, scheduling magnet/sticker, a participation placard, and a variance from the mandatory water restriction schedules. Completed data sheets, which included water meter readings, day/duration of irrigation, rainfall, and weekly hi/lo temperature readings, were submitted to the project manager at the end of each month. An active landscape maintenance professional from each region monitored sites on a quarterly basis. Annually, each site was reviewed, photographed, and if significant landscape or irrigation alterations occurred, a new budget was derived for the following year.

Nineteen of the original 35 sites continued participation through the end of the third (final) year. The overall 1997-98 base budget averages 38% of the base historical use. The 1997-98 water use averaged 36% of historical use while 1998-99 water use averaged 52% of historical water use. In 1997-98, water use was 20% below budget while in 1998-99 water use was 37% over budget. This 57% increase in water use over budget from Year 2 to Year 3 was correlated to significantly lower rainfall in 1998-99.

Seventeen sites saved a total of 14,565,404 gallons of water over the three-year period as compared to historical water use. Additionally, the two largest sites saved 26 million gallons of water. The 19 participating sites completed the project saving over 40 million gallons of water over the three years as compared to their historical water use. Based on the Hillsborough County 15,001 to 30,000-gallon water rate of \$3.65 per 1,000 gallons of water, this would equate to a savings of \$142,000. This savings more than covers the cost of the pilot project (\$118,084). Approximately \$1.20 was saved for every one-dollar spent.

5. <u>Subsection 5 – Water Restriction Measures</u>

The studies that were reviewed for this subsection concluded that mandatory restrictions were more successful than voluntary restrictions; regulation enforcement was important to overall water savings levels; and more severe limitations on outdoor watering generally saw greater reductions in use.

University of Colorado – 2002 Municipal Response to Drought in the Colorado Front Range – As part of its ongoing effort to analyze the vulnerability of water resources in Colorado's South Platte River Basin to the impacts of climate variability and regional growth, the Western Water Assessment examined drought response of nine cities along the Front Range during the summer of 2002. Response to restrictions ranged from 2% increase in per capita use to a 7% decrease when restrictions were voluntary to a range of 10% to 55% decrease in per capita use when restrictions were mandatory. Additionally, when water use was severely restricted (one day per week), greater reductions in per capita use were experienced.

Southwest Florida Water Management District – Water Restriction Notes – Lois Sorensen (July 30, 2003) - From 1992 to 2000, the effectiveness of lawn watering restrictions was assessed and notes for the SWFWMD Demand Management Coordinator, Lois Sorensen, sited results from programs implemented by three Florida Water Management Districts and select cities in Colorado. The results demonstrated between a 20-57% reduction in potable water use for local governments analyzed within the SWFWMD. The results from Ms. Sorensen's notes indicate that in this District, more sever restrictions (1- day/week vs. 2-day/week) produced greater savings. Aggressive enforcement of code violations and penalties were also key to reducing use. In other Districts in Florida, 2-day restrictions during a drought produced potable use savings of between 11-28%. The results of studies of several cities in Colorado, as described in a more recent report by the University of Colorado's Natural Resources Law

Center, indicated that 1-day/week restrictions reduced potable demand by 56% while 2-day/week restrictions reduced demand by 30%. Fewer restrictions that allowed watering 3 days a week produced a lower reduction in potable water use of only 14%. Voluntary programs in this report produced even lower reductions of between 2% to 7%.

6. <u>Subsection 6 – Rate Structure Measures</u>

The studies in this subsection attempt to provide an understanding of the interactive relationship between customer demand, rate design and pricing policies. An examination and quantification of the impact of price on water demand and price elasticity for various classes of customers was analyzed. Where does a price signal become effective?

Florida Public Service Commission – Conservation-Oriented Rate Structures for Water Utilities (1997) – This was a five year study by the FPSC to analyze the relationship between customer demand and rate design for utilities. During the course of this study, 80 utilities were granted rate changes. Different rate structure changes occurred which produced a variety of water use changes. For example: for utilities that had a base facility charge with uniform gallon charge:

A total of 69 rate cases involving 59 utilities were actually analyzed. In 72% of cases where rate increases were implemented, a decrease in water use of 13.82% was experienced. In the remaining 28% of cases, water use increased. A variety of rate structure changes were analyzed and the results in water savings ranged between 6.55% to 44.79%.

The 46 utilities that filed rate cases requesting a rate increase of an average of 29.66%, but who did not change their rate structure (base facility charge with uniform gallon charge) experienced an average decrease in use of 6.55%. For the 4 utilities that filed to change rate structure from a flat rate to a base facility charge with uniform gallonage charge experienced an average use decrease of 44.79%. For the 12 utilities who filed to change rate structure from a minimum use to base facility charge with a uniform gallonage charge, the average decrease in use was 9.70%. Two utilities changed their rate structure to an inclining-block rate structure with two tiers and experienced an average of 10% reduction in water use.

Brown & Caldwell/Southwest Florida Water Management District – Water Price Elasticity Study (1999) – This study was conducted to determine the price elasticity of water demand for various customer classes. This study defined price elasticity as a measurement of percentage change in demand resulting from a 1% change in price, all other factors held constant. Ten utilities were selected to participate in the study with a focus on single-family customers. The results of this study revealed that single-family home customers are only modestly price sensitive to water prices below \$1.50 per thousand gallons. Discretionary use is affected when the price per thousand gallons exceeds \$1.50. The results of this study also indicated that price elasticity did not change significantly with property value. The use patterns of commercial users stays relatively constant and therefore price changes have little to no effect on commercial use.

Stratus Consulting Inc. for Texas Water Development Board – Water Price Elasticities for Single-Family Homes in Texas (1999) – This study examines and quantifies the functional relationship between water consumption and water price for single family residential customers in Texas. The study sought to identify the overall price signal perceived by customers for the multiple prices associated with block rates. After identifying 3,276 customers with similar use patterns, data was collected and analyzed and the following results were presented in an executive summary of the study: 1) Customers concerned with water bill focus on the total water amount; 2) price sensitivity was greatest with outdoor irrigation; 3) only 24% of customers were aware of water prices; 4) demand did decrease with increased prices; and 4) although the City of Austin changed their rate structure to an inclining block rate, the new rate structure did not lower water consumption (average water prices adjusted for inflation dropped).

7. <u>Rain and Soil Moisture Sensor Measures</u>

The studies researched for this subsection were to determine the effectiveness in terms of water use reduction of using rain and soil moisture sensors for outdoor irrigation and the effectiveness of the sensors and probes design. These studies were conducted over several years and varied by utility location and study focus.

Hillsborough County, Florida – Maximizing the Installation of Automatic Rain Shut-Off Devices (1995) – The Florida State Statutes require rain sensor devices on new automatic lawn sprinkler systems installed after May 1, 1991. In 1994, Hillsborough County passed an ordinance requiring rain switches on all irrigation systems by October 1, 1996. To implement this ordinance, the County developed an attractive rebate program. To justify the program, estimates on water savings were made for the estimated participating population of 1,600 sites. The savings were estimated to be 51,850,000 gallons per year and 259,200,000 gallons over the life expectancy of the device of five years. When compared to the estimated \$2.40 to \$3.60 cost per thousand gallons of developing additional water supplies, the cost of the rain sensor rebate program was estimated to cost \$0.31 per thousand gallons.

Hernando County Utilities Department – Rain Sensor Research Project (1998) – The objective of this project was to reduce potable water used by residential sprinkler systems by providing a voluntary installation program of rain sensor shut-off devices. Irrigation contractors were asked to participate as the distributors and installers of these devices. Customers were given a water bill credit of up to \$30.00 for voluntary installation. Approximately 216 devices were installed and 169 of the 216 were analyzed. The results of the analysis indicated that the monthly water savings per device were 3,095 gallons. It was determined that if the savings stayed constant for a 12 month period, the annual water savings would be approximately 6,276,000 gallons for the 169 devices.

Utah State University – Demonstration of Potential for Residential Water Savings Using a Soil Moisture Controlled Irrigation Monitor (1997) – This was a one-year conservation project that reviewed the effectiveness of new technology for conserving irrigation water by residential users. Basically the soil moisture monitor prevented irrigation when it determined the lawn was wet and irrigation was not needed. Of the total 37 installations used for the study, 27 provided use data of sufficient quality and completeness to allow comparison with water use from prior years. On average, these 27 participants used 10% less water during the 1996 demonstration season.

CTSI Conservation Service Company – Tools That Do the Job for You and the Customer: A Low Tech and High Tech Tool – Tom Ash, a horticulturist for CTSI completed an analysis of the effectiveness, in terms of water conservation, of using a low tech tool – the soil probe, and a high tech tool – an automatic ET paging irrigation controller. The analysis focused on results from conservation programs developed by the Irvine Ranch Water District in 1991. The District had provided incentive water rates and water bills to motivate irrigation contractors to use water efficiently. Soil probes were provided to the contractors for free. The use of these probes by commercial landscape contractors produced a steep reduction of average water use per acre. Also, a 14% to 69% reduction in total home water use was experienced by homeowners when a soil probe was used before turning on sprinklers. The results of the ET Paging Controller water conservation analysis were not available at the time of this report.

Boulder, Colorado – Hard Data on Soil Moisture Sensor Performance: Summary of Soil Moisture Sensor Operations – This study was conducted to determine the level of cost and effort required to operate a system of sensors, the long term reliability of the systems, and the need to have a simple way to track the performance of irrigation systems to determine if the proper amount of water is being applied. The results of the study were encouraging: the time and cost for

maintaining and operating the systems was nominal, the Watermark systems were found to be reliable after several years in the ground and with minor exceptions, a sensor controlled sprinkler system matched irrigation requirements very closely. Water savings experienced were stated in terms of irrigation water requirements decrease. The total seasonal theoretical irrigation water requirement was 28 inches for April through September. The sensors allowed for only 21 inches with no negative effects to the quality landscape. Therefore a 24% reduction in irrigation water was experienced using the sensors.

8. <u>Subsection 8 – Gray Water and Cistern Measures</u>

Graywater is water that is collected on site from the bathtub/shower, bathroom sink and clothes washer. The graywater system is a typically a gravity feed system requiring no filtering and no tank. Cisterns are containers used to collect and store water such as rainwater, or graywater generated by a residence. They may be used for potable or non-potable purposes.

City of Santa Barbara and East Bay Municipal Utility District – Monitoring Graywater Use: Three Case Studies in California – This study (1996 – 1998) was conducted to determine the practicality of installing graywater systems, their costs, customer acceptance, permitting issues and affect upon soils and landscape quality. A total of four residential properties were analyzed. One property experienced water savings of approximately 190,470 gallons over the study period and the other participants experienced water savings of approximately 446,200 gallons over the study period.

Southwest Florida Water Management District – Cisterns in The State of Florida (1997) – This document is a reference for cisterns in Florida and includes information regarding the background, construction considerations, maintenance and promotion of cisterns and other issues. The document portends that if 5% of coastal community households with the SWFWMD utilized 2,000 gallon potable cisterns, approximately 11,101,238 gpd could be saved. It is the conclusion of the author that cisterns can provide water savings, especially for non-potable irrigation. The document states that if a household used a 4,000 gallon non-potable cistern contribution would be small during periods of little rainfall. The cost to the homeowner of cisterns is somewhat restrictive when compared to the cost of shallow wells and reclaimed water.

City of Vancouver – City Makes Rain Barrels Available to Save Water – This program provides subsidized rain barrels for up to 1,000 residents under a pilot program to conserve water in the City. The City estimates that each barrel will save 1,300 gallons of water during the peak summer months when demand for water is high and precipitation is low.

9. <u>Subsection 9 – Education Program Measures</u>

For this subsection, seventeen studies were reviewed to determine the effectiveness of such programs. These programs included education programs for water conservation for the general public, schools, park managers, commercial customers, and landscape professionals.

AWWA - Town of Cary, North Carolina – Department of Public Works & Utilities – Water Conservation Programs – This program focuses on reducing per capita water consumption by 20% by the year 2020. The program includes voluntary, incentive, and regulatory mechanisms to address both supply-side and demand-side conservation. This program targets residential and commercial customers. The "Beat the Peak" outdoor water use conservation program, attempts to decrease peak water demand by shifting peak use times to early morning and reducing overall water consumption. The "Block Leader Program" is a grass roots outreach program, and the "Tuna Can Plan" helps to demonstrate the concept of efficient irrigation. Despite the town's annual growth rate of 5%, the volume of water sold has remained the same, and the City's conservation efforts have reduced operating costs and are expected to defer considerable capital expenditures.

AWWA - City of Durham Environmental Resources Department, North Carolina – Water Conservation Program Parade Unit Sponsorship - The City's water conservation program began in 1993. In 1999, the City started the parade unit sponsorship element of their conservation program. This element includes the sponsorship of a walking unit in Durham's annual Holiday Parade. The City works with local schools to create costumes and signs that focus on water conservation. There has been an increase in school participation from year to year as more schools hear about the program.

AWWA-Santa Barbara County Water Agency, California – Santa Barbara County Regional Water Efficiency Program – This program, which began in 1990, is continuing. It provides coordination for cooperative efforts among purveyors, acts as a clearing house for information on water efficiency technology and monitors legislation concerning efficient water use. The program components include in-school education resources and programs, public information programs and materials, landscape water efficiency education and materials, agricultural water efficiency, industrial, commercial and industrial efficiency programs and materials. The evaluation of effectiveness of the program is based upon a survey completed by local water purveyors and the general public. To date the program's effectiveness "satisfaction" rating has been 4.5 with 5.0 as the highest rating.

AWWA – Sarasota County, Florida – A Motorized Water Conservation Message (1998) – The Sarasota County Environmental Services Utilities managed this program. The program consisted of a transit bus, covered in vinyl depicting a water conserving landscape. The bus's route is designed for maximum exposure to the County's 300,000 residents. This program report states that "the average residential water use in Florida is between 100 to 150 gallons per person per day". Outdoor water use generally accounts for 50% or more of the total. The bus design is meant to make residents aware of the costs and benefits of waterefficient landscaping.

Seattle Public Utilities, Seattle, Washington – The Natural Lawn Program: A New Approach to Outdoor Water Conservation – This multi-agency, comprehensive program was designed to focus on lawns and lawn care behaviors/ethics rather than merely water and watering behaviors. In this utility service area, water use increases 25% to 50% during the summer months. Since the program began, water use has consistently remained at about 10% below average especially during the summary months.

AWWA – Harris-Galveston Coastal Subsidence District, Texas – Learning to be Waterwise – This program began in 1994 and continues today. It targets fifthgrade students and their parents by combining classroom education activities and hands on home projects that include the installation of water efficiency technologies and student conducted in-home surveys of water use patterns. No actual data of water savings was documented.

AWWA – Southwest Florida Water Management District and City of Tampa, Florida – Water Conservation Education Arts Program – This water conservation theater presentation and workbooks program targeted 65,000 Hillsborough County students and 2,000 teachers. During the summer of 2000, based on the information from teacher evaluations an attempt was made to tie to this program to a decrease in water use in the homes of students exposed to the program. However, this attempt was unsuccessful due to extreme drought conditions during that same timetable.

AWWA – East Bay Municipal Utility District, Oakland, California – Project Water (Water Awareness through Education and Research (2000) – These classroom materials and teachers' guides provide water conservation education to a target audience of approximately 90,000 children each year. The effectiveness of the program is determined in focus groups conducted every few years where teachers conveyed that the materials are educationally sound, fun for students and convenient to use.

AWWA – East Bay Municipal Utility District, Oakland California – School Gardens – This program is an interagency approach to educating teachers, students and the community about the role that water plays in the garden. The program includes sponsorship of education workshops for teachers covering garden topics, garden and water-specific activities and resource materials, and small grants for water-wise school garden projects. This program has not

included a component for the measurement of the effectiveness of the program in terms of water savings.

AWWA – Georgia Water Wise Council – Water Sourcebook Series – This series of books provides teachers with hands-on activities using water as the theme to supplement and enhance existing curricula. Students in grades K-12 benefit from these sourcebooks. Formal program evaluation on use of materials has not been implemented due to costs.

AWWA – City of Albuquerque – Water Education Program – This program is an ongoing component of the City of Albuquerque's Water Resources/Water Conservation Program. This education program includes presentations on Albuquerque's water cycle, conservation, groundwater protection, and Albuquerque's long-range water strategy. Every teacher is asked to complete an evaluation developed by the City. However, no conclusions regarding water savings attributable to the program have been published.

AWWA – Southwest Florida Water Management District In-School Education Program - This In-School Education Program began in 1991 and consists of hands-on classroom projects. The target audience includes K-12 students and teachers through the District's 16 counties. The program includes teacher evaluations and pre- and post tests. However, no conclusions regarding water savings attributable to the program have been published.

Denver Water, Denver, Colorado – The Blue Stamp Incentive Program: An Intra-Governmental Agreement for Water Conservation – This program was designed as an incentive to Denver Parks Department for conserving water. It was designed around the idea of paying Denver Parks Department to use water efficiently. For every 1,000 gallons of water saved from a five-year historical average, Denver Water would credit the Denver Parks \$1.00 or one blue stamp.

No information regarding results of this incentive program was available in the research.

AWWA – Southwest Florida Water Management District – In 2001 the SWFWMD began a "Water Matters" restaurant campaign to provide such things as table tents, coasters, children's activity sheets, stickers, bookmarks, mirror stickers and pins for restaurants. These materials are meant to educate Florida residents and visitors about Florida's water resources. No evaluations were presented in the case study; however, an evaluation was completed at the end of the program's first year. The results of this evaluation were not available in the literature reviewed

Marin Municipal Water District (WWWD), Corte Madera, California – Water Management in the Landscape Maintenance Contract – The MMWD emphasizes water management as a means to successfully meet landscape conservation goals. This includes adding water management principles to landscape maintenance contracts. Several conclusions from the study of this program are: 1) offering financial incentives for upgrading irrigation systems components may not result in water savings unless an effective water management program is also instituted; and 2) to be effective, water management may need to be included in the landscape maintenance contract. Three MMWD sites adopted the principles of water management and have reduced their water use significantly from their base water use. In the first year of the program (1997) the percent reduction drop in water use ranged from 17% to 35% and in 1998 the percent reduction drop ranged from 40% to 59%.

Metropolitan Water District of Southern California – Protector Del Agua: Bilingual Landscape Education Program – This program, developed by California Polytechnic State University, San Luis Obispo, California, began in 1994 and consists of six courses that target landscape maintenance technicians

and operators of small landscape businesses. The response to the program has resulted in the inclusion of additional courses.

United States Bureau of Reclamation, Sacramento, California – Landscape Water Budgets: New Business Opportunities for the Landscape Industry – A best management practice identified by the California Urban Water Management Council was titled "Large Landscape Conservation Programs and Incentives". This would require districts to identify accounts with dedicated irrigation meters and to assign an ETO-based water use budget. Water budgets are usually developed in terms of units of water applied per acre of irrigated landscape, in relation to the area's evapotranspiration rate. Once landscapes are measured and water budgets are developed for customers, districts will be able to more easily monitor water use and target assistance programs to customers exceeding their water budget.

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Conservation Survey Results August 2004



St. Johns River Water Management District (District) engaged the services of PBS&J to assist with various components of their demand reduction study and water conservation plan. To accomplish the objective to develop an "inventory" of current and potential practices and potential funding sources for implementing conservation practices that will be included in the District's 20-year water conservation plan, a questionnaire was developed and survey conducted.

This document, which has been bookmarked, is a compilation and summary of the results of the survey.

Jo Ann Jackson, PBS&J, Orlando, FL Chrisell Jones, PBS&J, Las Vegas, NV

August 10, 2004

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1-Contacts & General Info

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Demand R					*5100,000	HATTER HATTER	200 DE DE DE DE DE DE DE	stanting .	Not the state of t	And the loss	o tarte of the second	UNOTE COSE CONTRACTOR
Town of La												
Name: Title: Department: Phone: Fax:	Bill Vance Town Manager Administration 352-751-1545 352-751-1549	GIS Depiction Available: GIS Contact Name: Email: Phone:	None Given None Given None Given	No	N/A	N/A Service Areas:	N/A Town of Lady	0 Lake, The Vill	95% ages, Water Oa	Estimate ak, the Recrea	Yes tion Plantation	No RV Resort
Email:	bvance@ladylake.org	Reuse Program: Reuse Contact Name: Email: Phone:	None Given None Given None Given	No		Upgrades/ Maint:	No additional i	nformation wa	as provided on t	the original surv	vey.	
	unty Utilities											
Name: Title:	Charles Howard	GIS Depiction Available: GIS Contact Name:	Name Oire	No	20,360	1,240 Service Areas:	N/A Citrue Darle D	28	55%	Estimate	Yes	No
nne: Department:	Operations Superintendent Operations	Email:	None Given None Given			Service Areas	Palm Cay - Pe Weir - Salt Spr Spruce Creek Silver Springs	ppertree - Pin rings - Samira Golf & Countr Woods - Ston	e Run - Raven Villas - Silver S y Club - Spruce	- Golden Ocala Hill - S. Ocala Springs Shores Creek Preserv ner Glen - Sum on Garlits	Industrial Park - South Forty - ves - Spruce Cr	- South Lake South Oak - reek South -
Phone: Fax: Email:	352-687-1856 352-687-8900	Phone:	None Given	Ne								
Email:	charles.howard@marioncount	Reuse Program: Reuse Contact Name: Email:	None Given None Given	No		Upgrades	Consolidation	into subregior	al treatment fa	cilities extensio	on of water and	sower
		Phone:	None Given			Maint:			of infrastructure			
City of Mel	bourne											
Name:	Jennifer Wilster	GIS Depiction Available:		No	N/A	N/A	2,000	9	60%	0	Yes	Yes
Title: Department:	Environmental Community Ou Public Works & Utilities	EGIS Contact Name: Email:	None Given None Given			Service Areas:	Melbourne, Me Indialantic, Me provided to We	Ibourne Beac	h, unincorporate	ed Brevard Cou		
Phone: Fax: Email:	(321) 674-5761 (321) 674-5765	Phone:	None Given	Ma a		Target Areas:	older toilets an	nd older showe	er heads and va	arious conserva	ation devices	
Eman.	Jwilster@melbourneflorida.org	Reuse Contact Name:	robert klaproth	Yes								
		Email: Phone:	rklaproth@mel 321-674-5761	bourneflorida.org		Upgrades/ Maint:	Went online w million a year i			ects and upgra		Over \$1
	ounty Utilities Water Divisior											
Name:	Jacqueline W. Torbert	GIS Depiction Available:		No	,570 connectio		700 connection	5	60%	Actual	Yes	Yes
Title: Department:	Manager, Orange County Utili Utlities	t GIS Contact Name: Email:	None Given None Given			Service Areas:	North Service Southwest Ser		ervice Area, Ea	ast Service Are	a, West Service	e Area and
Phone: Fax:	407-836-6891 407-836-6838	Phone:	None Given			Target Areas:	In 2003/4 cond					amount of
Email:	Jacqueline.Torbert@ocfl.net	Reuse Program:		Yes	1		Iwater saved by	v retrofittina w	ith low-flow toil	ets. Study is st	till onaoina.	

1-Contacts & General Info

	River Water Management	District									1-Con	tacts & Genera
Demand R	eduction Survey Results				*5 Perfect	Notes House House	Restering Heres	estendes Chernes	are here old that	Ball right	Stander Hander	USP CS LOE COMMON OF
Orlando Ut Name: Title:	ilities Commission Michael K Malone Water Conservation Coordina	GIS Depiction Available:	Michael K Mal	No	N/A	N/A	N/A	1	N/A	0	Yes	No
Department:	Water Conservation Coordina Water Business Unit	Email:	mmalone@ou									
Phone: Fax:	1.407.709.6691 1.407.236.9625	Phone:	407.709.6691									
Email:	mmalone@ouc.com	Reuse Program: Reuse Contact Name:	Michael K Mal	Yes								
		Email: Phone:	mmalone@ou 407.709.6691	c.com		Upgrades/ Maint:	We have upg	raded all 8 of o	ur water plants	s to utilize ozina	tion for water	treatment.
City of Orm	iond Beach Tim Sheahan	GIS Depiction Available:		No	N/A	N/A	1,000	1	N/A	0	Yes	No
Title: Department: Phone: Fax:	Utilites Manager Public Works 386-676-3583 386-676-3294	GIS Contact Name: Email: Phone:	None Given None Given None Given				+				<u>.</u>	•
Email:	sheahan@ormondbeach.org	Reuse Program: Reuse Contact Name:	Tim Sheahan	Yes								
		Email: Phone:	sheahan@orm 386-676-3583	ondbeach.org		Upgrades/ Maint:	Replacement Meter replace dead end mai	ement program	d iron pipe wa to replace all r	ter mains with r meters more tha	new 8" PVC wa n 10 years old	ater mains. d. Looping of
Palm Bay L Name:	Jtilities Rick Nipper	GIS Depiction Available:		No	19,000	4,500	400	1	25%	Estimate	Yes	Yes
Title: Department: Phone:	Operations Division Manager Utilities 321-952-3471	GIS Contact Name: Email: Phone:	Rick Nipper nipper@palmb 321-952-3471			.,						
Fax: Email:	321-768-7795 nipper@palmbayflorida.org	Reuse Program: Reuse Contact Name:	Matt Prenderg	Yes		Target Areas:	Provide low fl	ow showerhead	ls for custome	ers		
		Email: Phone:	prendm@palm 321-952-3468			Upgrades/ Maint:	Refurbishmer Plant. Water	nt of 2 Water Tr and Sewer infr	eatment Units astructure imp	. Addition of 1.5 rovements.	5 MGD Revers	se Osmosis
City of Palr Name:	n Coast Brian Matthews	GIS Depiction Available:		No	24,210	435	750	3	41%	Estimate	Yes	No
Title: Department: Phone:	Environmental Specialist Name: Utiltiy Department 386-986-2353	GIS Contact Name: Email: Phone:	Brian Matthew BMATTHEWS 386-986-2353	s @ci.palm-coast.fl.us		Service Areas:	Ocean City, G	Grand Haven, H	ammock Dune	98		
Fax: Email:	386-986-2393 BMATTHEWS@ci.palm-coast	: Reuse Program: Reuse Contact Name:	Brian Matthew	Yes s								
		Email: Phone:	BMATTHEWS 386-986-2353	@ci.palm-coast.fl.us		Upgrades/ Maint:				brane softening Irn flow to system		
St. Johns C Name:	County Utility Department Frank Kenton	GIS Depiction Available:		No	16,824	154	N/A	1	70%	Estimate	Yes	No
Title: Department: Phone: Fax:	Administrative Manager Utility Dept. (904) 471-2161x17 (904) 461-7619	GIS Contact Name: Email: Phone:	None Given None Given None Given	-	.,							
Email:	(904) 461-7619 fkenton@co.st-johns.fl.us	Reuse Program: Reuse Contact Name:	None Given	No								
		Email: Phone:	None Given None Given			Upgrades/ Maint:	feed systems	with liquid chlo alled magnetic f	rine feed syste	pvc lines. We h ems. SCADA up water plants. Ad	grades on all	booster

		District								1-001	lacis a Gene	
Demand R	eduction Survey Results			*5.000	Statutes Huttrand	strend the strength the series of the series	esterner ***	SWE HEES SIGHTHEESE	A Provide Rock	an tained to the second	UPPOPE CAPE	(age the formes
	County Environmental Serv								• · •			1
Name:	Liz Block	GIS Depiction Available:	No	N/A	N/A	N/A	11	71%	Actual	Yes	No	
Title:	Water Conservation Coordina		None Given					east, Southwes				
Department: Phone:	Seminole County Environmen 407-665-2121	Phone:	None Given None Given			HIIIS/Bretton v	VOODS, LAKE E	rantley, Lake H	arriet, Meredit	n Manor, Fern	Park	-
ax:	407-665-2019											
mail:	lblock@seminolecountyfl.gov	Reuse Program:	Yes									
		Reuse Contact Name:	Liz Block									
		Email: Phone:	lblock@seminolecountyfl.gov					ents at three W				
			407-665-2121			reclaimed mail located all hyd	ins and improv	s and effluent a red system loop vellfield operatic ater audits.	s; inventoried,	, maintained, a	nd accurately	
	unty Water Resources and									1		
Name:	Rebecca Adkins	GIS Depiction Available:	No	N/A	N/A	577	8	N/A	0	Yes	Yes	
Fitle:	Administrative Coordianator	GIS Contact Name:	None Given		Service Areas:			orthease, South	nwest, Spruce	Creek, Pine Isl	land, Stone	
Department:	Public Works	Email:	None Given			Island, New H	lope villas					_
hone: ax:	386-943-7027	Phone:	None Given		Towned Avenue	1	1					
ax: Email:	386-740-5162	Reuse Program:	Yes		Target Areas:	Low flow toile	ts					
-mall.	badkins@co.volusia.fl.us	Reuse Program: Reuse Contact Name:	Yes Scott Mays									-
		Email:	smays@co.volusia.fl.us		Upgrades/	0						
		Phone:	386-943-2076		Maint:	0						

		1	/	1	1	1	1	1	1	1	1	1	1	/	/	/	1	/	/	/	/
		A HEROTE SPIRE		mo				ional	Utilite	inc.		. He	withes	ne	Hilles		and the		, A	Littley,	inthe wind
		atest	CINIO HOOKS	NO Casella	CN/dClemon	City d COODS	CNOFFICET INC	SUR REGISTRES	Not COUNTIL	Sester Unites In	ų į	und 201 201 2010	on Courte Utility	Wd Mabouri	Control June Die Charte	Unitestor Connission	d Ornord Best	am Bay Miller	Not Patricia	COUND STORE	Count Count
		Ntario.	and	d Con	md.	CIRIO	CIN ^O	will Unit	. Into	stal	24	ndl	CON	d Me	Conster and	com.	OTT	In Bay	. dipon		and the second
		3 PM	Ö. Ö	No la	CIN		Coine		2 ⁵⁰ x ^{df}	Şo	~	Not Not	^{ol.}	JEN MONO	1 II OI	نې ا		OIL C	ist John	Servit	John John
	Cr.,							HOL	H.					\angle						\angle	
N-GOING PUBLIC AWARENESS PROGRA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
rochures	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Implemented or Plan to Implement:	1980	1988	1999	2003	1991	2000	~1980s	N/A	2000	1997	N/A	1994	1981	1995	982 approximate	1998	2003	1982	N/A	2001	N/A
Topic: Indoors	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Outdoors	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Area: Entire Service Area	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Specific Neighborhoods										Yes				Yes							
Zip Code																					
Older Homes														Yes							
Newer Homes		Yes												Yes							
Other																			Yes	Yes	
Distribution: Speaking Events	Yes	Yes	Yes	Yes	Yes					Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	
Special Mailings	Yes	Yes		Yes	Yes					Yes			Yes	Yes	Yes		Yes	Yes			
Other	Yes	Yes	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes
ill Inserts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
															1982						
Year Implemented or Plan to Implement:	1980	1988	2000	2001	2004	2000	1980s	N/A	2000	1997	1993	N/A	2003	2001	approximately	N/A	N/A	N/A	N/A	2001	N/A
Topic: Indoors	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes			Yes	Yes	Yes			Yes	Yes	Yes	Yes
Outdoors	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes			Yes	Yes	Yes			Yes	Yes	Yes	Yes
Area: Entire Service Area	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes	Yes			Yes		Yes	Yes
Specific Neighborhoods																					
Zip Code																					
Older Homes				Yes																	
Newer Homes		Yes		Yes																	
Other																			Yes		
Frequency: Every Cycle															Yes						
Quarterly				Yes	Yes	Yes			Yes					Yes	Yes						
Other	Yes	Yes				Yes	Yes			Yes	Yes		Yes					Yes	Yes	Yes	Yes
pecial Mailings	No	No	Yes	Yes	No	Yes	No	No	No	Yes	No	No	Yes	Yes	Yes	No	No	Yes	No	Yes	No
Year Implemented or Plan to Implement:	1995	N/A	2000	N/A	N/A	1997	N/A	N/A	2000	1997	N/A	N/A	1997	1998	1999	N/A	N/A	not sure	undecided	2002	N/A
Topic: Drought Alerts				Yes		Yes												Yes			
Restrictions				Yes		Yes				Yes			Yes	Yes				Yes			
Other Conservation Topics						Yes				Yes			Yes	Yes	Yes					Yes	
All of the Above			Yes															Yes			
Frequency: Every Cycle						Yes							Yes								
Quarterly			Yes										Yes					Yes			
Other				Yes	Yes					Yes				Yes	Yes					Yes	
ews Releases	No	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	No	No
															1999						
Year Implemented or Plan to Implement:	N/A	N/A	N/A	2002	N/A	N/A	1996	N/A	2000	1997	N/A	N/A	1981	2001	approximately	1998	N/A	not sure	2003	N/A	N/A
Topic: Indoors							Yes			Yes			Yes		Yes	Yes			Yes		
Outdoors				Yes			Yes			Yes			Yes	Yes	Yes	Yes			Yes		
Area: Entire Service Area				Yes			Yes			Yes			Yes	Yes					Yes		
Zip Code																					
Other													Yes		Yes	Yes					
		-	-	-	-	-								-	-						

D:\Clients Active\St Johns\Survey Results\#Database.xls Printed: 8/10/2004 Compiled by: Chrisell Jones, PBSJ

2-Public Awareness Program

	, noou		•			•									•				•	•	
	GNG	Allenone Strict	CINIO PRODUC	NO CREEKEN	Cave Clemon	CHIN ^{d COD®}	ON ^{d ELESS} Cone	SIME PEOPERAT	Rove County Julié	3 SSOEDUMES IC	57 × 1	ow diadulate	In COMPUTER	ind watcome	COUND DISC CHART	Unites of Contract of Contract	d Orron Best	13 ¹⁷ FSN UNITES	Not Patriciant	SCOUPO UNION	SULPH SOUCE
Videos	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	N/A
Year Implemented or Plan to Implement:	N/A	N/A	2001	2003	1991	N/A	1980	N/A	2005	2000	N/A	1998	1981	1995	2000	1998	2003	2005	undecided	2002	N/A
Total Annual Viewing Audience:	400	N/A	2-3,000	250	200	100	200-300	N/A	N/A	N/A	N/A	25	400	10,000+	Over 2,266 customers	?	N/A	N/A	N/A	N/A	N/A
Topic: Indoors	Yes		Yes		Yes		Yes			Yes			Yes	Yes	Yes		Yes			Yes	
Outdoors	Yes		Yes	Yes	Yes		Yes			Yes		Yes	Yes	Yes	Yes	Yes	Yes			Yes	
Where: Schools	Yes		Yes	Yes	Yes	Yes	Yes			Yes		Yes	Yes	Yes		Yes	Yes				
Professional Groups	Yes				Yes		Yes						Yes	Yes	Yes	Yes					
Speaking Engagements	Yes		Yes		Yes		Yes			Yes		Yes	Yes	Yes	Yes	Yes					
Seminars/Workshops	Yes		Yes	Yes	Yes					Yes			Yes	Yes		Yes					
Who: Youth	Yes		Yes	Yes	Yes	Yes	Yes					Yes	Yes	Yes	Yes	Yes	Yes				
Adult	Yes		Yes	Yes	Yes		Yes			Yes		Yes	Yes	Yes	Yes	Yes					
Professional Groups	Yes											Yes			Yes						
Other																				Yes	
ponsored Public Media Messages	No	No	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No
Year Implemented or Plan to Implement:	N/A	N/A	2000	N/A	N/A	2002	Lare 70's	N/A	2002	1997	N/A	N/A	1997	2001	1999 approximately	1998	N/A	2004	2002	N/A	N/A
Budget for Next Fiscal Year:	N/A	N/A	\$ 15,000	N/A	Sporadically	N/A	\$ 50,000	N/A	\$ 4,500	N/A	N/A	N/A	N/A	\$ 75,000	\$ 200,000	\$ 4,900	N/A	N/A	N/A	N/A	N/A
Sponsorship Level: With the District			Yes			Yes			Yes	Yes			Yes	Yes	Yes	Yes			Yes		
Independently							Yes			Yes			Yes		Yes	Yes		Yes			
Topics: Drought Related							Yes								Yes						
Restrictions			Yes				Yes		Yes	Yes			Yes	Yes	Yes	Yes		Yes	Yes		
Conservation							Yes						Yes		Yes	Yes					
Other													Yes								
Media: Radio			Yes				Yes		Yes	Yes			Yes	Yes	Yes	Yes		Yes	Yes		
Television			Yes				Yes			Yes			Yes	Yes	Yes	Yes			Yes		
Cable TV									Yes				Yes					Yes			
Billboards																Yes					
Promotes Water Conservation Contests	No	No	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	No	Yes	No	No	No	No	No
Year Implemented or Plan to Implement:	N/A	N/A	2001	2004	N/A	N/A	N/A	N/A	2005	N/A	N/A	N/A	N/A	1998	N/A	1998	N/A	Not sure	2005	2004	N/A
Measures Effectiveness:	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Topic: Indoors			Yes	Yes										Yes		Yes					
Outdoors			Yes	Yes												Yes					
N/A = Not applicable; answer not required.			Blank = No	answer pro	vided.										-						

N/A = Not applicable; answer not required.

2-Public Awareness Program

	liteounit	ر م	,				,					,	,		,		,	,	,		
		int	8	b l				1	Hillie	inc.		J.C	ines	~	in the state		\$		Å	wijites	
		d Allenone Shire	CHI'D HODRO	celler.	ON d Clemon	City of COOOD	rusifs	ME PERSON	RIVE COUPLINE	SOSTI UNITE IN	HP	und 201 201 and	on Courted Willies	UN ^{d M®DUME}	thin is an	and unites or	d orrend Beset	Utilities	W d Patr Coast	NE Department	de Curel Sold
		"and"	Mapp	A COST	, d ^{CKE}	in du	ON OF LISTS	vile Jun	, COL	etal	¥-	dia	Contre	d Men	COULTER	ndoonnt	Ono	Bay	4 Pall	S COL RAIL	de lette a
		ofAll	CN Ö	NO Casella	CIRI MIC	C ^{kel}	Carle Colle		pint of	50 ⁰⁰		Juni not	or c	^{ong}	Nº On			28hr Bay Uniter	ind lai		inon Joh
	CID							Indic	I'll										5	/	
MPLEMENTED INDOOR INCENTIVE PGMS	Yes	No	Yes	No	Yes	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Replacement, Rebate, Incentive, Retrofit	Yes	No	Yes	No	Yes	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Year Implemented:	1980s	N/A	2001	N/A	2001	N/A	1980s	N/A	N/A	N/A	N/A	N/A	1997	2003	N/A	1996	2002	1992	N/A	2002	2002
Written Policies and Procedures Available:	No	N/A	No	N/A	Yes	N/A	Yes	N/A	N/A	N/A	N/A	N/A	Yes	Yes	N/A	No	No	No	N/A	No	Yes
Customer Follow-up After Installation:	No	N/A	No	N/A	Yes	N/A	No	N/A	N/A	N/A	N/A	N/A	Yes	Yes	N/A	Yes	No	No	N/A	Yes	Yes
Plan to Implement:	N/A	No	N/A	Yes	N/A	No	N/A	No	No	N/A	Yes	No	N/A	Yes	Yes	N/A	N/A	N/A	No	N/A	N/A
Year Plan to Implement:	N/A	N/A	N/A	2004	N/A	N/A	N/A	N/A	N/A	N/A	2007	N/A	N/A	2003	2006	N/A	N/A	N/A	N/A	N/A	N/A
Residential Consultations Provided (Indoor)		Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No
Year Implemented or Plan to Implement:	N/A	1990	2001	N/A	N/A	1997	Late 70's	N/A	2003	1998	N/A	1998	1981	2001	2002	N/A	2006	Not sure	undecided	1	N/A
Measures Effectiveness:	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Track Actual Water Use Changes	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
ow-flush Toilet Replacement/Rebates	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No	No	No	No	No	No	Yes
Year Implemented or Plan to Implement:	N/A	N/A	N/A	2004	FY2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1997	2003	N/A	N/A	N/A	Not sure	undecided	-	N/A
Annual # of Toilet Replacements	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,007	N/A	N/A	N/A	200	500	N/A	N/A	N/A	N/A	N/A	N/A	100
Measures Effectiveness:	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Track Actual Water Use Changes	N/A	N/A	No	N/A	N/A	No	N/A	N/A	No	N/A	N/A	No	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Area: Entire Service Area		I											Yes								Yes
Specific Neighborhoods		I												Yes							
Zip Code																				_	_
Older Homes																					
ther Plumbing Replacement/Rebate Pgms	No	No	Yes	No	Yes	No	Yes	No	No	No	No	No	Yes	Yes	No	No	Yes	No	No	Yes	No
Year Implemented or Plan to Implement:	N/A	N/A	2001	2004	1991	N/A	1980's	N/A	N/A	N/A	N/A	N/A	1981	2003	N/A	N/A	2002	not sure	undecided	-	N/A
Annual # of Toilet Replacements	N/A	N/A	250	N/A	500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	700	N/A	N/A	1,000	N/A	N/A	200	N/A
Measures Effectiveness:	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Track Actual Water Use Changes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Area: Entire Service Area			Yes		Yes								Yes	Yes			Yes			Yes	-
Specific Neighborhoods		1	-																	-	-
Zip Code Older Homes																		1			
Cloer Homes	No	Yes	Yes	No	No	No	No	No	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes	No
Year Implemented or Plan to Implement:	N/A	1992	2001	N/A	N/A	N/A	N/A	N/A	N/A	1997	N/A	1998	N/A	N/A	2003	N/A	N/A	N/A	N/A	1990	N/A
Written Policies and Procedures Available:	N/A N/A	Yes	Yes	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	1997 No	N/A N/A	Yes	N/A N/A	N/A N/A	Yes	N/A N/A	N/A N/A	N/A N/A	N/A N/A	1990 No	N/A N/A
Established Schedule	N/A N/A	No	No	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	No	N/A N/A	No	N/A N/A	N/A N/A	Yes	N/A	N/A N/A	N/A N/A	N/A	Yes	N/A N/A
Utilize Performance Contracts	N/A N/A	No	No	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	No	N/A N/A	No	N/A N/A	N/A N/A	Yes	N/A	N/A N/A	N/A N/A	N/A	No	N/A N/A
Perform Irrigation Audits	Yes	No	Yes	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	Yes	N/A N/A	Yes	N/A N/A	N/A N/A	Yes	N/A	N/A	N/A N/A	N/A N/A	Yes	N/A
# Customers Benefitting Annually	N/A	N/A	Unknown	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	750	N/A N/A	200	N/A N/A	N/A N/A	169	N/A	N/A	N/A N/A	N/A	don't knov	v N/A
Measures Effectiveness:	No	Yes	Yes	No	N/A No	N/A No	No	No	N/A No	No	N/A No	No	N/A No	N/A No	No	N/A No	No	N/A No	No	No	No No
Track Actual Water Use Changes	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A
Area: Entire Service Area	Yes	Yes	Yes	IN/A	IN/A	IN/A	IN/A	IN/A	IN/ <i>P</i> \	Yes	N/A	Yes	IN/A	Yes	Yes	IN/A	IN/A	IN/A	IN/A	Yes	IN/A
Specific Neighborhoods	162	162	162							162		Yes		162	162					165	
												162									
Zip Code Older Homes			1															1		1	1
Plan to Implement:	No	N/A	N/A	Yes	No	Yes	N/A	N/A	No	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	No	N/A	No
Year Plan to Implement:	N/A	N/A N/A	N/A N/A	2004	N/A	2000	N/A N/A	N/A N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	2004	N/A N/A	N/A	N/A	N/A	N/A	N/A N/A	N/A
$\sqrt{A} = Not applicable: answer not required.$	N/A	IN/A		answer pro		2000	IN/A	IN/A	IN/A	IN/A	IN/A	IN/A	IN/A	2004	IN/A	IN/A	IN/A	IN/A	N/A	IN/A	IN/A

N/A = Not applicable; answer not required.

Blank = No answer provided.

3-Indoor Incentive Programs

Demand Reduction Survey Results

Demand Reduction Survey	Result	s,	,				,		,	,	,	,	,	,	,	,	,		,	,	,	
		int	8						willing	inc.		10	E		ii (E		5		à	leilin.		AND INC.
		ESPI-	JA2	allelli	mon	and a second	digu	Cedy of	INNUL IN	wittes, 1		NIAN	N Utillar	noune	NUTITIC IN	Hillesion	J. Heer	Hittes	000	Man Un	COUNTS SERVICE	NNO UNIT
		anonu	CIN ^{d hooks}	Case	ind Clern	City of CODOC	CNOTEUSIES	ville Jilline	CON	tal Jun	SF /	HIR!	Conus	A Mel	Contra On	ndo milit	molu	Bay	, Pall	CON BUILT	E END OF	CONTRES all
		A MOTOR ST	CIEN C	NO COSS	^I Mi	QIN	ON Care	SINE REGIONES	ive count the	Sest Unites.II		und 201 200 NE	or Courty Unite	ind habourn	Courte Division	ando United Soft	d Orrow Best	28m Bay United	Nd Patr Coast	S Department	COUND COUNTER	CUNNING UNE
	(in)							Indian	Inte.			NE		Ote		Or Or			3	H.	1º 4	·/
IMPLEMENTED INDOOR INCENTIVE PGMS	Yes	No	Yes	No	Yes	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	
	163	NO	163	NO	163	NO	163	NO	NO	NO	NO	NO	163	163	NO	165	165	163	NO	163	163	
Sponsor Landscape Workshops/Seminars	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	
Year Implemented:	2001	1990	2001	2002	2001	N/A	2000	N/A	2005	N/A	2007	N/A	2001	2001	2005	1998	2001	Not Sure	undecided	2001	N/A	
Measures Effectiveness:	Yes	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Track Actual Water Use Changes	N/A	Yes	Yes	No	N/A	N/A	No	N/A	N/A	N/A	No	N/A	No	No	No	No	No	No	N/A	Yes	N/A	
Workshops By: Staff		Yes											Yes	Yes						Yes		
Outside Professionals	Yes		Yes	Yes			Yes						Yes	Yes		Yes	Yes			Yes		
Outdoor Rebate, Replacement, Incentives	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No	Yes	No	No	No	No	Yes	
Year Implemented:	1985	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2001	N/A	N/A	1998	N/A	N/A	N/A	N/A	2002	
Written Policies and Procedures Available:	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	
Customer Follow-up After Installation	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	No	N/A	N/A	N/A	N/A	N/A	
Mobile Irrigation Lab Program	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	1
Plan to Implement:	N/A	No	Yes	No	No	No	No	N/A	No	No	N/A	No	N/A	No	Yes	N/A	No	Yes	No	Yes	N/A	
Year Plan to Implement:	N/A	N/A	2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2006	N/A	N/A	N/A	N/A	2004	N/A	
Rain Sensor Program	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No	No	No	Yes	Yes	No	Yes	No	No	No	No	N/A	
Year Implemented:	N/A	1992	2000	1991	N/A	2000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2004	N/A	1998	N/A	N/A	N/A	N/A	N/A	
Measures Effectiveness:	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
# Customers Benefitting Annually	N/A	N/A	Unknown	1,000	N/A	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25	N/A	?	N/A	N/A	N/A	N/A	N/A	
Track Actual Water Use Changes	N/A	Yes	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Area: Entire Service Area	Yes	Yes	Yes	Yes										Yes		Yes						
Specific Neighborhoods						Yes							Yes									
Zip Code																						
Older Homes																						
Plan to Implement:	N/A	N/A	N/A	Yes	No	N/A	No	N/A	No	No	N/A	N/A	No	N/A	N/A	N/A	No	No	No	Yes	N/A	
Year Plan to Implement:	N/A	N/A	N/A	2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2004	N/A	
Residential Consultations Provided (Outdoo	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	
Year Implemented:	N/A	1992	1999	2002	N/A	N/A	Late 70's	N/A	2003	2003	N/A	1998	1981	2001	N/A	N/A	N/A	N/A	N/A	2002	N/A	
Measures Effectiveness:	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
# Customers Benefitting Annually	N/A	N/A	Unknown	90	N/A	N/A	>2000	N/A	50	80	N/A	1,000	52	500	N/A	N/A	N/A	N/A	N/A	300	N/A	
Track Actual Water Use Changes Area: Entire Service Area	N/A	N/A Yes	N/A Yes	N/A Yes	N/A	N/A	N/A Yes	N/A	N/A Yes	N/A	N/A	N/A Yes	N/A Yes	N/A Yes	N/A Yes	N/A	N/A	N/A	N/A	N/A	N/A	
Area: Entire Service Area Specific Neighborhoods		165	Tes	162			162		165	Yes		162	165	Tes	165	Yes				Yes		
Zip Code			1													162				162		
Older Homes			1																			
Plan to Implement:	N/A	No	No	Yes	No	No	No	N/A	No	No	N/A	N/A	No	Yes	Yes	N/A	No	No	No	No	N/A	
Year Plan to Implement:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2005	N/A	N/A	N/A	N/A	N/A	
Irrigation System Improvement Incentives	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	Yes	
Year Implemented:	1985	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2004	N/A	N/A	N/A	N/A	N/A	
Measures Effectiveness:	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Annual Recorded Improvements	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	?	N/A	N/A	N/A	N/A	N/A	
Track Actual Water Use Changes	N/A	Yes	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	N/A	N/A	Yes	N/A	N/A	N/A	N/A	Yes	N/A	
Area: Entire Service Area	Yes	Ĩ				Ī										Yes			Ī		Yes	
Specific Neighborhoods																						
Zip Code																						
Older Homes																						
Plan to Implement:	N/A	No	No	Yes	No	No	No	N/A	No	No	N/A	N/A	No	Yes	Yes	N/A	No	No	No	No	N/A	
Year Plan to Implement:	N/A	N/A	N/A	2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2004	2006	N/A	N/A	N/A	N/A	N/A	N/A	1
		-	-	-	-	-	-			-	-	-		-	-		-				-	

D:\Clients Active\St Johns\Survey Results\#Database.xls Printed: 8/10/2004 Compiled by: Chrisell Jones, PBS

4-Outdoor Incentive Programs

Demand Reduction Survey	, Result	ANERTONE SPIRE	A A	N d Casesborry	We Cent	CHIN ^{d CODR}	CNO ^{LUSE} CON	Some Partices	Rive COLINY HIRE	Social United Inc	57 - 57 57 - 51	und Lad Lake	ar County United	ING WEBOARD	Count inter	and convision	d Omore Beech	MITEON MILES	MAPSHCOS	COLOURS COUNT	Superior Particle	CONNUSC UNES
Florida-friendly Landscaping Incentives	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No	No	No	No	No	
Year Implemented:	N/A	N/A	N/A	2004	N/A	N/A	N/A	2001	N/A	N/A	N/A	N/A	N/A	N/A	2002	pre 1995	N/A	N/A	N/A	N/A	N/A	1
Measures Effectiveness:	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Annual Recorded Improvements	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	?	N/A	N/A	N/A	N/A	N/A	
Track Actual Water Use Changes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	
Area: Entire Service Area				Yes				Yes							Yes	Yes						
Specific Neighborhoods																						1
Zip Code																						
Older Homes																						1
Plan to Implement:	No	No	No	No	No	N/A	No	Yes	No	No	N/A	N/A	No	Yes	N/A	N/A	No	No	No	No	N/A	1
Year Plan to Implement:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1
N/A = Not applicable; answer not required.	-	Blank = No	answer pro	vided.	-	-		-			-			-	-		-	-	-			

4-Outdoor Incentive Programs

Demand Reduction Survey	/ Results		,		,		,					,	,	,	,			,		,	,	, ,
		one Shings	ON O ADDRO CO	d casesborn	ind Centor	CHINA CODO	CIN ^{d EUSIE}	Some Registered	Rive County	MILES IN THE P	, Ş7 	und Labil Ste	an County United	Det Marcoure	COUNDED DISOT	and contract on o	Smoot Boot	an Eavilites	N ^d Pan Coad	County Julies	Superior Services	COUNT OF ALL MES
Water Use Restrictions	Yes	Yes	Yes	Yes		Yes							Yes	Yes		Yes		Yes		Yes	Yes	
Year Implemented:	1999	2000	2000	1999	N/A	2001	N/A	N/A	N/A	N/A	N/A	N/A	1980	1993	N/A	2001	N/A	2001	N/A	1981	N/A	
Enforcement Practiced:	Yes	Yes	Yes	Yes		Yes				N/A			Yes	Yes		Yes		Yes		Yes		
Water Savings Analyzed:	Yes	No	No			N/A							No	Yes		No		No		Yes		
Native Plant Use		Yes	Yes	Yes		Yes							Yes			Yes				Yes		
																2004						
Year Implemented:	N/A	1992	1993	2004	N/A	Pending	N/A	N/A	N/A	N/A	N/A	N/A	2003	N/A	N/A	pending	N/A	N/A	N/A	1994	N/A	
Enforcement Practiced:		Yes	Yes	Yes						N/A			Yes			No				No		
Water Savings Analyzed:		No	No										No			No				N/A		
Drought Tolerant Plant Use				Yes		Yes							Yes			Yes				Yes		
																2004						
Year Implemented:	N/A	N/A	N/A	2004	N/A	Pending	N/A	N/A	N/A	N/A	N/A	N/A	2003	N/A	N/A	pending	N/A	N/A	N/A	1994	N/A	
Enforcement Practiced:				Yes						N/A			Yes			No				Yes		
Water Savings Analyzed:													No			No				N/A		
Rain Sensors	Yes	Yes	Yes	Yes		Yes							Yes			Yes				Yes		
	See the	4000	4000	1001	N1/A		N1/A	N1/A	N1/A	N1/A	N1/A	N1/A	0004	N1/A	N1/A	0004	N1/A	N1/A	N1/A	N1/A	N1/A	
	answer to 24	1992	1990	1991	N/A	Pending	N/A	N/A	N/A	N/A	N/A	N/A	2001	N/A	N/A	2001	N/A	N/A	N/A	N/A	N/A	
Enforcement Practiced:		Yes	Yes	Yes						N/A			Yes			Yes				Yes		
Water Savings Analyzed:		No	No										No			No				N/A		
Site Design Review	Yes	Yes		Yes		Yes							Yes			Yes 2003				Yes		
	Mid to late	1992	N/A	2004	NI/A	1000	NI/A	N/A	NI/A	NI/A	NI/A	N/A	1980	NI/A	N/A	amended	N/A	N/A	N/A	1004	N/A	
Year Implemented:	70's at a Yes	Yes	IN/A	2004 Yes	N/A	1990 Yes	N/A	IN/A	N/A	N/A N/A	N/A	IN/A	Yes	N/A	IN/A	Yes	IN/A	IN/A	IN/A	1994 Yes	IN/A	
Enforcement Practiced: Water Savings Analyzed:	N/A	No		No		165				IN/A			No			No				N/A		
Efficient Irrigation	IN/A	Yes		Yes		Yes							INU			INO				Yes		
Year Implemented:	N/A	1992	N/A	2004	N/A	Pending	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1994	N/A	
Enforcement Practiced:		Yes		Yes		r enuing				N/A							IN/7	IN/7		Yes		
Water Savings Analyzed:		No		No					<u> </u>							N/A				N/A		
Turf Use Restrictions		110		Yes		Yes										Yes				Yes		
				103		103										2003				103		
Year Implemented:	N/A	N/A	N/A	2004	N/A	Pending	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	amended	N/A	N/A	N/A	1994	N/A	
Enforcement Practiced:					,														,			
				Yes						N/A						Yes				res		
Water Savings Analyzed:				Yes No						N/A						Yes No				Yes N/A		

N/A = "Not Applicable" selected by respondent

Blank = No answer was provided by respondent

5-Local Ord-Res-Codes

Demand Reduction Survey Results

	CN ^{d Alleronte Spires}		City of Hoopks		CIN OF Case all en		City of Clean Part		CRI d COOR		CNV OF ELESSIE	
WATER RATE STRUCTURE												
Rates Structured to Promote Conservation	Yes		Yes		Yes		Yes				Yes	
Year Implemented:	Late 80's		2000		2000		2001		N/A		2002	
Year Plan to Implement:	N/A		N/A		N/A		N/A		N/A		N/A	
# Tiers in Current Rate Structure	5 Gallons	Rate	4 Callena	Rate	5 Collona	Dete	5 Callena	Dete	N/A	Rate	4 Collena	Rate
	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate
Tier 1	Facility Charge - Flat Rate	\$2.79	Min charge	\$5.15	0-3,999	\$0.99	Base Charge	\$5.48	N/A	N/A	0-8,000	\$1.53
Tier 2	0-3000 gallons	\$0.98	1000-6000	\$0.95	4,000-9,999	\$1.38	1,000 - 10,000	\$1.10	N/A	N/A	8,001-20,000	\$1.91
Tier 3	Next 4000 gallons	\$1.92	7000-15000	\$1.17	10,000-19,999	\$2.32	11,000 - 20,000	\$1.43	N/A	N/A	20,001 to 50,000	\$2.68
Tier 4	Next 23000	\$2.41	over 15000	\$1.75	20,000-29,999	\$2.78	21,000 - 30,000	\$2.20	N/A	N/A	Over 50,000	\$3.04
Tier 5		\$3.01	Rate based per	N/A	30,000 & Up	\$3.47	over 30,000	\$3.00	N/A	N/A	N/A	N/A
Tier 6	Outside City rates are more	N/A	thousand gallons	N/A	Outside City Limits	25%Higher	N/A	N/A	N/A	N/A	N/A	N/A
Surcharge for Excessive Use	No		No		No		No			·	No	
	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate
Surcharge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monthly SF Service Charge	\$20.64		N/A		\$14.50		\$44.00		N/A		N/A	
Residential Billing Cycle	Monthly		Monthly		Monthly		monthly		N/A		Monthly	
Drought Rate	No		No		No		No				Yes	
All Government/Exempt Users Metered	No		Yes		Yes		Yes				Yes	
Year Implemented:	N/A		0		0		at least 1991		N/A		1999	
Year Plan to Implement:	0		N/A		N/A		N/A		N/A		N/A	
WASTEWATER RATE STRUCTURE	Note: There are no exempt us	sers										
Monthly SF Service Charge per EDU	\$37.12		N/A		\$25.00		\$38.00		N/A		\$1.34	
Residential Rate Structure Description				1000 to	\$7.90 base charge, \$3.117 fo \$3.7441>7,000 25% Higher Limits, No cap on gallonage, passing thru the meter is bille usage.	outside City ie, all water	Base Charge = \$12.13; Varia (per 1,000 gal) = \$1.59; Max subject to Variable Charge =	imum gallons	Not provided		Not provided	

N/A = Answer not applicable

Blank = No answer was provided by respondent

6-Water Sewer Rate Structures

Demand Reduction Survey Results

		Contrante Registric	» F	Wolen River COUNTY UNIVE	2	Wescopetal United. W	Ş.	\$¢ [*]		Tomotizatizae		Naion County United	
WATER RATE STRUCTUR													
Rates Structured to Promote Co	nservation	Yes		Yes		No		Yes		No		Yes	
Year Implemented:		N/A		1989		N/A		1997		N/A		1993	
Year Plan to Implement:		N/A		N/A		2006		N/A		2007?		N/A	
# Tiers in Current Rate Structur	e	3 Gallons	Rate	4 Gallons	Rate	N/A Gallons	Rate	3 Gallons	Rate	N/A Gallons	Rate	2 Gallons	Rate
		Galiolis	Nate	Galiona	Nate	Calions	Nate	Galiona	Nate	Galions	Nate	Galions	Nate
	Tier 1	0-9	\$1.01	0-3000	\$2.20	All Use	0.72/M	1-11,000	.78/Kgal	N/A	N/A	6,000 / per 1,000 gls	\$1.14
	Tier 2	10-24	\$1.33	3001-7000	\$2.42	N/A	N/A	12,000-22,000	.97/Kgal	N/A	N/A	above / per 1,000 gls	\$1.72
	Tier 3	25+	\$2.29	7001-13000	\$3.85	N/A	N/A	>22,000	4.00/Kgal	N/A	N/A	N/A	N/A
	Tier 4	N/A	N/A	13001-99999	\$7.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Tier 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Tier 6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Surcharge for Excessive Use		No		No		No		No		No		No	
		Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate
	Surcharge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monthly SF Service Charge		\$11.00		\$9.05		\$12.21		\$15.69		\$12.00		\$25.00	
Residential Billing Cycle		monthly		monthly		Quarterly		monthly		monthly		Monthly	
Drought Rate		No		No		No		No		No		No	
All Government/Exempt Users M	letered	Yes		Yes		Yes		Yes		Yes		Yes	
Year Implemented:		0		1989		1983		0		0		1993	
Year Plan to Implement:		N/A		N/A		N/A		N/A		N/A		N/A	
		All users except hydrants have	ve always been m	etered									
WASTEWATER RATE STR													
Monthly SF Service Charge per		\$17.00		\$15.87		\$34.21		\$28.35		\$16.00		\$35.00	
Residential Rate Structure Desc	cription	\$2.27/month base customer \$2.61/Kgal. Wastewater flow minimum of the customer's v water usage or the current m	v calculated as the vinter maximum	2.86 per thousand gallons res at 12k	sidential caps	Base Facility Charge: \$49. QUARTER; Gallonage Cha \$4.14/Mgals. (Residential \$ Chg Capped at 30,000 gals	arge: Swr Gallonage	water flow. We charge \$3.88 Kgal. Sewer charges are cap	/Kgal up to 22	High flat rate then based upor consumption.	n water	The rate is \$3.25 per 1,000 ca	ipped at 8,000

N/A = Answer not applicable

Blank = No answer was provided by respondent

6-Water Sewer Rate Structures

Demand Reduction Survey Results

		Cield Methome		Orange Course Division		Oterto Unites convision		Cityd Omond Beset		PainEeyUtites		Citydram Coast	
WATER RATE STRUCTURE													
Rates Structured to Promote Con	servation	Yes		Yes		Yes		Yes				No	
Year Implemented:		N/A		1997		2001		pre 1996		N/A		N/A	
Year Plan to Implement:		N/A		N/A		N/A		N/A		N/A		2005	
# Tiers in Current Rate Structure		N/A	Det a	4	Data	4	Dete	N/A	Data	N/A	Data	N/A	Dete:
		Gallons	Rate	Gallons	Rate	Gallons First 3,000 Gallons In City /	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate
	Tier 1	N/A	N/A	0-3000	\$0.89	Outside City Limits	0.801/0.945	\$8.26+\$2.08 per1000	N/A	0-10,000	\$2.90	N/A	N/A
	Tier 2	N/A	N/A	4000-15000	\$1.19	Next 12,000 Gallons In City / Outside City Limits	1.071/1.263	N/A	N/A	10,000-20,000	\$3.76	N/A	N/A
	Tier 3	N/A	N/A	16000-30000	\$2.09	Next 15,000 Gallons In City / Outside City Limits	1.880/2.219	N/A	N/A	20,000 plus	\$4.63	N/A	N/A
					+	Next 30,000 Gallons In City /				, P	•		
	Tier 4	N/A	N/A	31000+	\$2.61	Outside City Limits	2.348/2.771	N/A	N/A	N/A	N/A	N/A	N/A
	Tier 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Tier 6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Surcharge for Excessive Use		No	-	No		No		No		No		No	
		Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate	Gallons	Rate
	Surcharge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monthly SF Service Charge		\$4.40		\$5.47		4.55 for inside and \$5.35 fo	outside	18.66 for 5000gal		?		\$28.65	
Residential Billing Cycle		monthly		Monthly		monthly		monthly		monthly		monthly	
Drought Rate		No		No		No		No		No		No	
All Government/Exempt Users Me	etered	Yes		Yes		Yes		Yes		Yes		Yes	
Year Implemented:		0		1980		1923		pre 1996		0		1970	
Year Plan to Implement:		N/A		N/A		N/A		N/A		N/A		N/A	
WASTEWATER RATE STR	JCTURE												
Monthly SF Service Charge per E		\$7.76		\$13.96		Not Applicable		\$25.33		?		\$24.02	
Residential Rate Structure Descr		based on amount of water us	ed	Uniform Rate of \$3.17 per 1,0 with a cap at 14,000 gallons	00 gallons	Not Applicable We do not manag	e wastewater.	\$10.78 base rate (includes fire =\$2.91 per 1000 gal. over 2,0		Residential customer are or a maximum of 10,000 gallor plus monthly base facility ch 12.82	ns per month	÷ -	used upto

N/A = Answer not applicable

Blank = No answer was provided by respondent

6-Water Sewer Rate Structures

	5. Johns County Julies		Sering Count Jesen	\$ Int	Voltes Court Water Unites		
WATER RATE STRUCTURE							
Rates Structured to Promote Conservation	Yes		Yes		Yes		
Year Implemented:	2001		2003		2002		
Year Plan to Implement:	N/A		N/A		N/A		
# Tiers in Current Rate Structure	4		5		4		
	Gallons	Rate	Gallons	Rate	Gallons	Rate	
Tier 1	0-4,000	\$3.05	0-10000	\$0.65	0-7	1.54/2.91	
Tier 2	4,001-8,000	\$4.21	10001-20000	\$1.00	7-14	1.76/3.14	
Tier 3	8,001-15,000	\$5.67	20001-30000	\$2.50	14-21	2023/3.61	
Tier 4	> 15,000	\$7.65	30001-50000	\$3.50	over 21	4.62/6.01	
Tier 5	N/A	N/A	50001 and over	\$4.75	N/A	N/A	
Tier 6	N/A	N/A	N/A	N/A	N/A	N/A	
Surcharge for Excessive Use	No		No		No		
	Gallons	Rate	Gallons	Rate	Gallons	Rate	
Surcharge	N/A	N/A	N/A	N/A	N/A	N/A	
Monthly SF Service Charge	\$9.52		\$6.60		N/A		
Residential Billing Cycle	monthly		monthly		monthly		
Drought Rate	No		No		No		
All Government/Exempt Users Metered	Yes		Yes		Yes		
Year Implemented:	approx. 1995		don't know		0		
Year Plan to Implement:	N/A		N/A		N/A		
WASTEWATER RATE STRUCTURE							
Monthly SF Service Charge per EDU	\$9.13		\$11 EQ		NI/A		
Residential Rate Structure Description	We charge for each 1,000 gall There is a 10,000 gallon cap o charges for single family and a gallon cap for multi-family.	n sewer	\$11.50 \$2.63 per 1000 gal up to 15000		N/A Base rate & gallons up to 14,000		

N/A = Answer not applicable

Blank = No answer was provided by respondent

Demand	Reductio	n Survey	Results
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	CN-4 MERIONE SHIFTS	CRI d HOOKS	CIN/OF COSERNMAN	Cald Clemon	Ciel d Corro	City of Fusits
Reuse/Reclaim Program in Effect:	Yes	Yes	Yes	Yes	Yes	No
Year Reuse/Reclaimed Program Began	1992	1988	1988	2003	N/A	N/A
Efforts described as:						
Aggressive	Yes	Yes	Yes	Yes		
Mildly Aggressive						
Passive						
% of Service Area with Access to Reuse Water	90+%	20%	30%	30%	N/A	N/A
Plan to Expand Service Area	Yes	Yes	No	Yes		
Year Expansion Planned:	Ongoing	2004	0	2005	0	0
% Reuse Customers Metered:	Approx 15%	100%	100%	N/A	N/A	N/A
# Residential Reuse/Reclaim Customers:	6,100	2,200	1,500	2,000	N/A	N/A
Rate Structure:						
Flat Rate + 1,000 gal. rate	Yes		Yes		Yes	
Per 1,000 gal.	Yes	Yes	Yes	Yes	Yes	
Flat Rate	Yes		Yes		Yes	
	Flat rate for residential. For customers in neighborhoods that have reclaimed avail but aren't connected, they still have to pay a flat availability charge. Commercial is billed based on a tiered consumption. See faxed rate sheet.	No information provided.	\$1.50 Base Charge \$.8312 for 0- 12,999 \$1.7257 for all usage > 13,000	Sold in bulk to development	No information provided.	No information provided.
	The City serves low-cost reclaimed water to over 90% of its inside City customers and is working to expand its outside city commercial services. Thanks to the dual piping system the pressures in the reclaimed system can be dropped in the system to a point which won't allow the activation of an irrigation system during restriction hours. We also have Water restriction patrols during times of severe drought and restriction enforcement. During these times all city employees (garbage truck drivers, meter readers, distribution system employees, construction personnel) call in to designated reps to report water restriction violiations. The reps deliver notices, speak one on one with the violator and in some cases lock off the violators reclaimed system until a fine is paid (this only happens when there has been multiple violations of restrictions).		gallons/month. Same watering restrictions as are imposed for potable water irrigation are	Development owns and operates large scale irrigation system. Control of invidual zones is based on actual rainfall and calculated need based on recent rainfall and other weather conditions.	No information provided.	No information provided.

N/A = Answer not applicable

Blank = No answer was provided by respondent

	Gainestile Respond	Weller River County United	htercoated Unites, Inc.	₩ [₽]	Town di 2011 2016	Water Courts United	CN ^{d Meboure}	Orarde County United This on
Reuse/Reclaim Program in Effect:	Yes	No	No	Yes	No	No	Yes	Yes
Year Reuse/Reclaimed Program Began	1993	N/A	N/A	Oct-04	N/A	N/A	1988	31747
Efforts described as:								
Aggressive	Yes							Yes
Mildly Aggressive		Yes	Yes	Vaa		Yes	Yes	
Passive				Yes				
% of Service Area with Access to Reuse Water	N/A	N/A	N/A	<1%	N/A	N/A	10%	20%
Plan to Expand Service Area	Yes	Yes		Yes			Yes	No
Year Expansion Planned:	On-going as new developments come in	0	0	2007+	0	0	soon	0
% Reuse Customers Metered:	N/A	N/A	N/A	100%	N/A	N/A	100%	99%
# Residential Reuse/Reclaim Customers:	N/A	N/A	N/A	200	N/A	N/A	2,000	1700 connections
Rate Structure:								
Flat Rate + 1,000 gal. rate								
Per 1,000 gal.						Yes		
Flat Rate	Yes						Yes	
Description of Rate Structure, other than as shown above:		No information provided.	(Do not have authorized charge/rate for reuse water provided to Golf Course)	1-15Kgal .97/Kgal, 16- 30Kgal 1.56Kgal, >30Kgal 4.00/Kgal	No information provided.	.05 cents per 1,000 gls	No information provided.	Fixed Monthly Charge by meter size with an allowance built in. Usage in excess of the allowance is subject to the volume charge. Retail volume charge is \$0.84 per 1,000 gallons. Wholesale rates are \$0.70, \$0.42, or \$0.28 depending on the demand placed on the system.
Description of methods employed to conserve reuse/reclaimed water:	No information provided.	No information provided.	No information provided.	Conservation rate structure.	No information provided.	No information provided.	make it available every other day to keep from running out and still meeting demand	No information provided.

N/A = Answer not applicable

Blank = No answer was provided by respondent

	Orlando Unities son	City of Omore person	Pain Rev Unites	City d Path Coast	3. White County Utility	Seringe County Seringer	Voltee Courts Water Utilities
Reuse/Reclaim Program in Effect:	Yes	Yes	Yes	Yes	No	Yes	Yes
Year Reuse/Reclaimed Program Began	1989	pre 1996	2000	1990	N/A	2004	1986
Efforts described as:							
Aggressive						Yes	
Mildly Aggressive	Yes	Yes					
Passive			Yes	Yes			Yes
% of Service Area with Access to Reuse Water	N/A	5%	100%	3%	N/A	N/A	5%
Plan to Expand Service Area		Yes	Yes	Yes		Yes	Yes
Year Expansion Planned:	0	2004	?	2005	0	2004	0
% Reuse Customers Metered:	N/A	N/A	N/A	100%	N/A	100%	100%
# Residential Reuse/Reclaim Customers:	N/A	1,000	400	750	N/A	N/A	577
Rate Structure:							
Flat Rate + 1,000 gal. rate			Yes				
Per 1,000 gal.			Yes	Yes			
Flat Rate		Yes	Yes				
Description of Rate Structure, other than as shown above:		No information provided.	NO CHARGE	No information provided.		Currently flat, but in the middle of a rate study to determine tiered structure	
Description of methods employed to conserve reuse/reclaimed water:	No information provided.	Notice on web site.	NONE	No information provided.	No information provided.	No information provided.	No information provided.

N/A = Answer not applicable

Blank = No answer was provided by respondent

7-Reuse Program

		City of Altamonte Springs	City of Apopka	City Of Casselberry
				City of Casselberry
1.	SECTION 1 - GENERAL II Names of Utility's service areas, if there is more than one service area:	NFORMATION No comments provided.	No comments provided.	Unincorporated Seminole County, City of Maitland, Casselberry
2.	Description of upgrades and/or maintenance provided to the system:	Applied for permit to allow storage of reclaimed water in a 40 acre surface water body known as Cranes Roost which was formerly a FDOT borrow pit. Once the permit was received, 2 discharge points were constructed. Various surface water reclaimed augmentation sources have been identified. Design, permitting, and construction of the surface water augmentation features are currently underway. Reclaimed assets are continually being dedicated to the City by developments as required by Code.	Replaced existing water lines and extending new lines for through-out the City for new developments.	No comments provided.
3.	Specific services areas with older homes targeted to implement water conservation practices:	During past years the City provided water saving fixture incentives. The City has also adopted the state building code which requires the installation of low flow fixtures.	No comments provided.	All areas being served.
	SECTION 2 - PUBLIC AW	ARENESS ACTIVITIES		
8.	Distribution of brochures and/or pamphlets other than through speaking engagements or special mailings:	Cost-shared with SJRWMD a year or so ago in a Water Conservation Media Campaign which included TV and Radio ads. The City has also published articles in 2 City sponsored which are mailed out quarterly and are a type of newsletter mail-out. The quarterly mail-outs go to all inside City residents.	New residents moving into City.	Mailouts/Bill stuffers
9.	Frequency of distribution of water bill inserts if other than with every billing cycle or on a quarterly basis:	Varies depending on water consumption and water restriction implementation. The City utilizes type on the water bill more than letter inserts.	At least once a year.	No comments provided.
10.		The City typically utilizes the one line of text available on monthly utility bills for messages about water restrictions, conservation activities, community activites, congrats and more. The City also utilizes 2 quarterly City-sponsored newsletters as an avenue of public education. Articles are included in the newsletter pursuant to current community activities. The City also utilizes it's website for education.	No comments provided.	Landscaping/Xeriscape , Leak Detection& Preventi Irrigation Practices
10.	Frequency of special mailings if other than with every billing cycle or	No comments provided.	No comments provided.	No comments provided.
13.	Titles of the conversation videos used:	The City usually relies upon videos published by the AWWA, Cooperative Extension Offices, and SJRWMD to guarantee consistency of info released.	No comments provided.	Water Conservation Videos from AWWA, Water Reuse(Every Drop CountsUse It Again Florida), V Pollution(SJRWMD)
13.	Targeted video audiences if other than youth, adult, or professional groups:	No comments provided.	No comments provided.	No comments provided.
14.	Targeted contest audiences:	No comments provided.	No comments provided.	Elementary & Middle Schools thru AWWA Dropsav Poster Contest
	SECTION 3 - INDOOR CO	NVERSATION INCENTIVE PROGRAMS		
17.	effectiveness resulting from	We have implemented a complimentary irrigation audit program for the top 100 users however the enforcement of water restrictions happers this program due to the fact that irrigation systems are not allowed to be run during daytime hours 10am to 4pm which normally corresponds with typical working hours of City employees, commercial business management personnel, schools, multi-family dev. management staff and etc The City also sends welcome letters to new customers and offers a cross connection inspection of indoor and outdoor systems, during this inspection staff members usually get a chance to do some one on one education about conservation, system maintenance, and more.	No comments provided.	No comments provided.
18.	effectiveness resulting from low-	The City did this years ago but have found that due to the building code changes suppliers now carry low flow only toilets thus no need to continue program. Also the program wasn't widely used by the residents in the past but with the boom of Home Depot and Lowes (Home Improvement stores) a lot of remodeling is occurring and it is occurring under the new building codes. See answer to 16 for more details.	No comments provided.	No comments provided.
19.		The City did this years ago but have found that due to the changes in the building code, suppliers now carry low flow only fixtures. Further due to the large turn over in homes lately many people are remodeling thus the fixture are being changed out without incentive. The City discontinuted the program due to lack of interest from the customers. See answer to 16 for more details.	No comments provided.	Showerhead Exchange Program

	City of Clermont
and, & City of	City of Clermont East Side Water System; City of Clermont West Side Water System
	The City of Clermont is in a phase of rapid growth. Both water systems have been expanded to serve larger areas. New wells have been added and are planned for both service areas to improve water quality and increase capacity.
	The City has budgeted projects for the next fiscal year, beginning October 2004, for plumbing fixture retrofit and rain sensor retrofit for the older sections of the City.
	No comments provided.
	No comments provided.
vention,	No comments provided.
	The City sends information as needed as conditions change.
er la), Water	Water Pollution The Dirty Details (SJRWMD); Water Conservation for the Home (SJRWMD)
	No comments provided.
psavers	youth
	No comments provided.
	No comments provided.
	No comments provided.

		City of Altamonte Springs	City of Apopka	City Of Casselberry
20.	Description of how behavior effectiveness resulting from implementation of a leak detection program specific to residential customers is being tracked:	Irrigation audits are provided by the City to the top 100 commercial users. All public works employees are asked to report broken irrigation heads, unexplained flowing water and etc when observed during their normal daily activities regardless if the employee works in the water dept or not. This is beneficial given that public works utilizes City employees for trash collection, meter reading, potable and reclaimed water distribution maintenance, gravity and pumped sewage collection and treatment, potable water supply, police and more.	5	No comments provided.
		The City does offer courtesy inspections for unusually high consumption for all customer classes (residential, commercial, multifamily) and on both water systems (reclaimed and potable).		
	SECTION 4 - OUTDOOR	CONVERSATION INCENTIVE PROGRAMS		
15.	Description of how behavior effectiveness resulting from conducting landscape workshops and/or seminars is being tracked:	No comments provided.	Based on water bills.	No comments provided.
22.	Description of how behavior effectiveness resulting from a rain sensor program is being tracked:	Building code, Florida Statutes require the installation of a rain sensor with every automated irrigation system.	Through the water bills.	All new irrigation systems arerequired to install sam
23.	Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their outdoor water use is being tracked:	Irrigation audits are provided by the City to the top 100 commercial users. All public works employees are asked to report broken irrigation heads, unexplained flowing water and etc when observed during their normal daily activities regardless if the employee works in the water dept or not. This is beneficial given that public works utilizes City employees for trash collection, meter reading, potable and reclaimed water distribution maintenance, gravity and pumped sewage collection and treatment, potable water supply, police and more. Keep in mind the complimentary irrigation audit program for the top 100 users is hampered due to the enforcement of water restrictions due to the fact that irrigation systems are not allowed to be run during daytime hours 10am to 4pm which normally corresponds with typical working hours of City employees, commercial business management personnel, schools, multi-family dev. management staff and etc The City also sends welcome letters to new customers and offers a cross connection inspection of indoor and outdoor systems, during this inspection staff members usually get a chance to do some one on one education about conservation, system maintenance, and more.	Through water bills.	No comments provided.
24.	Description of how behavior effectiveness resulting from implementation of an irrigation system improvement program is being tracked:	The City offers a low-cost reclaimed water system for irrigation use. The system currently serves all commercial and 90% of the City's residents. The system is known as Project APRICOT.	No comments provided.	No comments provided.
25.	Description of how behavior effectiveness resulting from implementation of an incentive program promoting use of drought- tolerant or xeriscape/Florida-friendly landscaping is being tracked:	adopted the states building code by reference.	No comments provided.	No comments provided.
	SECTION 5 - LOCAL ORI	DINANCES, RESOLUTIONS AND BUILDING CODES		
27.	Description of permitting actions specifically related to indoor and outdoor plumbing that promotes efficient water use other than those covered by Code:	Recall that the state building code requires the installation/use of low flow fixtures, toilets and rain sensorsthere is no need for the City to do anything other than adopt and enforce (via building permit inspections) the state's building code.	No comments provided.	Plumbing Code Requirements for all new construct renovations. Review and approval of plans and specifications prior to building permit issuance.
	SECTION 9 - COMMENTS			
	Additional general comments provided:	Different and various conseration practices have been implemented City-wide. Retrofit ProgramWe don't currently have a program. We did this in the past, however. There is no need for it now as the State Building Code doesn't allow anything other than low flow thus supply warehouses usually don't stock anything except low flow. Due to the fact that the City has a number of outside City customers, the City prefers to rely on the SJRWMD Media campaign in order to guarantee that consistent information is released. Water restriction hours adopted by the City are based upon SJRWMD water restrictions in order to eliminate confusion to outside City customers. We have done this a couple of years but don't every single year. The installation of rain sensors is required by state law. The City's inspectors do inspect each irrigation system via the building permit process. Residential reclaimed customers are not metered. All potable connections are metered. All commercial reclaimed customers are metered.	No comments provided.	A separate rate structure than listed above, is appli residences which have irrigation meters and irrigate potable water. Such customers are charged a base \$4.77/month, \$1.87 for 0-12,999 gallons and \$2.45 gallonage >13,000 per month. Again, these rates a increased by 25% for like customers outside of the limits.

N/A = Answer not applicable

Blank = No answer was provided by respondent

у	City of Clermont
	No comments provided.
	No comments provided.
tall same.	The City has required rain sensors on new homes since 1991. This is included in the final inspection of each home. The retrofit program for older homes will begin in the fall of this year.
	check consumption of homes that were evaulated
	No comments provided.
	This year, the City passed a Water Efficient and Landscape Ordinance. This encourages new or modified landscapes to incorporate drought- tolerant landscaping. Since it is a new ordinance, the effectiveness has not yet been measured.
onstruction and and ce.	The City of Clermont uses the Lake County Building Department for inspection of new and renovated structures. The Building Code includes requirements for low flow toilets and shower heads. These items are required in new construction.
is applicable to I irrigate with a base rate of d \$2.45 for all rates are e of the City	No comments provided.

_	entand Reduction Survey					
		City of Cocoa	City of Eustis	Gainesville Regional Utilities	Indian River County Utilities	Intercoastal Utilities, Inc.
	SECTION 1 - GENERAL II					
1.			City of Eustis, Sorrento Sprinngs, Hethrow Country Estates	No comments provided.		Serve multilple customer types using two (2) water water production facilities, but through interconnected trans/dist grid system.
2.	Description of upgrades and/or maintenance provided to the system:	Installed 36" water line in 2003 (22,820 LF plus 1,270 ft. sub-aqueous & 220 ft. bridge piping). Also, 7-miles of 54" water line in 2004.	and Reclaimed water system expansion.	We upgrade and maintain our system on a continuous basis. Upgrades completed in the last 5 years include addition of 4 new production wells, filter system upgrades to include peak flow capacity and extension of a new 36 inch water main.	Replaced polybutylene services, A/C pipe, decommissioned packaged plants, regionalized service system.	Yr 2000 - Upgrade and expansion of all water resource, storage, pumping, chlorination, and emergency power generation facilities.
3.	Specific services areas with older homes targeted to implement water conservation practices:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No comments provided.
	SECTION 2 - PUBLIC AW					
8.	Distribution of brochures and/or pamphlets other than through speaking engagements or special mailings:	Water Bill inserts; Newsletters, Local Newspaper	Included with water bills (Selection buttons are not working)	Bill stuffers, handouts at various events, and handouts to customers in conjunction with home energy/water conservation audits.	No comments provided.	Delivery to area libaries, institutions
9.	Frequency of distribution of water bill inserts if other than with every billing cycle or on a quarterly basis:	No comments provided.	Bi-annual	Seasonally, Water conservation notices distributed during high demand periods	No comments provided.	No comments provided.
10.	Subject matter of special mailings other than drought alerts or watering restrictions:	No comments provided.	Water quality reports, City wide annual reports.	No comments provided.	No comments provided.	No comments provided.
10.	Frequency of special mailings if other than with every billing cycle or	Won't due to the water bill inserts	No comments provided.	No comments provided.	No comments provided.	No comments provided.
13.	used:	A Consumer's Guide to WC; Down the Drain; Florida's Aquifers: The Treasure Below; My Florida Yard 2004; The Hydrolic Cycle; Water: Gift of Life; WC at Home; WC at Work; WC PSA's; Water Follies; Waterhog Haven; Waterwise Landscape Irrigation; What Do You Know About H2O; What Is Xeriscape?; Xeriscape Irrigation (Principles); Xeriscape Maintenance	AWWA Waterhog Haven, AWWA The Basics of Water Quality We Treat Water Right, AWWA Always Pure Never Runs Dry, SJRWMD Water Conservation for the Home.	The Water Cycle, Home Energy Survey, GRU Academy	No comments provided.	No comments provided.
13.	Targeted video audiences if other than youth, adult, or professional groups:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No comments provided.
14.	Targeted contest audiences:	Won't w/o additional personnel.	No comments provided.	No comments provided.	No comments provided.	No comments provided.
	SECTION 3 - INDOOR CO					
17.	Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their indoor water use is being tracked:	Not for private residential customers w/o additional personnel.	No comments provided.	No comments provided.	No comments provided.	No comments provided.
18.	Description of how behavior effectiveness resulting from low- flush toilet replacement or rebates is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No current plans to implement
19.	Description of how behavior effectiveness resulting from indoor plumbing retrofit or exchanges (other than low-flush toilets) is being tracked:	No comments provided.	No comments provided.	Low flow shower head and faucet aerator giveaways	No comments provided.	No plans to implement - Largest Wtr Conservation need is in irrigation

		City of Cocoa	City of Eustis	Gainesville Regional Utilities	Indian River County
20.	Description of how behavior effectiveness resulting from implementation of a leak detection program specific to residential customers is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.
	SECTION 4 - OUTDOOR				
15.	Description of how behavior effectiveness resulting from conducting landscape workshops and/or seminars is being tracked:	No comments provided.	No comments provided.	System Demand Reductions	No comments provided.
22.	Description of how behavior effectiveness resulting from a rain sensor program is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.
23.	Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their outdoor water use is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.
24.	Description of how behavior effectiveness resulting from implementation of an irrigation system improvement program is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.
25.	Description of how behavior effectiveness resulting from implementation of an incentive program promoting use of drought- tolerant or xeriscape/Florida-friendly landscaping is being tracked:	No comments provided.	No comments provided.	No comments provided.	Our incentive program consits of irrigation water.
	SECTION 5 - LOCAL ORD				
27.	Description of permitting actions specifically related to indoor and outdoor plumbing that promotes efficient water use other than those covered by Code:	No comments provided.	No comments provided.	No comments provided.	No comments provided.
	SECTION 9 - COMMENTS				
	Additional general comments provided:	No comments provided.	No comments provided.	No comments provided.	No comments provided.

N/A = Answer not applicable Blank = No answer was provided by r

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ounty Utilities	Intercoastal Utilities, Inc.
	No comments provided.
	No comments provided.
	No comments provided.
	No comments provided.
	No comments provided.
onsits of not providing	No comments provided.
	No comments provided.
	Intercoastal Utilities is an investor-owned and contract-operated utility.
	Its rates and service tariffs are controlled by a County-appointed regulatory Authority. That Authority has not addressed implementation
	of water conservation rules, practices or rates. The SJRWMD, through its CUP issued to the utility, has required Intercoastal to (a)
	aggressively promote water conservation through the media and personal customer contacts, and (b) propose and pursue both water-
	conserving rates AND monthly billing of water services.

		JEA	Town of Lady Lake	Marion County Utilities	City
		JEA	Town of Lauy Lake	Marion County offitties	City
	SECTION 1 - GENERAL II				
1.	Names of Utility's service areas, if there is more than one service area:	No comments provided.	Town of Lady Lake, The Villages, Water Oak, the Recreation Plantation RV Resort	Citrus Park - Deer Path - Dunnellon Airport - Golden Ocala - Marion Oaks - Oak Trace - Palm Cay - Peppertree - Pine Run - Raven Hill - S. Ocala Industrial Park - South Lake Weir - Salt Springs - Samira Villas - Silver Springs Shores - South Forty - South Oak - Spruce Creek Golf & Country Club - Spruce Creek Preserves - Spruce Creek South - Silver Springs Woods - Stone Crest - Summer Glen - Summerglen - The Fountains - Timber Ridge - Williams Travel Center - Don Garlits	Melbourne, Melbou Satellite Beach, In Melbourne Beach, areas, wholesale v Melbourne
2.	maintenance provided to the	Expanded well and storage capacity at several WTP. Significantly expanded water distribution system R&R program.	No additional information was provided on the original survey.	Consolidation into subregional treatment facilities, extension of water and sewer services, and improvement of infrastructure.	Went online with n treatment plant in 2 waterline replacem
3.	Specific services areas with older homes targeted to implement water conservation practices:	No comments provided.	No comments provided.	No comments provided.	older toilets and ol conservation devic
	SECTION 2 - PUBLIC AW				
8.	Distribution of brochures and/or pamphlets other than through speaking engagements or special mailings:	Bill inserts, public schools	No comments provided.	Pamphlet Rack in office. Utilities conservation information passed out to schools, and at a booth once a month at the mall.	Also, at special ev
9.	Frequency of distribution of water bill inserts if other than with every billing cycle or on a quarterly basis:	2 or three inserts a year	Occassionally	No comments provided.	occassionaly to pro conservation even
10.	Subject matter of special mailings other than drought alerts or watering restrictions:	Primarily on irrigation and waterwise landscaping	No comments provided.	No comments provided.	General indoor and information. (PW& Conservation New
10.	Frequency of special mailings if other than with every billing cycle or	As necessary or appropriate.	No comments provided.	No comments provided.	No comments prov
13.	Titles of the conversation videos used:	Energy and Water Conservation Audit	No comments provided.		Conserving Water Drain, Water Hog I Florida Friendly La Life, Water Follies, Facts about H20, V
13.		Don't know because the majority of the videos are distributed to individuals.	No comments provided.	No comments provided.	No comments prov
14.	Targeted contest audiences:	No comments provided.	No comments provided.	No comments provided.	No comments prov
	SECTION 3 - INDOOR CO				
17.	Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their indoor water use is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments prov
18.	Description of how behavior effectiveness resulting from low- flush toilet replacement or rebates is being tracked:		No comments provided.	No comments provided.	No comments prov
19.	Description of how behavior effectiveness resulting from indoor plumbing retrofit or exchanges (other than low-flush toilets) is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments prov

City of Melbourne	Orange County Utilities Water Division		
Melbourne Village, Palm Shores, each, Indian Harbour Beach, Indialantic, Beach, unincorporated Brevard County lesale water provided to West	,		
e with new \$23 million surface water plant in 2002. Over \$1 million a year in eplacement projects and upgrades	No comments provided.		
s and older shower heads and various n devices	In 2003/4 conducted a pilot toilet replacement program to document the amount of water saved by retrofitting with low-flow toilets. Study is still ongoing.		
ecial events.	Public meetings & events; HOA meetings; and at other requested events throughout the county.		
ly to promote special water on events or other timely information	No comments provided.		
door and outdoor water conservation . (PW&Utilities Connection is monthly, on News is quarterly)	Water Restriction ntoices to new customers; Consumer Confidence Report to all customers with conservation information in the report.		
nts provided.	Weekly mail outs for new customers on restrictions; annually on CCR.		
Water on the Space Coast, Down the er Hog Haven,. My Florida Yard: 2004 endly Landscape Seminar, Water for Follies, Professor Water: Fantastic t H20, What Do You Know About H20	Videos produced by AWWA.		
nts provided.	No comments provided.		
nts provided.	Youth		
nts provided.	At workshops and presentations we discuss water conservation with individuals and often receive calls for to answer more detailed questions and send materials to them.		
nts provided.	No comments provided.		
nts provided.	A showerhead exchange program is done once a year, old showerheads are exchanged for new ones - guarantees the installation of the new showerheads		

		JEA	Town of Lady Lake	Marion County Utilities	City of Melbourne	Orange County Utilities Water Division
20.	Description of how behavior effectiveness resulting from implementation of a leak detection program specific to residential customers is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	In 2004 a pilot program for rain sensor give-aways & installation was initiated. Customer must attend a landscape & irrigation workshop. Also their irrigation system must be on potable water to qualify.
	SECTION 4 - OUTDOOR					
15.	Description of how behavior effectiveness resulting from conducting landscape workshops and/or seminars is being tracked:	No comments provided.	No comments provided.	No comments provided.	By the survey questions participants are required to complete and turn in at the end of the semiar to get a goodie bag (in 2004 had 600 attendees)	
22.	Description of how behavior effectiveness resulting from a rain sensor program is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	In 2004 a pilot program for rain sensor give-aways & installation was initiated. Customer must attend a landscape & irrigation workshop. Also their irrigation system must be on potable water to qualify.
23.	Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their outdoor water use is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	Landscape consultant who conducts workshops will do private consulatations upon request of water customer.
24.	Description of how behavior effectiveness resulting from implementation of an irrigation system improvement program is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No comments provided.
25.	Description of how behavior effectiveness resulting from implementation of an incentive program promoting use of drought- tolerant or xeriscape/Florida-friendly landscaping is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No comments provided.
	SECTION 5 - LOCAL ORD					
27.	Description of permitting actions specifically related to indoor and outdoor plumbing that promotes efficient water use other than those covered by Code:	No comments provided.	No comments provided.	Marion County Land Development Codes	No comments provided.	No comments provided.
	SECTION 9 - COMMENTS					
	Additional general comments provided:	No comments provided.	The Town of Lady Lake is in the process of purchasing a wastewater treatment facility and has plans to incorporate its expansion (500,000 gpd) and creation of reuse capabilities in the next 3-4 years. We will be pursuing our next CUP in 2007 and will be considering how best to accomodate many of the water conservation items identified within this survey. To date we have been less than pro-active in this regard and we realize that in the future we must get better due to the importance of water as a natural resource here in Florida. Thanks for the opportunity to share these thoughts with you.	No comments provided.	some of your questions are too vague	No comments provided.

N/A = Answer not applicable Blank = No answer was provided by r

	SECTION 1 - GENERAL II	Orlando Utilities Commission	City of Ormond Beach	Palm Bay Utilities	City of Palm Coast	St. J
1.	Names of Utility's service areas, if there is more than one service area:	No comments provided.	No comments provided.	No comments provided.	Ocean City, Grand Haven, Hammock Dunes	No comme
2.	Description of upgrades and/or maintenance provided to the system:	We have upgraded all 8 of our water plants to utilize ozination for water treatment.	Replacement of 2" galvanized iron pipe water mains with new 8" PVC water mains. Meter replacement program to replace all meters more than 10 years old. Looping of dead end mains.	Refurbishment of 2 Water Treatment Units. Addition of 1.5 MGD Reverse Osmosis Plant. Water and Sewer infrastructure improvements.	Double our treatment capacity at our membrane softening plant, installed two recirculation lines at ends of system to return flow to system and reduce water quality flushing	We have r replaced a systems. S magnetic f MWS and
3.	Specific services areas with older homes targeted to implement water conservation practices:	Our conservation efforts target our whole service area.	No comments provided.	Provide low flow showerheads for customers	No comments provided.	No comme
	SECTION 2 - PUBLIC AW					
8.	Distribution of brochures and/or pamphlets other than through speaking engagements or special mailings:	Through the use of bill inserts, OUC provides conservation facts and tips directly to its customers. Bill inserts include the Connections newsletter (news and information from OUC) and monthly inserts featuring more specific issues related to conservation.	Special Events, Earth Day	No comments provided.	No comments provided.	walk-ins, s
9.	Frequency of distribution of water bill inserts if other than with every billing cycle or on a quarterly basis:	Conservation messages are provided annually but the frequency increases as a result of warmer temperatures during spring and summer months.	No comments provided.	No comments provided.	periodically, without specific frequency	We place : year.
10.	Subject matter of special mailings other than drought alerts or watering restrictions:	The annual OUC Water Quality Report is provided via direct mail to customers. This report provides in depth information regarding money-saving and convenient ways customers can conserve water resources.	No comments provided.	No comments provided.	conservation issues in / out, plant tours, water saving device give aways etc.	No comme
10.	Frequency of special mailings if other than with every billing cycle or	The OUC Water Quality Report is distributed to all customers annually.	No comments provided.	No comments provided.	No comments provided.	No comme
13.	Titles of the conversation videos used:	The OUC Home Energy Survey is provided to customers in Spanish and English on VHS video, interactive CD-ROM and can be accessed online at www.ouc.com. Annually over 2,266 customers learn to conserve water resources through these efforts.	Water-wise Landscaping	Conserving Water on the Space Coast	No comments provided.	No comme
13.	Targeted video audiences if other than youth, adult, or professional groups:	We target our entire customer base of 190,000.	No comments provided.	No comments provided.	No comments provided.	No comme
14.	Targeted contest audiences:	No comments provided.	Schools, Builders, Irrigation contactors, homeowners	No comments provided.	No comments provided.	No comme
	SECTION 3 - INDOOR CO					
17.	Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their indoor water use is being tracked:	Each month we calculate the overall consumption of our customers and compare it to the previous months and years.	No comments provided.	No comments provided.	No comments provided.	No comme
18.	Description of how behavior effectiveness resulting from low- flush toilet replacement or rebates is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No comme
19.	Description of how behavior effectiveness resulting from indoor plumbing retrofit or exchanges (other than low-flush toilets) is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No comme

. Johns County Utility Department

nments provided.

ve replaced 2" galvenized lines with pvc lines. We have ed all gas chlorine feed systems with liquid chlorine feed ns. SCADA upgrades on all booster stations. Installed etic flow meters at water plants. Added Floridan Wells at and NW water plants.

nments provided.

s, seminars, etc.

ce a brief conservation message in the bill 4-6 times a

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ments provided.

nments provided.

		Orlando Utilities Commission	City of Ormond Beach	Palm Bay Utilities	City of Palm Coast	St. Joh
20.	Description of how behavior effectiveness resulting from implementation of a leak detection program specific to residential customers is being tracked:	We track each irrigation audit in our computer system as WAUD or Water Audits. This allows us to provide a monthly count of the audits performed. We, also use the SJRWMD's Mobile Irrigation Laboratory for Commercial High End Irrigation users. We utilize these methods at a minimum of 4 weeks a year and often 8 weeks or more.	No comments provided.	No comments provided.	No comments provided.	No comments
	SECTION 4 - OUTDOOR					
15.	Description of how behavior effectiveness resulting from conducting landscape workshops and/or seminars is being tracked:	Through the implementation of the OUCanopy Tree Planting Program, customers will gain important tree planting and landscaping tips and information regarding xerioscaping, efficient irrigation techniques and selecting drought resistant plants and trees.	we're not	Surveys	No comments provided.	No comments
22.	Description of how behavior effectiveness resulting from a rain sensor program is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No comments
23.	Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their outdoor water use is being tracked:	The majority of requests for water audits are from customers with spikes in consumption for one or more months. They are anxious to learn why their water consumption has increased. This results in a perfect time for conservation education. Therefore consumption is the perfect tracking method of effectiveness.	No comments provided.	No comments provided.	No comments provided.	No comments
24.	Description of how behavior effectiveness resulting from implementation of an irrigation system improvement program is being tracked:	No comments provided.	No comments provided.	No comments provided.	No comments provided.	No comments
25.	Description of how behavior effectiveness resulting from implementation of an incentive program promoting use of drought- tolerant or xeriscape/Florida-friendly landscaping is being tracked:	Our tiered residential and irrigation rates provide an incentive for customers using Florida Friendly landscape items.	No comments provided.	No comments provided.	No comments provided.	No comments
	SECTION 5 - LOCAL ORD					
27.	Description of permitting actions specifically related to indoor and outdoor plumbing that promotes efficient water use other than those covered by Code:	We do not make manage water consumption. This lies in the realm of the City of Orlando and Orange County Florida.	indoor use of low flow fixtures and toilets, outside rain sensors required on all homes, a minimum of 50% of the landscaped area must beof xeric plantings.	No comments provided.	No comments provided.	No comments
	SECTION 9 - COMMENTS					
	Additional general comments provided:	No comments provided.	The City of Ormond Beach is a member of the Water Authority of Volusia (WAV). This organization employs a full time conservation coordinator that acts on behalf of member governments. Many of the responses in this survey reflect the conservation efforts of the organization.	No comments provided.	No comments provided.	Section 4 asks of questions 2

N/A = Answer not applicable Blank = No answer was provided by r

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. Johns County Utility Department

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n 4 asks the same question over and over as the "a" part stions 22-25.

	Seminole County Environmental Services Department	Volusia County Water Resources and Utilites
SECTION 1 - GENERAL		
Names of Utility's service areas, if	Northeast, Northwest, Southeast, Southwest, Apple Valley, Dol Ray	Southeast, Deltona North, Northease,
there is more than one service area:		Southwest, Spruce Creek, Pine Island, Stone Island, New Hope villas
Description of upgrades and/or maintenance provided to the system:	Chemical system improvements at three WTPs; installed security systems at all plants; replaced flow meters at wells and effluent at all plants; installed major water and reclaimed mains and improved system loops; inventoried, maintained, and accurately located all hydrants; wrote wellfield operation plans; improved lost water programs and procedures to prepare for water audits.	No comments provided.
Specific services areas with older homes targeted to implement water conservation practices:	No comments provided.	Low flow toilets
SECTION 2 - PUBLIC AV		
Distribution of brochures and/or pamphlets other than through speaking engagements or special mailings:	Billing Office	with utility bills bi monthly
Frequency of distribution of water bill inserts if other than with every billing cycle or on a quarterly basis:	No set schedule, but 4-6 times a year	see previous response
Subject matter of special mailings other than drought alerts or waterin restrictions:	Offer of free irrigation evaluations to high water users, Alert that rain gsensor is not working	No comments provided.
Frequency of special mailings if other than with every billing cycle or	Periodically	No comments provided.
Titles of the conversation videos used:	Conservation easements, Florida's Aquifers the Treasure Below, Spring Waters Run Deep, This Old Pond, Water Pollution the Dirty Details, Watersheds Wetlands and Wildlife, Waterwise Landscape Irrigation, Water Saving Tips	No comments provided.
Targeted video audiences if other than youth, adult, or professional groups:	Videos are played on SGTV on a rotating basis, there is no designated target audience	No comments provided.
Targeted contest audiences:	No comments provided.	No comments provided.
SECTION 3 - INDOOR CO		
Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their indoor water use is being tracked:	No comments provided.	No comments provided.
Description of how behavior effectiveness resulting from low- flush toilet replacement or rebates is being tracked:	No comments provided.	No comments provided.
Description of how behavior effectiveness resulting from indoor plumbing retrofit or exchanges (other than low-flush toilets) is being tracked:	No comments provided.	No comments provided.

		Seminole County Environmental Services Department	Volusia County Water Resources and Utilites
20.	Description of how behavior effectiveness resulting from implementation of a leak detection program specific to residential customers is being tracked:	No comments provided.	held workshops, gave away rain snsors
	SECTION 4 - OUTDOOR		
15.	Description of how behavior effectiveness resulting from conducting landscape workshops and/or seminars is being tracked:	By tracking water use changes	No comments provided.
22.	Description of how behavior effectiveness resulting from a rain sensor program is being tracked:	No comments provided.	see previous answers
23.	Description of how behavior effectiveness resulting from individual residential consultations or evaluations concerning their outdoor water use is being tracked:	By water use changes	No comments provided.
24.	Description of how behavior effectiveness resulting from implementation of an irrigation system improvement program is being tracked:	No comments provided.	inconjunction with WAV and the District
25.	Description of how behavior effectiveness resulting from implementation of an incentive program promoting use of drought- tolerant or xeriscape/Florida-friendly landscaping is being tracked:	No comments provided.	No comments provided.
	SECTION 5 - LOCAL ORD		
27.	Description of permitting actions specifically related to indoor and outdoor plumbing that promotes efficient water use other than those covered by Code:	Adopted Florida Building Code which requires low flow toilets, showerheads, etc. Inspections required as part of building permit to receive CO	No comments provided.
	SECTION 9 - COMMENTS		
	Additional general comments provided:	No comments provided.	No comments provided.

N/A = Answer not applicable Blank = No answer was provided by r

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Survey Appendix

Utility Name:	Date Survey Completed:	
City of Altamonte Springs		10-Jun-04
Respondent's Name:	Area Code and Phone Num	
Kristen Rombeck Position/Title:	Email:	07-571-8331
Compliance/CIP Coordinator		@altamonte.org
Department:	Fax:	
Public Works & Utilities		07-571-8350
Total Number of Single Family Water Customers:	Total Number of Multi Family Water Custo	mers:
· · · · · · · · · · · · · · · · · · ·	information above.	
SECTION 1 - GEI	ERAL INFORMATION	
1. Do you have multiple service areas within your service boundaries?	No	
··· Do you have multiple service areas within your service boundaries?		
Please continue to the next question.		
2. Have you done extensive system upgrades and/or maintenance over the pa		
a. Please provide a brief description of the upgrades/maintenance perform		
Applied for permit to allow storage of reclaimed water in a 40 acre surface water body k received, 2 discharge points were constructed. Various surface water reclaimed augmen		
Please continue to the next question.	in sources have been identified. Design, permitting,	and construction of the surface water
3. What percentage of your service area is comprised of homes built prior to	95? 90%	Estimate
Please continue to the next question.		
4. Have you implemented any conservation practices that target areas with ol	r homes? Yes 🔻	
a. Please list the specific areas targeted below.	and the state heildline and such the second state in the line of the	tion of low flow fintered
During past years the City provided water saving fixture incentives. The City has also a	oted the state building code which requires the installa	ition of low flow fixtures.
Please continue to the next question.		
_ Do you have a GIS layer showing graphical depiction of the areas where sp	sific	
5. conservation practices have been implemented?	No V	
	Name:	
b. Who can we contact to identify the geographic extent of the areas		
conservation practices have been implemented?	Phone:	le contact information.
	·	e contact miormation.
 Do you have a reuse/reclaimed water program to serve residential custome water for lawn irrigation? 	with reclaimed Yes \forall	
a. Who should we contact for additional information?	Name: Kristen Rombec	k
	Email: kristenr@alta	monte.org
	Phone: <u>407-571-8331</u>	
		Please continue to SECTION 2.
SECTION 2 - PUBLIC AV	PENESS ACTIVITIES	
7. Do you have an on-going public awareness / education program?	Yes 🔻	
Please continue to the next question.		
8. Does your program include on-going distribution of brochures and/or pamphlets?	Yes 🔻	
a. Conservation Topics Include:	b. Targeted Areas Include:	
Outdoor Topics Outdoor Topics	Entine Service Area Specific Neighborhoods	Older Homes Zip Code Other Specific Area Newer Homes
		Other Specific Area
c. If this is an on-going program, what year was it implemented? Otherwis	1980	
when might you implement this practice?	1900	
d. How are these distributed?	If other, how do you distribute your broch	ures and/or pamphlets?
Speaking Events Special Mailings 🗸 Other	which included TV and Radio ads. The City has a	T
	which herded I + and reads add. The city has	
Please continue to the next question.		
9. Do you insert water conservation information in water bills on an on-going	· —	
basis?	Yes 🔻	
a. Conservation Topics Include:	b. Targeted Areas Include:	
✓ Indoor Topics	-	Older Homes Zip Code
☑ Outdoor Topics		Other Specific Area
c. If this is an on-going program, what year was it implemented? Otherwis	1980	
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	I implement this practice? Nency are inserts utilized?	If other, how often do you insert conservation information in water bills?
Every Billing	Cycle Quarterly Other	Varies depending on water consumption and water restriction implementation. The
lease continue to the	e next question.	
10. Do you send ou	t special mailings on an on-going basis?	No v
Drought Aler	ts Other Watering Restrictions All of These	
		The City typically utilizes the one line of text available on monthly utility bills for messages about water restrictions, conservation activities, community activites,
	n-going program, what year was it implemented? Otherwise i implement this practice?	, 1995
Monthly	Quarterly Other	
ease continue to the	e next question.	
1. Do you issue ne	ews releases on an on-going basis?	No ▼ Please also answer question 11c.
Indoor		Entire Service Area Zip Code Other All of These
	n-going program, what year was it implemented? Otherwise I implement this practice?	, Please enter the year.
2. Do you sponsor	r public conservation media messages on an on-going basis	Please also answer question 12c.
With the Dist		Drought Alerts Watering Restrictions Conservation Tips Other
	n-going program, what year was it implemented? Otherwise I implement this practice?	, Please enter the year.
Radio	Broadcast TV Cable Billboards	
 Do you utilize vi 	ideos of any kind on an on-going basis?	Yes 🔻
a. Conservation ✓ Indoor Topic ✓ Outdoor Top		b. Under what circumstances are videos utilized? Schools Speaking Engagements Professional Groups Seminars/Workshops
	n-going program, what year was it implemented? Otherwise I implement this practice?	, Please enter the year.
	e titles of the videos below: elies upon videos published by the AWWA, Cooperative Extension Offi	ces, and SJRWMD to guarantee consistency of info released.
e. What are you	r target audiences?	
V Youth	Adult Professional Other	
f. What does yo	ur annual viewing audience total?	400
4. Do you promote	e water conservation contests on an on-going basis?	No
Indoor	Outdoor	Awareness Knowledge We do not measure
	n-going program, what year was it implemented? Otherwise I implement this practice?	, N/A
	ve\St Johns\Survey Results\#Database.xls Chrisell Jones, PBS Pag	e 2 of 7 Altamonte May 5, 2004

Pleas	se continue to the next question.	
15.	Do you sponsor landscape workshops/seminars on an on-going basis?	Yes 💌
	a. Workshops/seminars are given by:	b. How have you measured effectiveness?
	Staff Viside Professionals	Awareness Behavior We do not measure
		All of These
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2001
		
		Blassa continue to SECTION 2
	SECTION 3 - INDOOR CONSERV.	Please continue to SECTION 3. ATION INCENTIVE PROGRAMS
	The following section concerns programs and/or incentives rela	ative to your residential indoor water conservation efforts.
16.	Have you implemented any indoor water conservation replacement/rebate, in retrofit programs?	centive and/or Yes
		▼
	- William and the state of the	
	a. What year did you begin implementing these programs?b. Do you have written policies/procedures concerning implementation and n the program(s)?	naintenance of No
	c. Do you follow-up with the customer in any manner after installation?	No 🔻
Pleas	se continue to the next question.	
17.	Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help t and/or reduce their indoor water consumption?	Voc.
	a. How have you measured effectiveness?	ledge Behavior All of These We do not measure
		Please select all that apply above.
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
	when might you implement this practice ?	We have implemented a complimentary irrigation audit program for the top 100 users
		however the enforcement of water restrictions happers this program due to the fact that irrigation systems are not allowed to be run during daytime hours 10am to 4pm which
		inigation systems are not anowed to be funduring daytine nours foam to 4pm which
40		
18.	Do you have an on-going replacement/rebate program for low-flush toilets?	No Please also answer question 18c.
	Entire Service Area	Awareness Behavior We do not measure
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Benavior We do not measure Knowledge All of These
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please fill in the year.
	when might you implement this practice ?	
		The City did this years ago but have found that due to the building code changes
		suppliers now carry low flow only toilets thus no need to continue program. Also the
19.	Other than toilets, do you have an on-going indeer plumbing retrofit or evalu	ange program? No Please also answer guestion 19c.
	Other than toilets, do you have an on-going indoor plumbing retrofit or excha	ange program r Please also answer question 19C.

	Entire Service Area	Zip Code Older Homes	Awareness Knowledge			Behavior	We do not measure
	c. If this is an on-going program when might you implement this	i, what year was it implemented? Otherwise, practice?		Please	enter the	year.	
							nges in the building code, e large turn over in homes
20.	Do you have a leak detection pr	ogram specific to residential customers?		No	▼.		
	a. Are you considering impleme	nting any rain sensor programs in the future?		No	•		
	Entire Service Area Specific Neighborhoods	Zip Code Older Homes	Awareness			Behavior	☑ We do not measure
]			
			▼ ▼ Yes ▼				
			Irrigation audits				nercial users. All public unexplained flowing
		\checkmark					
							ontinue to SECTION 4.
21.	Have you implemented any outo	SECTION 4 - OUTDOOR CONSERVA on concerns programs and/or incentives relati loor water conservation replacement/rebate, in	ve to your resid				orts.
	retrofit programs?				•		
	a. What year did you begin impl b. Do you have written policies/ the program(s)?	ementing these programs? procedures concerning implementation and ma	aintenance of	<u>1985</u> Yes	▼		
		stomer in any manner after installation? on lab program?		No No	▼		
22.	Have you implemented a rain se	nsor program?		Yes	· .		
				_	•		
	a. Service areas targeted include	e: Zip Code Older Homes	b. How have y Awareness Knowledge	vou measu		veness? Behavior All of These	☑ We do not measure
	c. What year did you begin this	-		Please	enter the	year.	
	d. Approximately how many res	idences benefit annually? ▼	Building code, F automated irriga	Florida Statu		he installation of a ra	in sensor with every

	ations or evaluations for private resident s that will help them to conserve and/or r		
		•[
a. Service areas targeted include:	_	b. <u>Но</u> w have you measured effe	
Entire Service Area	Zip Code Older Homes	Awareness Knowledge	Behavior We do not measure All of These
3			
Please select all that apply c. What year did you begin these s			ct all that apply above.
d. Approximately how many reside		Please enter th Please enter #	
u. Approximately now many reside			City to the top 100 commercial users. All public
	-		broken irrigation heads, unexplained flowing
	Please make your select	tion.	
24. Do you have an incentive program	for irrigation system improvements?	Yes 🔻	
		<u> </u>	
a. Service areas targeted include:		b. How have you measured effe	ectiveness?
✓ Entire Service Area	Zip Code	Awareness	Behavior Ve do not measure
Specific Neighborhoods	Older Homes	Knowledge	All of These
c. What year did you begin this pro	ogram?	1985	
d. Approximately how many impro	-		te shaded area.
			water system for irrigation use. The system
		currently serves all commercial and 9	0% of the City's residents. The system is known
	▼ Please make your select	tion	
	, isase mane year color		
25. Do you have an incentive program xeriscape/Florida-friendly landsca	I for residential customers to use drough ping on their property?	t-tolerant or No	
	ing any rain sensor programs in the futur	re? No 💌	
, , ,			
	Zip Code	Awareness	Behavior We do not measure
Specific Neighborhoods	Older Homes	Knowledge	All of These
		There is no need for a rain sensor pro	gram, State laws already require the installation of
	▼		pted the states building code by reference.
			Please continue to SECTION 5.
Please continue to the next question.			
	TION 5 - LOCAL ORDINANCES, Ri y State or Water Management District po		
26. Specifically related to residential I	andscaping, please select which of the f	ollowing components are contained i	in your adopted Ordinances, Resolutions,
and/or Building Codes and the yea savings.	ir adopted; or what year you plan adopt.	Also indicate if you have performed a	an analysis to determine associated water
		Please indicate if you enfor	
✓ Water Use Restrictions	Adoption Year: 1999	corresponding ordinance/c	code: analyzed water savings: Vater savings analyzed
	Adoption Year: 1999	Enforcement practiced	
Native Plant Use	Adoption Year:		
Drought Tolerant Plant Use	Adoption Year:		▼
			· · · · · · · · · · · · · · · · · · ·
✓ Rain Sensors	Adoption Year: See the answer to 24		▼ ▼
✓ Site Design Review	·	Make selection above.	Make selection above.

	✓ Site Design Review	Adoption Year:	Mid to late 70's at a minimum.	Enforcemer	nt practiced	•	Not Applicable		• •
	Efficient Irrigation				F				<u> </u>
		Adoption Year:				•			
	Turf Use Restrictions	Adoption Year:				•			•
27.	Do you require any permitting a		related to indoor and outdo	or plumbing	No 🔻				
	that promotes efficient water us	se changes :							
	Recall that the state building code rec	<u>^</u>	se of low flow fixtures, toilets an	d rain sensorsthe	ere is no need fo	or the City to do	anything other than adop	t and e	enforce
	(via building permit inspections) the	state's building code.							
Plea	se continue to the next question.								
28.	Are all governmental entities an	nd exempt users me	tered?		No	Please also a	answer question 28a.		
				No one is exempt					
	a. When do you plan on meterir	ng all users?			Please ente	er the year.			
		S	ECTION 6 - WATER RA	TE STRUCT	URE				
			ILY to single-family resident	ial customers w	ith a 5/8-inch	or 3/4-inch wa	ater meter.		
29.	Are your water rates structured	to promote water c	onservation?		Yes 🔻				
						b. Please	provide your commo	dity r	ate
	a. What year did you implement	conservation-base	d rates?	Late 80's	l		structure below. Gallon Range	\$	Rate
				Luc 003		Tior 1			
	c. How many tiers are structure	d in vour residentia	I rates?	5	l	Tier 1 Tier 2	Facility Charge - Flat Rate 0-3000 gallons	\$	2.79 0.98
		a in your rooraonna	1460.			Tier 2	Next 4000 gallons	\$	1.92
						Tier 4	Next 23000	\$	2.41
						Tier 5	Over 30000	\$	3.01
						Tier 6	Outside City rates are more		
Plea	se continue to the next question.								
30.	How much is your monthly wate	er service charge fo	or a typical SF customer?	\$ 20.64					
Plea	se continue to the next question.								
31.	Do you bill monthly or bi-month	ıly?		Monthly					
Plea	se continue to the next question.								
32.	Do you impose a surcharge for reflected in the inclined rate str		ial water use that is not		No 🔻				
		uoturo							
Dies	aa aantinuus ta tha navt supation								
	se continue to the next question. Do you have a drought rate?	•			·				
	Do you have a drought rate?				No		Please continue to	SECT	
		SECT	TION 7 - WASTEWATE	R RATE STRU	ICTURE		Tiedse continue to		ION 7.
	The following of	questions relate ON	ILY to single-family resident	ial customers w	ith a 5/8-inch	or 3/4-inch wa	ater meter.		
34.	How much is your monthly was	stewater service cha	arge for a typical SF	\$ 37.12					
Plea	customer? se continue to the next question.								
35.	Please describe your wastewate	er residential rate	Tiered rate structure also. Fa	cility Charge = 5	.55, 0-3000 ga	llons potable v	water 1.81 per thousan	d galle	ons,
	structure.		Next 4000 gallons = 3.67, Ne						
		SECTIO	N 8 - REUSE / RECLAII		PROCRAM		Please continue to	SECT	10N 8.
	Since you indicated		that your utility has a reuse				llowing section.		
36.	When did you begin your reuse	/reclaimed water pr	ogram?	1992					
37.	How would you describe your r	•			Aggressive		Mildly Aggressive	Pas	ssive
	use changes?within your servic	Le area to residentia	a customers?					l4 a	

	What approximate percentage of has access to reclaimed water?	f your entire resi	dential service area currently 90+%		
39. I	Do you have plans to expand yo	our service area?	Yes Vhen? Ongoin	ng	
	Vhat approximate percentage of netering device to measure den	•	residential customers have a Approx 15%		
	Approximately how many reside vater service?	ential customers	do you provide with reclaimed 6,100		
_	low are your rates structured?		If other, please describe your rate structure below.		
	✓ Flat Rate + per 1,000 gal. rate	✓ Flat Rate	Flat rate for residential. For customers in neighborhoods that have rea	claimed avail b	out aren't connected, they
[✓ Per 1,000 gal.	✓ Other	still have to pay a flat availability charge. Commercial is billed based	on a tiered co	nsumption. See faxed
	n. Do you have plans to implement ate in the future?	ent a volumetric			
			nserve reclaimed/reuse water below.		
			0% of its inside City customers and is working to expand its outside city ne reclaimed system can be dropped in the system to a point which won'		
			er restriction patrols during times of severe drought and restriction enforce		
			stribution system employees, construction personnel) call in to designate		
_					
				Please	continue to SECTION 9.
			SECTION 9 - COMMENTS		
	· · · · · · · · · · · · · · · · · · ·		you have any comments or additional information you would like to	share at this	time.
	nt and various conseration practices h				
	programwe don't currently have a pply warehouses usually don't stock as		his in the past, however. There is no need for it now as the State Building Code of	loesn't allow any	thing other than low flow
			ners, the City prefers to rely on the SJRWMD Media campaign in order to guara	tee that consiste	ent information is released
			WMD water restrictions in order to eliminate confusion to outside City customers		
	ery single year.				
	On behalf of th	e St. Johns River V	Water Management District, thank you for participating in this portion of ou	IF SHEVOV	
			biled all the results, it would be our pleasure to provide you with a copy.	ii suivey.	
	• YES, I would like a copy of the s	survey results.	Please provide the email addresses of those in your organization results.	who should re	eceive a copy of the
			Recipient 1 Email Address: JAPeters@altamonte.org	Title:	Director of Public Works & Utilitie
		Ô	Recipient 2 Email Address: KMRombeck@altamonte.org	Title:	Compliance/CIP Coordinato
	<u>U</u>		Recipient 3 Email Address:	Title:	
		-	Recipient 4 Email Address:	Title:	

Utilit	y Name:		Date S	urvey	Completed:		
	of Apopka					24-May-04	
John			Area C	ode a	nd Phone Nu	407-703-1731	
	tion/Title:		Email:			107 700 1701	
	tant Public Services Director		_		jjre	eij@apopka.net	
	artment: c Services		Fax:			407-703-1748	
	I Number of Single Family Water Customers: 13,834	Total Number	of Multi	Fami	ly Water Cus		
	Please complete all ir	nformation abov	/e.				
	SECTION 1 - GENE	RAL INFORM	IATION				
1.	Do you have multiple service areas within your service boundaries?		No		-		
			1	I			
	Please continue to the next question.						
2.	Have you done extensive system upgrades and/or maintenance over the past 2	2-5 years?	Yes	▼	_		
	a. Please provide a brief description of the upgrades/maintenance performed l						
	Replaced existing water lines and extending new lines for through-out the City for new deve	elopments.					
	Please continue to the next question.						
3.	What percentage of your service area is comprised of homes built prior to 199	5?			50%	Estimate 🔻	
	Please continue to the next question.	•			5070		
4.	Have you implemented any conservation practices that target areas with older	homes?	No	•			
	Please continue to the next question.						
5.	Do you have a GIS layer showing graphical depiction of the areas where speci	ific	No	•			
5.	conservation practices have been implemented? b. Who can we contact to identify the geographic extent of the areas where specific conservation practices have been implemented?						
			Name: Email:				
			Phone:				
					Please prov	vide contact informat	ion.
6.	Do you have a reuse/reclaimed water program to serve residential customers water for lawn irrigation?	Do you have a reuse/reclaimed water program to serve residential customers with reclaimed		▼			
	a. Who should we contact for additional information?		Name:		Chuck McCra	ary	
			Email:		N/A		
			Phone:		407-703-1731		
						Please continue t	o SECTION 2.
	SECTION 2 - PUBLIC AWAI	RENESS ACT	TIVITIE	S			
7.	Do you have an on-going public awareness / education program?		Yes	▼			
•	Please continue to the next question.						
8.	Does your program include on-going distribution of brochures and/or pamphlets?		Yes	▼			
	a. Conservation Topics Include:	h Tar	geted A	roze l	nclude		
			itine Servic			Older Homes	Zip Code
	✓ Outdoor Topics	Sp	ecific Neig	ghborh	oods	Other Specific Area	Newer Homes
			-				
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1988					
	d. How are these distributed?	If other, how o	h uov ob	listrib	ute vour bro	chures and/or pamph	lets?
	Speaking Events Special Mailings Other	New residents m					
Plea	se continue to the next question.						
9.	Do you insert water conservation information in water bills on an on-going basis?		Yes	•			
	a. Conservation Topics Include:	b. Tar	geted A	reas l	nclude:	_	
		=	tire Servic			Older Homes	Zip Code
	✓ Outdoor Topics	∐ Sp	ecific Neig	ghborh	oods	Other Specific Area	✓ Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1988]				
	D:\Clients Active\St Johns\Survey Results\#Database.xls						Apopka
	Prepared by: Chrisell Jones, PBS Page	1 of 7				Μ	ay 5, 2004

d. At what frequency are inserts utilized? □ Every Billing Cycle □ Quarterly □ Other	If other, how often do you insert conservation information in water bills At least once a year.
ease continue to the next question.	
0. Do you send out special mailings on an on-going basis?	No ▼ Please also answer question 10b.
Drought Alerts Other Watering Restrictions All of These	
b. If this is an on-going program, what year was it implemented? Otherwise,	Please enter the year.
when might you implement this practice?	
Monthly Quarterly Other	
1. Do you issue news releases on an on-going basis?	No Please also answer question 11c.
Indoor Outdoor	Entire Service Area Zip Code Other All of These
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
2. Do you sponsor public conservation media messages on an on-going basis?	No Please also answer question 12c.
With the District	Drought Alerts Watering Restrictions Conservation Tips Other
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Radio Broadcast TV Cable Billboards	
3. Do you utilize videos of any kind on an on-going basis?	No Please also answer question 13c.
Indoor Topics Outdoor Topics	Schools Speaking Engagements Professional Groups Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Youth Adult Professional Other	
4. Do you promote water conservation contests on an on-going basis?	No ▼ Please also answer question 14c.
Indoor Outdoor	Awareness Knowledge We do not measured
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.

15.	Do you sponsor landscape workshops/seminars on an on-going basis?		Yes 💌		
	a. Workshops/seminars are given by:	b. How have y	ou measured ef	fectiveness?	
	✓ Staff	Awareness		Behavior	We do not measure
	Non-Staff Outside Professionals	Knowledge		All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1990]		
	d. Do you track actual water use changes?				
		Based on water b	oills.		
	e. How are you tracking behavior effectiveness?				
					continue to SECTION
	SECTION 3 - INDOOR CONSERV, The following section concerns programs and/or incentives rela				orts.
16.	Have you implemented any indoor water conservation replacement/rebate, in retrofit programs?	centive and/or	No 💌		
	a. Are you considering implementing any replacement/rebate, incentive and/c	r rotrofit indoor	No 🔻		
	water conservation programs in the future?		No 🔻		
			. • 1		
			•		
	se continue to the next question.				
17.	Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help the and/or reduce their indoor water consumption?		Yes 🔻		
	a. How have you measured effectiveness?	edge	Behavior	All of These	We do not measure
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1990]		
	c. How are you tracking behavior effectiveness?				
	d. Do you track actual water use changes? Yes		Please descri	ibe behavior tracking	above.
18	Do you have an on-going replacement/rebate program for low-flush toilets?		•		
10.			No	Please also answer o	uestion 18c.
		_		_	_
	Entire Service Area Intro Code	Awareness		Behavior	We do not measure
	Specific Neighborhoods Older Homes	Knowledge		All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please fill in	the year.	
	when might you implement this practice?		7		
	. • 1				
19.					
	Other than toilets, do you have an on-going indoor plumbing retrofit or exchange	ange program?	No	Please also answer of	question 19c.
				Behavior	
	D:\Clients Active\St Johns\Survey Results\#Database.xls			I I Rehavior	We do not measur Apopka
	Prepared by: Chrisell Jones, PBS Page	3 of 7			May 5, 2004

Entire Service Area Zip Code Specific Neighborhoods Older Homes		havior We do not measure of These
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.	
20. Do you have a leak detection program specific to residential customers?		
	Yes	
a. Service areas targeted include: ✓ Entire Service Area Zip Code Specific Neighborhoods Older Homes		havior We do not measure of These
 c. What year did you begin this program? d. Approximately how many customers benefit annually? e. Do you have written policies or procedures for the program? f. Have you established a schedule for the program? g. Do you utilize performance contracts for leak detection and/or retrofit 	1992 Please enter #. Yes ▼ No ▼ No ▼	
inspections? h. Do you perform irrigation audits?	No 🔻	
i. How are you tracking behavior effectiveness?	Through the water bills	
 j. Do you track actual water use changes? Yes Yes SECTION 4 - OUTDOOR CONSERVA The following section concerns programs and/or incentives relat 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs? 	ive to your residential outdoor water conse	rvation efforts.
a. Are you considering implementing any replacement/rebate, incentive and/o water conservation programs in the future?	retrofit indoor _{No} ▼	
Please continue to the next question.		
22. Have you implemented a rain sensor program?		
a. Service areas targeted include:	Yes ▼ ▼ b. How have you measured effectiveness	
Entire Service Area Zip Code Specific Neighborhoods Older Homes	☐ Awareness ☐ Behavio ☐ Knowledge	
c. What year did you begin this program?	1992	
d. Approximately how many residences benefit annually?	Please enter #.	

e. How are you tracking behavior effectiveness?

f. Do you track actual water use changes?

Yes

•

Through the water bills.

23.	Do you provide individual consultations or evaluations for private residential of are interested in recommendations that will help them to conserve and/or reduce outdoor water consumption?		Yes	▼. ▼.		
	a. Service areas targeted include: Service Area Zip Code Specific Neighborhoods Older Homes	b. How have Awarenes	SS	neasured effect	iveness? ☐ Behavior ☑ All of These	We do not measure
	Please select all that apply above.					
	c. What year did you begin these services?	1992				
	d. Approximately how many residences benefit annually?		P	lease enter #.		
	e. How are you tracking behavior effectiveness?	Through water	bills.			
	f. Do you track actual water use changes?					
24.	Do you have an incentive program for irrigation system improvements?		No	▼		
	a. Are you considering implementing any rain sensor programs in the future?		No			
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness			Behavior All of These	We do not measure
	◄					
25.	Do you have an incentive program for residential customers to use drought-to xeriscape/Florida-friendly landscaping on their property?	erant or	No	•		
	a. Are you considering implementing any rain sensor programs in the future?		No	•		
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness			Behavior	We do not measure
						

Please continue to the next question.

savings.

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below. 26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water

		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:		
✓ Water Use Restrictions	Adoption Year: 2000	Enforcement practiced	Savings not analyzed		
✓ Native Plant Use	Adoption Year: 1992	Enforcement practiced	Savings not analyzed		
Drought Tolerant Plant Use	Adoption Year:	▼			
✓ Rain Sensors	Adoption Year: 1992	Enforcement practiced	Savings not analyzed		
Site Design Review	Adoption Year: 1992	Enforcement practiced	Savings not analyzed		

Efficient Irrigation

	Stricient Irrigation	Adoption Year:	1992	Enforceme	nt practiced	▼	Savings not anal	vzed	
	Turf Use Restrictions	Adoption Year:]		•		: 	
				J		<u> </u>			. *
leas	se continue to the next question	on.							
27.	Do you require any permitting that promotes efficient water		related to indoor and outdoo	r plumbing	No 🔻				
leas	se continue to the next questio	on.							
28.	Are all governmental entities	and exempt users met	tered?		Yes 🔻				
	a. Since what year have all us	ers been metered?			Please ente	er the year.			
	The followin		ECTION 6 - WATER RA			or 2/4 inch w			
29.	Are your water rates structure		LY to single-family residenti onservation?	al customers w	Yes	or 3/4-inch w	ater meter.		
						b. Please	e provide your co	-	ate
	a. What year did you impleme	ent conservation-based	d rates?	2000			Structure belo Gallon Rang		Rate
				2000		Tier 1	Min charge	\$	5.1
	c. How many tiers are structu	red in your residential	rates?	4		Tier 2	1000-6000	\$	0.9
						Tier 2	7000-15000	\$	1.1
						Tier 4	over 15000	\$	1.7
						Tier 5	Rate based per		
						Tier 6	thousand gallons	ş	
leas	se continue to the next questio	in.							
30.	How much is your monthly wa	ater service charge for	r a typical SF customer?		Please ente	er service cha	arge for one EDU.		
31.	Do you bill monthly or bi-mor	nthly?		Monthly					
leas	se continue to the next question	on.							
32.	Do you impose a surcharge for reflected in the inclined rate s		al water use that is not		No 🔻				
leas	se continue to the next question	in.							
	Do you have a drought rate?				No 🔻				
	,				No		Please continu	le to SECT	TION 7
	The following		TION 7 - WASTEWATER			or 3/4-inch w			
34.	How much is your monthly wa						arge for one EDU.	1	
35.	Please describe your wastewastructure.		Wastewater charges are based gallons water used. Caps off	-	Min charge i	is \$11.57. 100	00 to 12000 = \$1.9	2 per thou	sand
							Please continu	in to SECT	
		SECTIO	N 8 - REUSE / RECLAIM	IED WATER	PROGRAM		T lease continu		
	Since you indicate		hat your utility has a reuse/r				ollowing section.		
36.	When did you begin your reus	se/reclaimed water pro	ogram?	1988					
37.	How would you describe your use changes?within your serve	-			Aggressive		Mildly Aggressive	Pas	ssive
38.	What approximate percentage has access to reclaimed wate		ntial service area currently	20%					
	D:\Clients Active\St Johns\Surv Prepared by: Chrisell Jones, Pt	•	Page 6	Yes • of 7				Apo May 5, 2	opka 2004

39.	Do you have plans to expand your service area?
40.	What approximate percentage of your reclaimed residential customers have a <u>100%</u> metering device to measure demand?
41.	Approximately how many residential customers do you provide with reclaimed 2,200 water service?
42.	How are your rates structured? Flat Rate + per 1,000 gal. rate Per 1,000 gal.
43.	Please describe any methods you employ to conserve reclaimed/reuse water below. Violations issued for non-complaince.
	Please continue to SECTION 9.
	SECTION 9 - COMMENTS The following section is provided if you have any comments or additional information you would like to share at this time.
	On behalf of the St. Johns River Water Management District, thank you for participating in this portion of our survey. Once we have compiled all the results, it would be our pleasure to provide you with a copy.
	• YES, I would like a copy of the survey results. Please provide the email addresses of those in your organization who should receive a copy of the results.
	Recipient 1 Email Address: jjreij@apopka.net Title: Assistant Public Services Director Recipient 2 Email Address:

Utility Name:			Date St	urvey Completed:	
City Of Casselberry				11-May-04	
Respondent's Name:			Area C	ode and Phone Number:	
Gerald Chancellor, P.E.				(407) 262-7725 ex	xt.1236
Position/Title:			Email:		
Water Resources Operations Manager				gchancellor@casse	elberry.org
Department:			Fax:		
Public Works				(407) 262-77	67
Total Number of Cingle Femily Water Customeres	14 500 . /	Tatal Number	A M		E 050 . /
Total Number of Single Family Water Customers:	14,500 +/-	lotal number		Family Water Customers:	5,250 +/-
	SECTION 1 - GE		ATION		5,250 +/-
 Do you have multiple service areas within your ser 	SECTION 1 - GE			•	5,250 +/-
	SECTION 1 - GE		ATION		5,250 +/-
 Do you have multiple service areas within your ser 	SECTION 1 - GE	NERAL INFORM	ATION		5,250 +/-
 Do you have multiple service areas within your ser a. How many service areas do you have? 	SECTION 1 - GE vice boundaries? below:	NERAL INFORM	ATION		5,250 +/-

2.	Have you done extensive system upgrades and/or maintenance over the past 2-5 years?	No	•	
	Please continue to the next question.			
3.	What percentage of your service area is comprised of homes built prior to 1995? Please continue to the next question.			90% Estimate 🔻
4.	Have you implemented any conservation practices that target areas with older homes? a. Please list the specific areas targeted below.	Yes	•	
	All areas being served.			
	Please continue to the next question.			
5.	Do you have a GIS layer showing graphical depiction of the areas where specific conservation practices have been implemented?	Yes	•	
	a. Who should we contact for additional information?	Name:		Ann Hooper
		Email:	-	ahooper@casselberry.org
		Phone:	Ļ	(407) 262-7725 ext.1229
	Please continue to the next question.			
6.	Do you have a reuse/reclaimed water program to serve residential customers with reclaimed water for lawn irrigation?	Yes	•	
	a. Who should we contact for additional information?	Name: Email:	F	Respondent as listed above.

Please provide contact information. Phone:

	SECTION 2 - PUBLIC	CAWARENESS ACTIVITIES	
7.	Do you have an on-going public awareness / education program? Please continue to the next question.	Yes 🔻	
8.	Does your program include on-going distribution of brochures and/or pamphlets?	Yes 🔻	
	a. Conservation Topics Include: Indoor Topics Outdoor Topics	b. Targeted Areas Include Entine Service Area Specific Neighborhoods	Clder Homes Zip Code
	c. If this is an on-going program, what year was it implemented? Othe when might you implement this practice?	erwise, <u>1999</u>	
	d. How are these distributed? ✓ Speaking Events	If other, how do you distribute yo Mailouts/Bill stuffers	ur brochures and/or pamphlets?
Plea	ase continue to the next question.		
9.	Do you insert water conservation information in water bills on an on-c basis?	ves Ves	
	a. Conservation Topics Include: Indoor Topics Outdoor Topics	b. Targeted Areas Include Image: Constraint of the service of the servi	Clder Homes Zip Code
	c. If this is an on-going program, what year was it implemented? Othe when might you implement this practice?	erwise, 2000	
	D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones, PBS	Page 1 of 7	Casselberry May 5, 2004

	d. At what frequency are inserts utilized?	
	Every Billing Cycle Quarterly Other Please select all that apply above.	
10.	Do you send out special mailings on an on-going basis?	Yes 🔻
	a. Typical subject matter includes:	
	a1. What other subject matter is covered in your special mailings?	Landscaping/Xeriscape , Leak Detection& Prevention, Irrigation Practices
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2000
	c. At what frequency are special mailings sent out? Monthly	If other, how often do you send special mailings?
Ploa	se continue to the next question.	
	Do you issue news releases on an on-going basis?	
	Do you issue news releases on an on-going basis?	No ▼ Please also answer question 11c.
	Indoor Outdoor	Entire Service Area Zip Code Other All of These
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
12.		Yes 🗸
	Do you sponsor public conservation media messages on an on-going basis?	
	a. Sponsorship level includes: ✓ With the District Independently	b. Typical subject matter includes: Drought Alerts Watering Restrictions Conservation Tips Other
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2000
	d. What media do you utilize in your program? ✓ Radio ✓ Broadcast TV □ Cable □ Billboards	e. How much is budgeted for next FY? \$15,000
Plea	se continue to the next question.	
13.	Do you utilize videos of any kind on an on-going basis?	Yes 🔻
	a. Conservation Topics Include:	b. Under what circumstances are videos utilized? Schools Speaking Engagements Professional Groups Seminars/Workshops
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2001
	d. Please list the titles of the videos below:	
	Water Conservation Videos from AWWA, Water Reuse(Every Drop CountsUse It Again	Florida), Water Pollution(SJRWMD)
	e. What are your target audiences?	
	✓ Youth ✓ Adult Professional Other	
	f. What does your annual viewing audience total?	2-3,000
Plea	se continue to the next question.	
	Do you promote water conservation contests on an on-going basis?	Yes 🔻
	a. Contest themes include:	b. How have you measured effectiveness? Awareness Knowledge We do not measured
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2001

d.	What	groups	do	you	typically	target?
----	------	--------	----	-----	-----------	---------

Please continue to the next question	on.
--------------------------------------	-----

Please continue to the next question.		
15. Do you sponsor landscape workshops/seminars on an on-going b	asis? Yes 💌	
a. Workshops/seminars are given by:	b. How have you measured effectiveness? △ Awareness □ Behavior ☑ Knowledge □ All of These]We do not measure
c. If this is an on-going program, what year was it implemented? when might you implement this practice?	Otherwise, 2001	
d. Do you track actual water use changes?		
e. How are you tracking behavior effectiveness?	Please describe behavior tracking abo	ve.
	ONSERVATION INCENTIVE PROGRAMS entives relative to your residential indoor water conservation efforts.	
16. Have you implemented any indoor water conservation replacemented retrofit programs?	t/rebate, incentive and/or Yes	
	▼	
a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implemen the program(s)?		
c. Do you follow-up with the customer in any manner after installa Please continue to the next question.	tion? No 🔻	
 17. Do you provide individual consultations or evaluations on an on-eresidential customers who are interested in recommendations that and/or reduce their indoor water consumption? a. How have you measured effectiveness? Awareness 	will help them to conserve Yes	We do not measure
b. If this is an on-going program, what year was it implemented? when might you implement this practice?	Otherwise, 2001	
_		
lease continue to the next question.		
18. Do you have an on-going replacement/rebate program for low-flux	h toilets? No Please also answer ques	stion 18c.
Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Behavior Knowledge All of These	We do not measure
c. If this is an on-going program, what year was it implemented? when might you implement this practice?	Otherwise, Please fill in the year.	
No		
19. Other than toilets, do you have an on-going indoor plumbing retro		
a. Service areas targeted include: Description Service Area D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones, PBS	b. How have you measured effectiveness?	We do not measure Casselberry May 5, 2004

e. It is is an ongoing program, what year was it implemented? Otherwise. a. Approximately how many titutires are splaced annually?	Entire Service Area Specific Neighborhoods	Zip Code	Awareness Knowledge	Behavior All of These	✓ We do not measure
Approximately how many fixtures are replaced annually? Approximately how many fixtures are replaced annually? A province the next question.			2001		
		•	250		
Peee continue to the next question:				m	
Plane continue to the next question. 20. Do you have a lask detection program specific to residential customers?		_			
20. Do you have a leak detection program specific to residential customers?					
	· · · · · · · · · · · · · · · · · · ·				
Lattres structs Area Specific: Neighturbusits Op. Code Obter Humos Austructes Balvasier Code of the themes C. What year did you begin this program? Code of the program? Output Output <	20. Do you have a leak detection	program specific to residential customers?	Yes	·	
Lattres structs Area Specific: Neighturbusits Op. Code Obter Humos Austructes Balvasier Code of the themes C. What year did you begin this program? Code of the program? Output Output <			_		
Lattres structs Area Specific: Neighturbusits Op. Code Obter Humos Austructes Balvasier Code of the themes C. What year did you begin this program? Code of the program? Output Output <			_		
Lattres structs Area Specific: Neighturbusits Op. Code Obter Humos Austructes Balvasier Code of the themes C. What year did you begin this program? Code of the program? Output Output <					
□ specify tragmentous □ dot Human □ dot Human □ specify tragmentous □ dot Human □ dot Human □ Approximately how many customers benefit annually? □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ Dot Human □ dot Human □ dot Human □ dot Human □ dot Human □ dot Human □ dot Human □ dot Human □ dot Human □ dot Human □ dot Human □ dot Human □					✓ We do not measure
e. Approximately how many customers benefit annually? b. Do you have written policies or procedures for the program? f. Have you established a schedule for the program? b. Do you ubilize performance contracts for the ad detection and/or retrofit inspections? b. Do you upform inigation audits? We will be addetection audits? We addet addetection addits? We addet addetection addits? We addet addetection addition addits? We addet addetection addition			=	=	
e. Approximately how many customers benefit annually? b. Do you have written policies or procedures for the program? f. Have you established a schedule for the program? b. Do you ubilize performance contracts for the ad detection and/or retrofit inspections? b. Do you upform inigation audits? We will be addetection audits? We addet addetection addits? We addet addetection addits? We addet addetection addition addits? We addet addetection addition					
e. Do you have written policies or procedures for the program? Have you established a schedule for the program? 9. Do you utilize performance contracts for leak detection and/or retroft inspections? b. Do you perform irrigation audits? Please continue to SECTION 4 EXECTION 4 - OUTDOOR CONSERVATION INCENTIVE PROGRAMS The following section concerns programs and/or incentives relative to your residential outdoor water conservation efforts. 21. Have you implemented any outdoor water conservation replacement/rebate, incentive and/or retroft inforgrams? a. Are you considering implementing any replacement/rebate, incentive and/or retroft indoor water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? Yes Implemented a rain sensor program? Implemented a rain sen	c. What year did you begin th	is program?	2001		
• Have you established a schedule for the program? No No </th <th>d. Approximately how many o</th> <th>customers benefit annually?</th> <th>Unknown</th> <th></th> <th></th>	d. Approximately how many o	customers benefit annually?	Unknown		
1. Have you established a schedule for the program? No No<	e. Do you have written policie	es or procedures for the program?	Yes 🔻		
9. Do you utilize performance contracts for leak detection and/or retrofit incomentations? 0. Do you perform irrigation audits? Please continue to SECTION CONSERVATION INCENTIVE PROGRAMS 1. Have you implemented any outdoor water conservation replacement/rebate, incentive and/or retrofit indoor vater conservation efforts. Please continue to the next question. 2. Have you implemented a rain sensor program? Please continue to the next question. 2. Have you implemented a rain sensor program? Vos Yos Please continue to the next question. Please continue to the next question. 2. Have you implemented a rain sensor program? Yos a. Service areas targeted include:	f. Have you established a sch	edule for the program?			
h. Do you perform irrigation audits? Vos		e contracts for leak detection and/or retrofit			
Please continue to the next question. Please continue to the next question. Please continue to the next question. Please continue to the next question. Please continue to the next que	•	audite?	Yes		
Exercise areas targeted include: Service areas targeted in	n. Do you perform in gallon a	20015 :			
Exercise areas targeted include: Service areas targeted in					
SECTION 4 - OUTDOOR CONSERVATION INCENTIVE PROGRAMS The following section concerns programs and/or incentives relative to your residential outdoor water conservation efforts. 4. Have you implemented any outdoor water conservation replacement/rebate, incentive and/or retrofit indoor a. every ou considering implementing any replacement/rebate, incentive and/or retrofit indoor water conservation programs in the future? Please continue to the next question. 2. Have you implemented a rain sensor program? Yes Yes Yes Yes No No No No No No No No No N		· · · · · · · · · · · · · · · · · · ·			
SECTION 4 - OUTDOOR CONSERVATION INCENTIVE PROGRAMS The following section concerns programs and/or incentives relative to your residential outdoor water conservation efforts. 4. Have you implemented any outdoor water conservation replacement/rebate, incentive and/or retrofit indoor a. every ou considering implementing any replacement/rebate, incentive and/or retrofit indoor water conservation programs in the future? Please continue to the next question. 2. Have you implemented a rain sensor program? Yes Yes Yes Yes No No No No No No No No No N					
The following section concerns programs and/or incentives relative to your residential outdoor water conservation reflacement/rebate, incentive and/or retrofit indoor a. Are you considering implementing any replacement/rebate, incentive and/or retrofit indoor water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? yes yes ethics service areas targeted include: in proceeding in the program? a. Service areas targeted include: in proceeding program? in b. How have you measured effectiveness? in b. How have you begin this program? in d. Approximately how many residences benefit annually?				Please	continue to SECTION 4.
21. Have you implemented any outdoor water conservation replacement/rebate, incentive and/or retrofit indoor retrofit programs? No ▼ a. Are you considering implementing any replacement/rebate, incentive and/or retrofit indoor vest conservation programs in the future? No ▼ Please continue to the next question. ▼ ▼ ▼ 22. Have you implemented a rain sensor program? Yes ▼ ▼ a. Service areas targeted include: ○ ○ ● ● Behavior ○ <th></th> <th>SECTION 4 - OUTDOOR CONSERVA</th> <th>TION INCENTIVE PRO</th> <th>GRAMS</th> <th></th>		SECTION 4 - OUTDOOR CONSERVA	TION INCENTIVE PRO	GRAMS	
retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or retrofit indoor water conservation programs in the future? Please continue to the next question. Please continue to the next question. 22. Have you implemented a rain sensor program? Yes Yes Define Service areas targeted include: Implemented a rain sensor program? Yes Implemented a rain sensor program? Implemented a rain sensor program? </th <th>The following see</th> <th>ction concerns programs and/or incentives relat</th> <th>tive to your residential outdo</th> <th>oor water conservation eff</th> <th>orts.</th>	The following see	ction concerns programs and/or incentives relat	tive to your residential outdo	oor water conservation eff	orts.
a. Are you considering implementing any replacement/rebate, incentive and/or retrofit indoor Yes When? 2005 When? 2005 Please continue to the next question. 22. Have you implemented a rain sensor program? Yes Yes Please continue to the next question. 22. Have you implemented a rain sensor program? Yes Behavior Behavior We do not measure And or these C. What year did you begin this program? 2000 d. Approximately how many residences benefit annually? All new irrigation systems are required to install same.		utdoor water conservation replacement/rebate, in	ncentive and/or No	•	
water conservation programs in the future? Image: Conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? Yes a. Service areas targeted include: Please continue to the next question. 22. Have you implemented a rain sensor program? Yes Behavior We do not measure C. What year did you begin this program? d. Approximately how many residences benefit annually? All new irrigation systems are required to install same.		nonting on an locament/selects in conting and/s	r rotrofit indoor	When 2 2005	_
22. Have you implemented a rain sensor program? Yes Yes				wnen? 2005	
22. Have you implemented a rain sensor program? Yes Yes					
22. Have you implemented a rain sensor program? Yes Yes					
22. Have you implemented a rain sensor program? Yes Yes				 ·]	
22. Have you implemented a rain sensor program? Yes Yes					
22. Have you implemented a rain sensor program? Yes Yes				·	
22. Have you implemented a rain sensor program? Yes Yes	Please continue to the next question	n	. 🔻	,	
a. Service areas targeted include: <p< th=""><th></th><th></th><th>· · · · ·</th><th>·</th><th></th></p<>			· · · · ·	·	
 ✓ Entire Service Area Zip Code Awareness Behavior We do not measure Awareness Behavior We do not measure Awareness All of These All of These c. What year did you begin this program? 2000 All of These d. Approximately how many residences benefit annually? Unknown All new irrigation systems are required to install same 			Yes	_	
 ✓ Entire Service Area Zip Code Awareness Behavior We do not measure Awareness Behavior We do not measure Awareness All of These All of These c. What year did you begin this program? 2000 All of These d. Approximately how many residences benefit annually? Unknown All new irrigation systems are required to install same 			•		
 ✓ Entire Service Area Zip Code Awareness Behavior We do not measure Awareness Behavior We do not measure Awareness All of These All of These c. What year did you begin this program? 2000 All of These d. Approximately how many residences benefit annually? Unknown All new irrigation systems are required to install same 					
□ Specific Neighborhoods □ Older Homes C. What year did you begin this program? d. Approximately how many residences benefit annually? 2000 Unknown All new irrigation systems arerequired to install same.					✓ We do not measure
d. Approximately how many residences benefit annually? Unknown All new irrigation systems arerequired to install same.				=	
d. Approximately how many residences benefit annually? Unknown All new irrigation systems arerequired to install same.					
All new irrigation systems arerequired to install same.	c. What year did you begin thi	is program?	2000		
	d. Approximately how many re	esidences benefit annually?	Unknown		
Please continue to the next question.			All new irrigation systems are	required to install same.	
Please continue to the next question.		· I			
Please continue to the next question.					
· · · · · · · · · · · · · · · · · · ·	Please continue to the next question	n.			

23.	Do you provide individual const are interested in recommendation outdoor water consumption?					
				~ [
	a. Service areas targeted includ ✓ Entire Service Area ☐ Specific Neighborhoods	E: Zip Code Older Homes		b. How have you measured Awareness Knowledge	effectiveness?	☑ We do not measure
	Please select all that app	ly above.				
	c. What year did you begin thes	e services?		1999		
	d. Approximately how many res	idences benefit annually?		Unknown		
		Please	make your selection.	Please	e describe tracking abov	/e.
24.	Do you have an incentive progra	am for irrigation system im	provements?	No 🔻		
	a. Are you considering impleme	nting any rain sensor prog	rams in the future?	No		
	Entire Service Area Specific Neighborhoods	Zip Code		Awareness Knowledge	Behavior All of These	We do not measure
			◄			
25.	Do you have an incentive progra xeriscape/Florida-friendly lands a. Are you considering impleme	caping on their property?	-	No		_
	Entire Service Area Specific Neighborhoods	Zip Code		Awareness Knowledge	Behavior All of These	We do not measure
			▼			
Plea	se continue to the next question.				Please	continue to SECTION 5.
26.	Please do not consider a	any State or Water Manage al landscaping, please sele	ment District policies ct which of the follow	indicate if you have perform	en making your selection ned in your adopted Orc ned an analysis to deter	linances, Resolutions, mine associated water
				Please indicate if you en corresponding ordinan		e indicate if you have /zed water savings:
	✓ Water Use Restrictions	Adoption Year:	2000	Enforcement practiced	▼ Savings	not analyzed
	✓ Native Plant Use	Adoption Year:	1993	Enforcement practiced	✓ Savings	not analyzed
	Drought Tolerant Plant Use					
		Adoption Year:			▼	· •
	Rain Sensors	Adoption Year:	1990	Enforcement practiced	▼ ▼ Savings	not analyzed

Make selection above.

Casselberry May 5, 2004

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Make selection above.

Enter adoption year above.

Efficient Irrigation

	Efficient Irrigation	Adoption Year:				•		-
	Turf Use Restrictions					•		
		Adoption Year:				—		. •
27.		g actions specifically related to inde	oor and outdoor plu	mbing	Yes 🔻			
	that promotes efficient water	-		tion				
		permitting actions specifically relat all new construction and renovations. Rev			ications prior to	building pern	nit issuance.	
Plea	se continue to the next question	on.						
28.	Are all governmental entities	and exempt users metered?			Yes 🔻			
	a. Since what year have all us	sers been metered?			Please ente	r the year.		
		SECTION 6 -	WATER RATE S	STRUCTU	RE			
		g questions relate ONLY to single-f	amily residential cu	stomers wi	th a 5/8-inch o	or 3/4-inch w	ater meter.	
29.	Are your water rates structur	ed to promote water conservation?			Yes 🔻			
						b. Please	e provide your co	mmodity rate
	a What year did you implome	ent conservation-based rates?		2000			structure belo	
	a. what year did you impleme	ent conservation-based rates?		2000	Γ		Gallon Rang	
	a Haurmany tions are structu	und in your residential retac?		5	-	Tier 1	0-3,999	\$0.99
	c. How many tiers are structu	red in your residential rates?		5	-	Tier 2	4,000-9,999	\$1.38
					-	Tier 2 Tier 4	10,000-19,999 20,000-29,999	\$2.32
					-	Tier 5	30,000 & Up	\$3.47
					-	Tier 6	Outside City Lir	
					L		Outside City En	257011gher
	se continue to the next question							
		rater service charge for a typical SF	customer?	\$14.50				
	se continue to the next question							
	Do you bill monthly or bi-mo	-	N	Aonthly				
	se continue to the next question	on. or excessive residential water use t	hat is not					
32.	reflected in the inclined rate				No 🔻			
Plea	se continue to the next question	on.						
	Do you have a drought rate?				No 🔻			
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						Please continu	ue to SECTION 7.
		SECTION 7 - WA						
	The followin	g questions relate ONLY to single-f	amily residential cu	stomers wi	th a 5/8-inch o	or 3/4-inch w	ater meter.	
34.	How much is your monthly w customer?	astewater service charge for a typic	cal SF	\$25.00				
Plea	se continue to the next question	on.						
35.	Please describe your wastew	ater residential rate \$7.90 base cha	urge, \$3.117 for 0-6,9	99, \$3.744 1	>7,000 25%	Higher outsic	le City Limits, No	o cap on
	structure.	gallonage,ie, a	ll water passing thru	the meter is	billed as sewe	er usage.		
							Please continu	ue to SECTION 8.
	Since you indicate	SECTION 8 - REUS ed in the first section that your utilit				mplete the fo	ollowing section.	
36.				1988				
		r recent efforts to promote reuse/re	claimed water	.,	✓ Aggressive		Mildly Aggressive	Passive
		vice area to residential customers?			55		,	
38.	What approximate percentage has access to reclaimed wate	e of your entire residential service a er?	rea currently	30%				
			. No	▼.				Casselberry
	D:\Clients Active\St Johns\Surv Prepared by: Chrisell Jones, P	•	Page 6 of 7					May 5, 2004

39.	Do you have plans to expand your service an	a?
40.	What approximate percentage of your reclain metering device to measure demand?	ed residential customers have a 100%
41.	Approximately how many residential custom water service?	rs do you provide with reclaimed 1,500
42.	How are your rates structured?	If other, please describe your rate structure below.
	✓ Flat Rate + per 1,000 gal. rate ✓ Flat Rate	\$1.50 Base Charge \$.8312 for 0-12,999 \$1.7257 for all usage > 13,000
	✓ Per 1,000 gal. ✓ Other	
	a. Do you have plans to implement a volume rate in the future?	ic
43.	Please describe any methods you employ to	conserve reclaimed/reuse water below.
	Rate is almost double for all gallonage consumt to reclaimed water usage.	d over 13,000 gallons/month. Same watering restrictions as are imposed for potable water irrigation are applicable
		Please continue to SECTION 9.
		SECTION 9 - COMMENTS
	The following section is provide	l if you have any comments or additional information you would like to share at this time.
	/ 11	sidences which have irrigation meters and irrigate with potable water. Such customers are charged a base rate of \$4.77/month, 00 per month. Again, these rates are increased by 25% for like customers outside of the City limits.
		er Water Management District, thank you for participating in this portion of our survey. mpiled all the results, it would be our pleasure to provide you with a copy.
	$igodoldsymbol{\Theta}$ YES, I would like a copy of the survey results.	Please provide the email addresses of those in your organization who should receive a copy of the results.
		Recipient 1 Email Address: <u>gchancellor@casselberry.org</u> Title: Water Resources Operations MANAGE
	(···È	Recipient 2 Email Address: Title:
	<u>S</u>	Recipient 3 Email Address:Title:
		Recipient 4 Email Address: Title:

Utility Name:		Date Su	irvey (Completed:		
City of Clermont					17-May-04	
Respondent's Name:		Area Co	ode an	nd Phone Nur	nber:	
Tamara Richardson				(352) 241- 7335	
Position/Title:		Email:				
Director of Engineering and Utilities Department:				trichards	son@clermontfl.org	
Department:		Fax:				
Engineering				(3	352) 394 - 2379	
Engineering Total Number of Single Family Water Customers: 10,070	Total Number	of Multi	Family	y Water Cust	omers:	59
SECTION 1 - GENE		ΙΛΤΙΟΝ				
SECTION 1- GENEL		ATION				
1. Do you have multiple service areas within your service boundaries?		Yes	-			
			I			
a. How many service areas do you have?	2					
b. Please provide the names of your service areas below:	-	-				
City of Clermont East Side Water System; City of Clermont West Side Water System						
eny of element has blue water bystein, eny of element west blue water bystein						
Please continue to the next question.						
•			1			
2. Have you done extensive system upgrades and/or maintenance over the past 2	2-5 years?	Yes				
a. Please provide a brief description of the upgrades/maintenance performed l	below:					
The City of Clermont is in a phase of rapid growth. Both water systems have been expanded	l to serve larger ar	eas. New	wells h	ave been added	and are planned for bo	th service areas
to improve water quality and increase capacity.						
Please continue to the next question.						
				1	1	
3. What percentage of your service area is comprised of homes built prior to 199	5?			50%	Estimate	
Please continue to the next question.						
4. Have you implemented any conservation practices that target areas with older	homes?	Yes	-			
a. Please list the specific areas targeted below.		105	-			
The City has budgeted projects for the next fiscal year, beginning October 2004, for plumbin	og fixture retrofit a	nd rain ser	isor ret	trofit for the old	ler sections of the City	
The erry has sudgeted projects for the next rised year, beginning betober 2001, for planoin	ig fixture redont a	ind rum ser	1501 101	for the one	ler seedons of the erry.	
Please continue to the next question.						
5. Do you have a GIS layer showing graphical depiction of the areas where speci	ific	No	•			
conservation practices have been implemented?						
		Name:				
b. Who can we contact to identify the geographic extent of the areas wi	here specific	Email:				
conservation practices have been implemented?		Phone:				
				Please provi	ide contact informati	ion.
6. Do you have a reuse/reclaimed water program to serve residential customers	with reclaimed	Yes	•			
water for lawn irrigation?						
a. Who should we contact for additional information?		Name:		Rebecca Vand		
		Email:		rvanderbeck@	clermontfl.org	
		Phone:		352-241-7335		
					Please continue to	SECTION 2
					T lease continue t	O SECTION 2.
SECTION 2 - PUBLIC AWAI	RENESS ACT	TIVITIES	5			
7. Do you have an on-going public awareness / education program?						
Please continue to the next question.		Yes	•			
•						
8. Does your program include on-going distribution of brochures and/or		Yes	▼			
pamphlets?						
a. Conservation Topics Include:	b. Tar	rgeted Ar	eas In	nclude:		
✓ Indoor Topics	🗸 Er	ntine Service	e Area		Older Homes	Zip Code
✓ Outdoor Topics	🗌 Sr	pecific Neigl	hborho	ods	Other Specific Area	Newer Homes
		-				
c. If this is an on-going program, what year was it implemented? Otherwise,	2003	-				
when might you implement this practice?	2005					
d. How are these distributed?						
Speaking Events Special Mailings Other						
	-					
Please continue to the next question.						
9. Do you insert water conservation information in water bills on an on-going basis?		Yes	▼.			
MUGIJ :						
a. Conservation Topics Include:	b. Tar	rgeted Ar	eas In	nclude:		
✓ Indoor Topics	√ Fr	ntire Service	e Area		✓ Older Homes	Zip Code
✓ Outdoor Topics	=	pecific Neigl		ods	Other Specific Area	Newer Homes
			-			
a litthic is an an aging program what your was it implemented 0. Otherwise	2001	7				
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2001					

d. At what frequency are inserts utilized? ☐ Every Billing Cycle	
Please continue to the next question.	
10. Do you send out special mailings on an on-going basis?	
a. Typical subject matter includes: ✓ Drought Alerts Other ✓ Watering Restrictions All of These	Yes
b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	N/A
c. At what frequency are special mailings sent out?	If other, how often do you send special mailings?
Monthly Quarterly Other	The City sends information as needed as conditions change.
Please continue to the next question.	
11. Do you issue news releases on an on-going basis?	Yes 🔻
a. Conservation Topics Include:	b. Targeted Areas Include: Service Area Zip Code Other All of These
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? Please continue to the next question.	2002
12. Do you sponsor public conservation media messages on an on-going basis?	No
With the District	Drought Alerts Watering Restrictions Conservation Tips Other
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	N/A
Radio Broadcast TV Cable Billboards	
Please continue to the next question.	
13. Do you utilize videos of any kind on an on-going basis?	Yes 🔻
a. Conservation Topics Include:	b. Under what circumstances are videos utilized? Schools Speaking Engagements Professional Groups Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2003
d. Please list the titles of the videos below: Water Pollution The Dirty Details (SJRWMD); Water Conservation for the Home (SJRW	/MD)
e. What are your target audiences?	
✓ Youth ✓ Adult Professional Other	
f. What does your annual viewing audience total?	250
Please continue to the next question.	
14. Do you promote water conservation contests on an on-going basis?	Yes 🔻
a. Contest themes include:	b. How have you measured effectiveness? Awareness Knowledge We do not measured
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2004

d. What groups do you typically target?	youth			
Please continue to the next question.				
15. Do you sponsor landscape workshops/seminars on an on-going basis?		Voc.		
		Yes 💌		
a. Workshops/seminars are given by:	b. How have Awareness	you measured e	effectiveness?	✓ We do not measure
Non-Staff Outside Professionals	Knowledge		All of These	
c. If this is an on-going program, what year was it implemented? Otherwis when might you implement this practice?	e , <u>2002</u>			
d. Do you track actual water use changes?				
e. How are you tracking behavior effectiveness?		Please desc	ribe behavior tracking	above
		1 16836 0630	nbe benavior tracking	above.
SECTION 3 - INDOOR CONSER The following section concerns programs and/or incentives re				orts.
16. Have you implemented any indoor water conservation replacement/rebate, retrofit programs?		No 💌		
a. Are you considering implementing any replacement/rebate, incentive and water conservation programs in the future?	d/or retrofit indoor	Yes 🔻	When? 2004	
		•		
Please continue to the next question.		I		
17. Do you provide individual consultations or evaluations on an on-going bas	io for privato			
residential customers who are interested in recommendations that will help and/or reduce their indoor water consumption?		e ^{No} ▼		
Awareness Kno	owledge [Behavior	All of These	We do not measure
b. If this is an on-going program, what year was it implemented? Otherwis when might you implement this practice?	e, N/A			
when might you implement this practice?				
Please continue to the next question.				
18. Do you have an on-going replacement/rebate program for low-flush toilets?	?	No v		
				_
Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness		Behavior All of These	We do not measure
			All of These	
c. If this is an on-going program, what year was it implemented? Otherwis	e , 2004			
when might you implement this practice?				
	<u>.</u>			
Please continue to the next question.				
19.				
Other than toilets, do you have an on-going indoor plumbing retrofit or exc	hange program?	No		
Entire Service Area			Rehavior	We do not measure

	Entire Service Area Specific Neighborhoods	Zip Code Older Homes	Awareness			Behavior All of These	We do not measure
	c. If this is an on-going program when might you implement this	n, what year was it implemented? Otherwise, practice?	2004]			
Pleas	se continue to the next question.						
20.	Do you have a leak detection pr	ogram specific to residential customers?		No	▼]		
	a. Are you considering impleme	nting any rain sensor programs in the future?		Yes _	Wh	en? 2004	
	Entire Service Area	Zip Code Older Homes	Awareness			Behavior	We do not measure
			• •				
						Please c	ontinue to SECTION 4.
		SECTION 4 - OUTDOOR CONSERVA					
21.	Have you implemented any out	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in		No	tdoor water	conservation effo	orts.
	retrofit programs? a. Are you considering impleme water conservation programs in	nting any replacement/rebate, incentive and/or	retrofit indoor	No	•	N/A	
	water conservation programs in						
				,	•		
					•		
Pleas	se continue to the next question.				•		
	Have you implemented a rain se			Yes	~		
				Yes	▼ [2005	7
	a. Service areas targeted includ	۵.	b. How have y		ured effecti	veness?	
	Entire Service Area Specific Neighborhoods	Zip Code Older Homes	Awareness	you measu		Behavior All of These	☑ We do not measure
	c. What year did you begin this	program?	1991				
	d. Approximately how many res	idences benefit annually?	1000				
							This is included in the homes will begin in the
Pleas	se continue to the next question.						

23.	Do you provide individual consultations or evaluations for private residential or are interested in recommendations that will help them to conserve and/or redu outdoor water consumption?		Yes	5	• . • .					
	a. Service areas targeted include: ✓ Entire Service Area Zip Code Specific Neighborhoods Older Homes	b. How have y Awarenes	S	neas	sured	effec	. ∐ E	ess? Behavior All of These	1	We do not measure
	Please select all that apply above.									
	c. What year did you begin these services?	2002								
	d. Approximately how many residences benefit annually?	90								
	e. How are you tracking behavior effectiveness?	check consumpt	tion o	f hor	nes th	at were	e evaula	ated		
	f. Do you track actual water use changes?									
	se continue to the next question.									
24.	Do you have an incentive program for irrigation system improvements?		No		▼					
	a. Are you considering implementing any rain sensor programs in the future?		Yes		.	w	hen?	2004		
					·					
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness					_] Behavior] All of Thes	se	We do not measure
	▼									
25.	Do you have an incentive program for residential customers to use drought-tol xeriscape/Florida-friendly landscaping on their property?	lerant or	Yes	6	•					
			No		•			N/A		
	a. Service areas targeted include: ✓ Entire Service Area Zip Code Specific Neighborhoods Older Homes	b. How have Awareness	you ı	mea	sured	l effec		ess? Behavior All of Thes	se	✓ We do not measure
	c. What year did you begin this program?	2004								
	d. Approximately how many improvements are recorded annually?		ļ	leas	se ent	ter #.				
		This year, the C encourages new Since it is a new	or m	odifi	ed lan	dscape	s to inc	corporate d	rougl	ht-tolerant landscaping.
								Plea	ise c	ontinue to SECTION 5.

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below.

26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water savings.

-		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
✓ Water Use Restrictions	Adoption Year: 1999	Enforcement practiced	•
✓ Native Plant Use	Adoption Year: 2004	Enforcement practiced	Make selection above.
✓ Drought Tolerant Plant Use	Adoption Year: 2004	Enforcement practiced	Make selection above.
✓ Rain Sensors	Adoption Year: 1991	Enforcement practiced	Make selection above.
✓ Site Design Review	Adoption Year: 2004	Enforcement practiced	Make selection above. Savings not analyzed ▼

Efficient Irrigation

	Efficient Irrigation	Adoption Year:	2004	Enforceme	nt practiced	•	Savings not analy	yzed 🗸 🔻
	✓ Turf Use Restrictions					_ ·		·
		Adoption Year:	2004	Enforceme	nt practiced	<u> </u>	Savings not analy	/zed
_								
27.	Do you require any permitting that promotes efficient water		elated to indoor and outdo	or plumbing	Yes 🔻			
	a. Please explain below what The City of Clermont uses the Lake				The Duilding	Code includes	raquiraments for low	y flow toilets and
	shower heads. These items are req		nent for hispection of new and	renovated structure	s. The Building	Code mendes	requirements for lov	v now tonets and
Plea	se continue to the next questio	n.						
28.	Are all governmental entities	and exempt users met	ered?		Yes 🔻			
	a. Since what year have all us	ers been metered?		at least 1991				
		SI	ECTION 6 - WATER R	ΔΤΕ STRUCTI	IRE		Please continue	to SECTION 6.
	The following		Y to single-family residen			or 3/4-inch w	ater meter.	
29.	Are your water rates structure	ed to promote water co	onservation?		Yes 💌			
						b. Please	provide your co	mmodity rate
				2001			structure below	w.
	a. What year did you impleme	nt conservation-based	rates?	2001			Gallon Range	
	- II					Tier 1	Base Charge	\$5.48
	c. How many tiers are structure	red in your residential	rates?	5		Tier 2 Tier 2	1,000 - 10,000 11,000 - 20,000	\$1.10
						Tier 4	21,000 - 30,000	\$2.20
						Tier 5	over 30,000	\$3.00
						Tier 6	0101 50,000	\$5.00
Disc		_						
	se continue to the next questio		a turniaal SE austamar?	¢ 44.00				
	How much is your monthly was se continue to the next questio	-	a typical SF customer?	\$ 44.00				
	Do you bill monthly or bi-mon			monthly	1			
	se continue to the next questio	-		monuny				
	Do you impose a surcharge fo		I water use that is not		No 🔻			
	reflected in the inclined rate s	structure?			NO -			
Plea	se continue to the next questio	n.						
33.	Do you have a drought rate?				No 🔻			
							Please continu	e to SECTION 7.
	The following		ION 7 - WASTEWATE			or 3/4-inch w	ater meter.	
34.	How much is your monthly wa			\$ 38.00				
	customer?		go for a typical of	φ 50.00				
	se continue to the next questio							
35.	Please describe your wastewa structure.		Base Charge = \$12.13; Varia Charge = 16.000	able Charge (per 1	,000 gal) = \$1	.59; Maximur	n gallons subject t	o Variable
							Discourse	A A SECTION O
		SECTION	l 8 - REUSE / RECLAII	MED WATER	PROGRAM		Please continu	e to SECTION 8.
	Since you indicate		hat your utility has a reuse			mplete the fo	ollowing section.	
36.	When did you begin your reus	se/reclaimed water pro	gram?	2003				
37.	How would you describe your use changes?within your serv			r –	Aggressive		Mildly Aggressive	Passive
38.	What approximate percentage	e of your entire residen		30%				
	has access to reclaimed wate	r?		Yes 🔻				
	D:\Clients Active\St Johns\Surv Prepared by: Chrisell Jones, PE		Page					Clermont May 5, 2004

39.	Do you have plans to expand your service area? <u>Yes</u> When? 2005						
40.	What approximate percentage of your reclaimed residential customers have a <u>0%</u> <i>Please enter percentage.</i> metering device to measure demand?						
41.	Approximately how many residential customers do you provide with reclaimed 2,000 water service?						
42.	How are your rates structured? Flat Rate + per 1,000 gal. rate Flat Rate Of Per 1,000 gal. Other						
43.	Please describe any methods you employ to conserve reclaimed/reuse water below. Development owns and operates large scale irrigation system. Control of invidual zones is based on actual rainfall and calculated need based on recent rainfall and other weather conditions.						
SECTION 9 - COMMENTS The following section is provided if you have any comments or additional information you would like to share at this time.							

On behalf of the St. Johns River Water Management District, thank you for participating in this portion of our survey. Once we have compiled all the results, it would be our pleasure to provide you with a copy.

Recipient 3 Email Address:

Recipient 4 Email Address:

Recipient 1 Email Address: trichardson@clermontfl.org

Recipient 2 Email Address: afreeman@clermontfl.org

Prepared by PBS&J exclusively for the St. Johns River Water Management District, Department of Water Supply Management, May 2004

results.

Please provide the email addresses of those in your organization who should receive a copy of the

Title:

Title:

Title:

Title:

Dir. Eng & Utilities

Water Conserv. Tech

• YES, I would like a copy of the survey results.

114:1:4	y Name:		Data Cu		Commission		
	of Cocoa		Date Su	rvey	Completed:	9-Jun-04	
	pondent's Name:		Area Co	de a	nd Phone Nu	umber:	
Nane	tte D. Hurst					(321) 639-7602	
	tion/Title:		Email:				
	r Conservation/Public Relations Officer		-		<u>nh</u>	urst@cocoafl.org	
Depa Utilit	artment:		Fax:			(321) 639-7663	
	I Number of Single Family Water Customers:	Total Number	of Multi	Fami	lv Water Cus	· · /	
	Please complete all in				,		
	SECTION 1 - GENE						
	SECTION 1º CENE						
1.	Do you have multiple service areas within your service boundaries?		Yes	▼			
	a Haw many carvias areas de yeu have?	10	1				
	a. How many service areas do you have?	10					
	b. Please provide the names of your service areas below: Cape Canaveral, Cocoa, Cocoa Beach, Kennedy Space Center, Merritt Island, Patrick Air Fo	rce Base Rockled	ge Sharpe	e Sur	tree Viera		
	Cape Canaveral, Cocoa, Cocoa Beach, Reinica'y Space Center, Merritt Island, Fairler An Fe	nee Base, Rockied	ge, sharpe	3, Dui	litee, viera		
	Please continue to the next question.						
2.	Have you done extensive system upgrades and/or maintenance over the past	2-5 vears?	Yes	-			
	a. Please provide a brief description of the upgrades/maintenance performed	-					
	Installed 36" water line in 2003 (22,820 LF plus 1,270 ft. sub-aqueous & 220 ft. bridge pipin		of 54" wate	r line	in 2004.		
	Please continue to the next question.						
3.	What percentage of your service area is comprised of homes built prior to 199	5?				Other 🔻	
	Please enter percentage and make a selection above.						
4.	Have you implemented any conservation practices that target areas with older	homes?	No	-			
	Thave you implemented any conservation practices that target areas with older	nomes	NO	•			
_	Please continue to the next question.						
5.	Do you have a GIS layer showing graphical depiction of the areas where spec	ific	No	•			
0.	conservation practices have been implemented?						
	b. Who can we contact to identify the geographic extent of the areas w	horo sposific	Name: Email:		Nanette Hurs		
	conservation practices have been implemented?				(321) 639-76		
	Please continue to the next question.		Phone:		(===) == = = =		
	Do you have a reuse/reclaimed water program to serve residential customers	with reclaimed	Vec	~			
6.	water for lawn irrigation?		Yes	<u> </u>			
	a. Who should we contact for additional information?		Name:		Nanette D. H		
			Email: Phone:		nhurst@cocc (321) 639-76	-	
			Filone.		(321) 039-70	02	
						Please continue	to SECTION 2.
	SECTION 2 - PUBLIC AWA	RENESS ACT	TIVITIES	5			
7.	Do you have an on-going public awareness / education program?		Yes	-			
	Please continue to the next question.		103	•			
8.	Does your program include on-going distribution of brochures and/or			_			
	pamphlets?		Yes	•			
	a. Conservation Topics Include:	b. Tar	geted Ar	eas l	nclude:		
	✓ Indoor Topics	🗸 En	tine Service	e Area		Older Homes	Zip Code
	✓ Outdoor Topics	🗌 Sp	ecific Neigh	nborho	oods	Other Specific Area	Newer Homes
			_				
	c. If this is an on-going program, what year was it implemented? Otherwise,	1991					
	when might you implement this practice?						
	d. How are these distributed? Speaking Events Special Mailings Other					chures and/or pamp	hlets?
		Water Bill insert	ts; Newslet	tters, l	Local Newspa	per	
Disa	e e continue to the most superior						
	se continue to the next question.						
9.	Do you insert water conservation information in water bills on an on-going basis?		Yes	▼.			
	a. Conservation Topics Include:	b. Tar	geted Ar	eas l	nclude:		
	✓ Indoor Topics	=	tire Service			Older Homes	Zip Code
	✓ Outdoor Topics	Sp	ecific Neigl	nborho	oods	Other Specific Area	Newer Homes
			-				
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2004					0
	D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones, PBS Page	1 of 7				Ν	Сосоа Лау 5, 2004

	d. At what frequency are inserts utilized?	
	ase continue to the next question.	
10.	Do you send out special mailings on an on-going basis?	No ▼ Please also answer question 10b.
	Drought Alerts Other Watering Restrictions All of These	
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
	Monthly Quarterly Other	Won't due to the water bill inserts
11.	Do you issue news releases on an on-going basis?	No Please also answer question 11c.
	Indoor Outdoor	Entire Service Area Zip Code Other All of These
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
12.	Do you sponsor public conservation media messages on an on-going basis?	No Please also answer question 12c.
·	With the District	Drought Alerts Watering Restrictions Conservation Tips Other
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
	Radio Broadcast TV Cable Billboards	Sporadically
13.	Do you utilize videos of any kind on an on-going basis?	Yes 🔻
	a. Conservation Topics Include: Indoor Topics Outdoor Topics	b. Under what circumstances are videos utilized? Schools Speaking Engagements Professional Groups Seminars/Workshops
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1991
	d. Please list the titles of the videos below:	
	A Consumer's Guide to WC; Down the Drain; Florida's Aquifers: The Treasure Below; My WC PSA's; Water Follies; Waterhog Haven; Waterwise Landscape Irrigation; What Do You	
	e. What are your target audiences?	
	✓ Youth ✓ Adult Professional Other	
	f. What does your annual viewing audience total?	200
Plea	ise continue to the next question.	
14.		
	Do you promote water conservation contests on an on-going basis?	No Please also answer question 14c.
	Indoor Outdoor	

		Won't w/o additional personnel.		
15.	Do you sponsor landscape workshops/seminars on an on-going basis?	·		
		Yes		
	a. Workshops/seminars are given by:	b. How have you measured et	_	
	Staff Dutside Professionals	Awareness Knowledge	Behavior All of These	We do not measure
	Please select all that apply above.	Please select all that		
	c. If this is an on-going program, what year was it implemented? Otherwise,	2001		
	when might you implement this practice?			
	SECTION 3 - INDOOR CONSERV	ATION INCENTIVE PROGR	AMS	
	The following section concerns programs and/or incentives rela			orts.
16.	Have you implemented any indoor water conservation replacement/rebate, inc	centive and/or Yes		
	retrofit programs?			
		•		
	a. What year did you begin implementing these programs?	2001		
	b. Do you have written policies/procedures concerning implementation and m	aintenance of Yes		
	the program(s)?			
	c. Do you follow-up with the customer in any manner after installation?	Yes 🔻		
Plea	se continue to the next question.			
17.	Do you provide individual consultations or evaluations on an on-going basis	for private		
	residential customers who are interested in recommendations that will help th and/or reduce their indoor water consumption?		Please also answer o	uestion 15c.
	Awareness Knowle	edge 🗌 Behavior	All of These	We do not measure
				_
	b. If this is an on-going program, what year was it implemented? Otherwise,	Please enter	the vear.	
	when might you implement this practice?			
		Not for private residential custome	rs w/o additional personne	el.
18.	Do you have an on-going replacement/rebate program for low-flush toilets?	· ·		
10.		No		
				_
	Entire Service Area	Awareness	Behavior	We do not measure
	Specific Neighborhoods Older Homes	Knowledge	All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise,	FY2005		
	when might you implement this practice?	_		
	I			
	\mathbf{T}			

19.

Yes Other than toilets, do you have an on-going indoor plumbing retrofit or exchange program?

a. Service areas targeted include:

Please continue to the next question.

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▼

Rohavior

b. How have you measured effectiveness?

	e Service Area fic Neighborhoods	Zip Code Older Homes	Awareness I Knowledge			Behavior	We do not measure
	s an on-going program Jht you implement this	n, what year was it implemented? Otherwise, practice?	1991				
d. Approx	kimately how many fixt	ures are replaced annually?	500				
	e to the next question. ave a leak detection pro	ogram specific to residential customers?		No			
a Arevo	u considering impleme	nting any rain sensor programs in the future?			• . [_
u. Ale yo				No			
	e Service Area fic Neighborhoods	Zip Code Older Homes	Awareness			Behavior All of These	Ue do not measure
			▼				
			▼				
							ontinue to SECTION 4.
	The following section	SECTION 4 - OUTDOOR CONSERVA on concerns programs and/or incentives relat					orts.
21. Have you retrofit pr		loor water conservation replacement/rebate, in	ncentive and/or	No	▼		
	u considering impleme aservation programs in	nting any replacement/rebate, incentive and/o the future?	r retrofit indoor	No			
					•		
					• •		
	e to the next question. implemented a rain se	nsor program?					
				No			_
a. Are yo	u considering impleme	nting any rain sensor programs in the future?		No			
	e Service Area fic Neighborhoods	Zip Code Older Homes	Awareness			Behavior All of These	We do not measure
		· •					

	nsultations or evaluations for private residential on ations that will help them to conserve and/or redu		No	▼.		
a. Are you considering imple	menting any rain sensor programs in the future?		No	•[
Entire Service Area	Zip Code	Awareness			Behavior All of These	We do not measu
]			
						
ease continue to the next questi	on.					
4. Do you have an incentive pro	ogram for irrigation system improvements?		No	•		
a. Are you considering imple	menting any rain sensor programs in the future?		No	•		
Entire Service Area	Zip Code	Awareness			Behavior	We do not meas
]			
5 Do you have an incentive pro	• ogram for residential customers to use drought-to	lerant or				
xeriscape/Florida-friendly lar	ndscaping on their property?		No	▼.		
a. Are you considering imple	menting any rain sensor programs in the future?		No _	•		
Entire Service Area	Zip Code	Awareness			Behavior All of These	UWe do not mea
]			
	▼]			
ease continue to the next questi]		Please	continue to SECTIO
	on. SECTION 5 - LOCAL ORDINANCES, RESO				ODES	continue to SECTIC
Please do not consid 6. Specifically related to reside		es, practices, or wing componer	directive nts are co	s when ma ontained in	CODES aking your selection your adopted Ord	ns below. inances, Resolutio

		corresponding ordinance/code:	analyzed water savings:
Water Use Restrictions	Adoption Year:	▼	
Native Plant Use	Adoption Year:		_
Drought Tolerant Plant Use	Adoption Year:	→	· •
Rain Sensors	Adoption Year:	▼.	~
Site Design Review	Adoption Year:		
Efficient Irrigation			

	Efficient Irrigation	Adoption Year:				•			
	Turf Use Restrictions	Adoption Year:				•			—
	Please select all that apply ab								
27.	Do you require any permitting a that promotes efficient water us		related to indoor and ou	utdoor plumbing	•	Please ma	nke your selection.		
	• • • • • • • •		. 10						
28.	Are all governmental entities an	id exempt users me	tered ?		. *	Please make	e your selection.		
	The following o		ECTION 6 - WATER LY to single-family resi			h or 3/4-inch w	ater meter.		
29.	Are your water rates structured				· ·		e your selection.		
						b. Please	e provide your com	modi	ty rate
							structure below Gallon Range		\$ Rate
						Tier 1	Culton Hunge		φ Huio
						Tier 2			
						Tier 2			
						Tier 4			
						Tier 5 Tier 6			
							Please complete	rates	above.
30.	How much is your monthly wate	er service charge fo	r a typical SF customer	?	Please en	ter service cha	arge for one EDU.		
31.	Do you bill monthly or bi-month	ıly?			Please en	ter residential	billing cycle.		
32.	Do you impose a surcharge for reflected in the inclined rate str		al water use that is not			Please ma	nke your selection.		
	reflected in the inclined rate str	ucture?							
33.	Do you have a drought rate?				•	Please make	e your selection.		
	The following o		TION 7 - WASTEWA			h or 3/4-inch w	ater meter.		
34.	How much is your monthly was customer?	tewater service cha	rge for a typical SF		Please en	ter service cha	arge for one EDU.		
35.	Please describe your wastewate structure.	er residential rate							
				Please describe	e wastewater	rate structur	e above.		
	Since you indicated		N 8 - REUSE / RECI hat your utility has a re				ollowing section.		
36.	When did you begin your reuse	/reclaimed water pr	ogram?		Please en	ter the year.			
37.	How would you describe your reuse changes?within your service			vater	Aggressiv		Mildly Aggressive ke your selection.		Passive
38.	What approximate percentage of has access to reclaimed water?	-	ntial service area curre	-	-	ter percentage	<u>.</u>		
	D:\Clients Active\St Johns\Survey Prepared by: Chrisell Jones, PBS		Pa	▼ age 6 of 7					Cocoa 5, 2004

	Do you have plans to expand your service area?					
40.	What approximate percentage of your reclaimed residential customers have a Please enter percentage . metering device to measure demand?					
41.	Approximately how many residential customers d water service?	lo you provide with reclaimed Please enter the number of customers.				
42.	How are your rates structured?	If other, please describe your rate structure below.				
	✓ Flat Rate + per 1,000 gal. rate ✓ Flat Rate					
	✓ Per 1,000 gal. ✓ Other					
		Please describe your rate structure above.				
	a. Do you have plans to implement a volumetric rate in the future?	▼				
43.	Please describe any methods you employ to cons	erve reclaimed/reuse water below.				
	Please provide description of reuse conversation methods above.					
		SECTION 9 - COMMENTS				
	The following section is provided if y	you have any comments or additional information you would like to share at this time.				
	On behalf of the St. Johns River W	ater Management District, thank you for participating in this portion of our survey.				
		led all the results, it would be our pleasure to provide you with a copy.				
	\bigcirc YES, I would like a copy of the survey results.					
	(EP					

Utilit	y Name:		Date Survey	/ Completed:		
	of Eustis		Date Sulvey	Completed.	6/16 04	
	oondent's Name:		Area Code a	and Phone Nu		
Erwir	n Gajentan				352-357-5618	
Posi	tion/Title:		Email:			
Direc	tor of Water			gajent	ane@ci.eustis.fl.us	
Depa	irtment:		Fax:			
	r Department				352-357-9420	
Tota	Number of Single Family Water Customers: 8559 total	Total Number	of Multi Fam	ily Water Cus	tomers:	
	Please complete all in	nformation abov	/e.			
	SECTION 1 - GENERA	AL INFORMA	TION			
				_		
1.	Do you have multiple service areas within your service boundaries?		Yes			
	a Haw many convice grade de you have?	3	1			
	a. How many service areas do you have?	3				
	b. Please provide the names of your service areas below:					
	City of Eustis, Sorrento Sprinngs, Hethrow Country Estates					
	Please continue to the next question.					
2				-		
2.	Have you done extensive system upgrades and/or maintenance over the past 2	•	Yes	- -		
	a. Please provide a brief description of the upgrades/maintenance performed l					
	Water main replacment, meter replacement, fire hydrant replacement, Water main expansion	n, security up grade	es, and Reclaim	ed water system	expansion.	
	Please continue to the next question.				_	
3.	What percentage of your service area is comprised of homes built prior to 199	5?		80%	Estimate 🗸	
	Please continue to the next question.				-	
4.	Have you implemented any conservation practices that target areas with older	homes?	No 🔻			
		inemee :	NU •			
	Please continue to the next question.					
-	Do you have a GIS layer showing graphical depiction of the areas where speci	fic	N- -			
5.	conservation practices have been implemented?		No 🔻			
			Name:	Chin Khor		
	b. Who can we contact to identify the geographic extent of the areas w	here specific	Email:	khorc@ci.e	ustis.fl.us	
	conservation practices have been implemented?		Phone:	352-357-5480		
	Please continue to the next question.					
6.	Do you have a reuse/reclaimed water program to serve residential customers	with reclaimed	No 🔻			
	water for lawn irrigation?					
					Please continue t	o SECTION 2.
	SECTION 2 - PUBLIC AWA	RENESS ACT	TIVITIES			
7.	Do you have an on-going public awareness / education program?		Yes 🔻			
	Please continue to the next question.		163			
8.	Does your program include on-going distribution of brochures and/or					
•••	pamphlets?		Yes 🔻			
	a. Conservation Topics Include:	h Ta	rgeted Areas	Includes		
	✓ Indoor Topics		itine Service Are			
	✓ Outdoor Topics		ecific Neighborl		Older Homes Other Specific Area	Zip Code
				10040		
	c. If this is an on-going program, what year was it implemented? Otherwise,	2000	7			
	when might you implement this practice?	2000				
	d. How are these distributed?					
	Speaking Events Special Mailings Other	To also de dansida an				
	Please select all that apply above.	Included with w	ater bills (Selec	ction buttons are	not working)	
	riease select an that apply above.					
9.	Do you insert water conservation information in water bills on an on-going		Yes 🔻			
	basis?		· · ·			
	a. Conservation Topics Include:	b. Tar	rgeted Areas	Include:		
	Indoor Topics	🗸 En	ntire Service Are	а	Older Homes	Zip Code
	✓ Outdoor Topics	Sp	ecific Neighborl	noods	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,	2000				
	when might you implement this practice?					_
	D:\Clients Active\St Johns\Survey Results\#Database.xls					Eustis
	Prepared by: Chrisell Jones, PBS Page	1 of 7			M	ay 5, 2004

	d. At what frequency are inserts utilized? Every Billing Cycle Quarterly Other	If other, how often do you insert conservation information in water bills? Bi-annual
	se continue to the next question.	
	Do you send out special mailings on an on-going basis?	
		Yes 🔻
	a. Typical subject matter includes: Drought Alerts Other Watering Restrictions All of These	
	a1. What other subject matter is covered in your special mailings?	Water quality reports, City wide annual reports.
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1997
	c. At what frequency are special mailings sent out?	
		Please enter other information.
11.	Do you issue news releases on an on-going basis?	No Please also answer question 11c.
	Indoor Outdoor	Entire Service Area Zip Code Other All of These
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
12.		Yes 🗸
	Do you sponsor public conservation media messages on an on-going basis?	
	a. Sponsorship level includes:	b. Typical subject matter includes:
		Conservation Tips Other Please select all that apply above.
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2002
	d. What media do you utilize in your program? Radio Broadcast TV Cable Billboards Please select all that apply above.	e. How much is budgeted for next FY? Please enter \$ above
13.	Do you utilize videos of any kind on an on-going basis?	Yes 🔻
	a. Conservation Topics Include:	b. Under what circumstances are videos utilized?
	Indoor Topics Outdoor Topics	✓ Schools ✓ Speaking Engagements ✓ Professional Groups ✓ Seminars/Workshops
	Please select all that apply above.	
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
	d. Please list the titles of the videos below:	
	AWWA Waterhog Haven, AWWA The Basics of Water Quality We Treat Water Right, AW	/WA Always Pure Never Runs Dry, SJRWMD Water Conservation for the Home.
	e. What are your target audiences?	
	✓ Youth	
	f. What does your annual viewing audience total?	100
14.	Do you promote water conservation contests on an on-going basis?	No Please also answer question 14c.
	Indoor Outdoor	Awareness Knowledge We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.

	-			
15. Do you sponsor landscape workshops/seminars on an on-going basis?		No 💌	Please also answe	r question 15c.
Staff Non-Staff Outside Professionals	Awareness		Behavior All of These	We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please enter	r the year.	

The following			NSERVATION INCEN tives relative to your res			orts.
16. Have you implemented any retrofit programs?	y indoor water conse	ervation replacement/r	ebate, incentive and/or	No 💌		
a. Are you considering imp water conservation progra		cement/rebate, incent	ive and/or retrofit indoor	No 🔻		
					T	
					1	
				•		
Please continue to the next que	stion.					
17. Do you provide individual residential customers who and/or reduce their indoor	are interested in rec	commendations that v		e ^{Yes} 🔻		
a. How have you measured	d effectiveness?	Awareness	Knowledge	Behavior	All of These	We do not measure
b. If this is an on-going pro when might you implemen		s it implemented? Ot	herwise, 1997			
		-				
Please continue to the next que	stion.					
18. Do you have an on-going r		orogram for low-flush	toilets?	No 🔻	Please also answer o	uestion 18c.
_			_		_	_
Entire Service Area	Zip Code	S	Awareness Knowledge		Behavior All of These	We do not measure
c. If this is an on-going pro		s it implemented? Ot	herwise,	Please fill i	n the year.	
when might you implemen	t this practice?					
		No 🔻				
19. Other than toilets, do you	have an on-going ind	door plumbing retrofit	or exchange program?	No 💌	Please also answer o	juestion 19c.
Entiro Sorvico Aroa					Rehavior	We do not measure

	Entire Service Area Specific Neighborhoods	Zip Code	Awareness		Behavior All of These	We do not measure
	c. If this is an on-going progra when might you implement thi	um, what year was it implemented? Otherwise, is practice?		Please enter the	year.	
20.	Do you have a leak detection p	program specific to residential customers?		No 🔻		
	a. Are you considering implem	nenting any rain sensor programs in the future	?	Yes 💌 Wi	hen? 2000	
	Entire Service Area	Zip Code Older Homes	Awareness Knowledge	_	Behavior All of These	We do not measure
			▼ ▼ ▼			
				Please desc	ribe tracking abov	е.
		Please make your selection	on.			
	The following sec	SECTION 4 - OUTDOOR CONSERV, ction concerns programs and/or incentives rela				orts.
21.	Have you implemented any ou retrofit programs?	tdoor water conservation replacement/rebate,	incentive and/or	No 🔻		
	a. Are you considering implem water conservation programs	nenting any replacement/rebate, incentive and/o in the future?	or retrofit indoor	No 🔻		
Pleas	e continue to the next question	n.		.		
22.	Have you implemented a rain s	sensor program?		Yes 💌		
	a. Service areas targeted inclu Entire Service Area Specific Neighborhoods	Ide: Zip Code Older Homes	b. How have Awareness Knowledge		tiveness? ☐ Behavior ☑ All of These	We do not measure
	c. What year did you begin this	s program?	2000			
	d. Approximately how many re	-	100			
	e. How are you tracking behav f. Do you track actual water us	e changes?		Diagon door	ribe tracking abov	•
	I. DO YOU HACK ACTUAL WATER US	No V		riease uesc	пое наскију ароу	.

23.		sultations or evaluations for private residential of ions that will help them to conserve and/or redu		No		
	a. Are you considering implem	enting any rain sensor programs in the future?		No		
	Entire Service Area Specific Neighborhoods	Zip Code	Awareness		Behavior All of These	We do not measure
]		
						
	se continue to the next question					
24.	Do you have an incentive prog	ram for irrigation system improvements?		No	•	
	a. Are you considering implem	enting any rain sensor programs in the future?		No		
	Entire Service Area Specific Neighborhoods	Zip Code Older Homes	Awareness		Behavior All of These	UWe do not measure
]		
		•				
25.	Do you have an incentive prog xeriscape/Florida-friendly land	ram for residential customers to use drought-to scaping on their property?	lerant or	No	Please also answer o	uestion 25a.
		enting any rain sensor programs in the future?		_	N/A	
			Please	make you	r selection.	
	Entire Service Area Specific Neighborhoods	Zip Code	Awareness		Behavior All of These	We do not measure
]		
		_				

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below.

26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have perf

			Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
✓ Water Use Restrictions	Adoption Year:	2001	Enforcement practiced	Not Applicable
✓ Native Plant Use	Adoption Year:	Pending	▼	-
			Make selection above.	Make selection above.
✓ Drought Tolerant Plant Use	Adoption Year:	Pending	▼ ¹	•
			Make selection above.	Make selection above.
✓ Rain Sensors	Adoption Year:	Pending	▼	· · · · · · · · · · · · · · · · · · ·
Site Design Review			Make selection above.	Make selection above.
Site Design Review	Adoption Year:	1990	Enforcement practiced	•
Efficient Irrigation			—	Make selection above.
	Desults\#Detabase v/s			Eustis
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	✓ Efficient Irrigation	Adoption Year:	Pending] —		•			•
	✓ Turf Use Restrictions			Ma	ke selection ab	ove.	Make selecti	on above	
		Adoption Year:	Pending	Ma	ke selection ab	ove.	Make selecti	ion above	
27.	Do you require any permitting that promotes efficient water u		ed to indoor and outdoo	or plumbing	No 🔻				
Pleas	se continue to the next question	n.							
28.	Are all governmental entities a	and exempt users metered	?		Yes 🔻				
	a. Since what year have all use	ers been metered?		1999					
								050510	
		SECT	TION 6 - WATER RA		THE		Please continue t	o SECTIO	DN 6.
	The following	questions relate ONLY to				or 3/4-inch w	ater meter.		
29.	Are your water rates structure	d to promote water conse	rvation?		Yes 🔻				
						b. Please	provide your com	modity ra	ate
	• What year did you implement	t concernation based rate		2002			structure below		
	a. What year did you implemer	nt conservation-based rate	25 (2002		Tion 4	Gallon Range		Rate
	c. How many tiers are structur	ed in vour residential rate	s?	4		Tier 1 Tier 2	0-8,000 8,001-20,000	\$ \$	1.53 1.91
						Tier 2	20,001 to 50,000	\$	2.68
						Tier 4	Over 50,000	\$	3.04
						Tier 5			
						Tier 6			
Pleas	se continue to the next question	n.							
30.	How much is your monthly wa	ter service charge for a ty	pical SF customer?		Please en	ter service cha	arge for one EDU.		
31.	Do you bill monthly or bi-mont	thly?		Monthly					
	se continue to the next question								
32.	Do you impose a surcharge fo reflected in the inclined rate st		ter use that is not		No 💌				
Pleas	se continue to the next question	n.							
	Do you have a drought rate?				Yes 💌				
					, , , , , , , , , , , , , , , , , , ,		Please continue	to SECT	ION 7.
			7 - WASTEWATER			an 2/4 inch w	otor motor		
24	How much is your monthly wa	questions relate ONLY to		\$ 1.3	_	or 3/4-inch w	ater meter.		
	customer?	-	or a typical SP	<u>\$</u> 1.5					
	se continue to the next question								
35.	Please describe your wastewa structure.	iter residential rate							
			Plea	ase describ	e wastewater	rate structur	e above.		
	Since you did not	SECTION 8 - t indicate in the first section	• REUSE / RECLAIN				to SECTION 8		
		emercate in the first section	on that your utility has a		ee program, pr	euse continue	to oconton o.		
					Aggressiv	e 🗌	Mildly Aggressive	Pas:	sive
							- 20		
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☐ Flat Rate + per 1,000 gal. rate ☐ Flat Rate ☐ Per 1,000 gal.			
The following section is provide	SECTION 9 - COMMENTS d if you have any comments or additional information you would like		continue to SECTION 9. time.
	er Water Management District, thank you for participating in this portion of ompiled all the results, it would be our pleasure to provide you with a copy.	f our survey.	
• YES, I would like a copy of the survey results.	Please provide the email addresses of those in your organization results.	on who should re	eceive a copy of the
	Recipient 1 Email Address: <u>khorc@ci.eustis.fl.us</u> Recipient 2 Email Address: <u>Gajentane@ci.eustis.fl.us</u> Recipient 3 Email Address: Recipient 4 Email Address:	Title: Title: Title: Title:	Director of PublicServices Director of Water

Utilit	y Name:		Date S	urvey	Completed:		
Gaine	esville Regional Utilities				•	11-Jun-04	
	pondent's Name:		Area C	ode a	nd Phone Nu		
	Hutton		Emails			(352) 393-1218	
	tion/Title: /ater/Wastewater Engineer		Email:		hut	tonrh@gru.com	
	artment:		Fax:		1101		
	egic Planning					(352) 334-3151	
Tota	I Number of Single Family Water Customers:	Total Number		Fami	ly Water Cus	tomers:	
	Please complete all in						
	SECTION 1 - GENEI	RAL INFORM	IATION				
1.	Do you have multiple service areas within your service boundaries?		No	-	-		
				ļ			
	Please continue to the next question.						
2.	Have you done extensive system upgrades and/or maintenance over the past 2	2-5 years?	Yes	-			
	a. Please provide a brief description of the upgrades/maintenance performed b				-		
	We upgrade and maintain our system on a continuous basis. Upgrades completed in the last	5 years include a	ddition of	4 new	production we	lls, filter system upgrad	es to include
	peak flow capacity and extension of a new 36 inch water main.						
_	Please continue to the next question.					-	
3.	What percentage of your service area is comprised of homes built prior to 199	5?			80%	Estimate 🔻	
	Please continue to the next question.						
4.	Have you implemented any conservation practices that target areas with older	homes?	No	▼			
_	Please continue to the next question.						
5.	Do you have a GIS layer showing graphical depiction of the areas where speci	fic	No	•			
	conservation practices have been implemented?		Name:				
	b. Who can we contact to identify the geographic extent of the areas whether the are	here specific	Email:				
	conservation practices have been implemented?	-	Phone:	:			
					Please prov	vide contact informa	tion.
6.	Do you have a reuse/reclaimed water program to serve residential customers water for lawn irrigation?	with reclaimed	Yes	•			
	a. Who should we contact for additional information?		Name:		Rick Hutton		
			Email:		Huttonrh@gr	u.com	
			Phone:		(352) 393-12	18	
						Please continue	to SECTION 2.
	SECTION 2 - PUBLIC AWAI	RENESS ACT	TIVITIE	s			
7.	Do you have an on-going public awareness / education program?		Yes	_			
	Please continue to the next question.		res	•			
8.	Does your program include on-going distribution of brochures and/or			_			
	pamphlets?		Yes	•			
	a. Conservation Topics Include:		rgeted A				
	 ✓ Indoor Topics ✓ Outdoor Topics 	=	nti n e Servic			Older Homes	Zip Code
			ecific Neig	nnoang	oods	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,	~1980s					
	when might you implement this practice?	1,003					
	d. How are these distributed?	If other, how	do you d	listrib	ute your broo	hures and/or pampl	hlets?
	Speaking Events Special Mailings I Other	home energy/wa	ater consei	rvatior	n audits.		
Plea	se continue to the next question.						
9.	Do you insert water conservation information in water bills on an on-going basis?		Yes	•			
	a. Conservation Topics Include:	b. Tai	rgeted A	reas l	nclude:		
		=	ntire Servic			Older Homes	Zip Code
	✓ Outdoor Topics	∟ Sp	ecific Neig	ghborh	oods	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,	1980s	-				
	when might you implement this practice?	17008	_]				
	D:\Clients Active\St Johns\Survey Results\#Database.xls						Gainesville
	Prepared by: Chrisell Jones, PBS Page	1 of 7				N	lay 5, 2004

d. At what frequency are inserts utilized? ☐ Every Billing Cycle ☐ Quarterly ✓ Other	If other, how often do you insert conservation information in water bills? Seasonally, Water conservation notices distributed during high demand periods
Place and the set most in	
Please continue to the next question. 10. Do you send out special mailings on an on-going basis?	· · · · · · · · · · · · · · · · · · ·
	No ▼ Please also answer question 10b.
Drought Alerts Other Watering Restrictions All of These	
b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Monthly Quarterly Other	
	·
11. Do you issue news releases on an on-going basis?	Yes 🔻
a. Conservation Topics Include:	b. Targeted Areas Include:
 ✓ Indoor ✓ Outdoor 	✓ Entire Service Area ✓ Zip Code ✓ All of These
c. If this is an on-going program, what year was it implemented? Otherwise,	1996
when might you implement this practice? Please continue to the next question.	
12. Do you sponsor public conservation media messages on an on-going basis?	Yes 🔻
a. Sponsorship level includes:	b. Typical subject matter includes:
With the District	✓ Drought Alerts ✓ Watering Restrictions
Independently	Conservation Tips
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Lare 70's
d. What media do you utilize in your program?	e. How much is budgeted for next FY? \$ 50,000.00
Radio Broadcast TV Cable Billboards	
Please continue to the next question.	
13. Do you utilize videos of any kind on an on-going basis?	Yes 🔻
a. Conservation Topics Include:	b. Under what circumstances are videos utilized?
 ✓ Indoor Topics ✓ Outdoor Topics 	✓ Schools ✓ Speaking Engagements ✓ Professional Groups ✓ Speaking Engagements ✓ Speaking Engagements ✓ Speaking Engagements ✓ Speaking Engagements
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1980
d. Please list the titles of the videos below: The Water Cycle, Home Energy Survey, GRU Academy	
e. What are your target audiences?	
✓ Youth ✓ Adult Professional Other	
f. What does your annual viewing audience total?	200-300
Please continue to the next question.	
14. Do you promote water conservation contests on an on-going basis?	No Please also answer question 14c.
Indoor Outdoor	Awareness Knowledge We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.

45. De veu aneneer landesene werkehene/eeningen en en en ening hesio?				
15. Do you sponsor landscape workshops/seminars on an on-going basis?		Yes 💌		
a. Workshops/seminars are given by:		you measured o	effectiveness?	_
└── Staff ✓ Non-Staff Outside Professionals	Awareness Knowledge		Behavior	We do not measure
	- Knowledge			
c. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	, 2000			
d. Do you track actual water use changes?				
	System Demand	d Reductions		
e. How are you tracking behavior effectiveness?				
				continue to SECTION 3
SECTION 3 - INDOOR CONSERN The following section concerns programs and/or incentives rel				orts.
16. Have you implemented any indoor water conservation replacement/rebate, in	ncentive and/or	Yes 🔻		
retrofit programs?		·		
		▼		
		1000		
a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and	maintenance of	1980s		
the program(s)?		Yes 💌		
c. Do you follow-up with the customer in any manner after installation?		No 🔻		
Please continue to the next question.				
17. Do you provide individual consultations or evaluations on an on-going basis	s for private			
residential customers who are interested in recommendations that will help and/or reduce their indoor water consumption?	-	Yes		
a. How have you measured effectiveness?	wledge	Behavior	All of These	We do not measure
b. If this is an on-going program, what year was it implemented? Otherwise	Late 70's	7		
when might you implement this practice?	, Late 703			
Please continue to the next question.				
18. Do you have an on-going replacement/rebate program for low-flush toilets?		No 🔻	Please also answer	question 18c.
				4
Entire Service Area	Awareness		Behavior	We do not measure
Specific Neighborhoods Older Homes	Knowledge		All of These	
c. If this is an on-going program, what year was it implemented? Otherwise	la la	Please fill in	n the year.	
when might you implement this practice?		-		
\mathbf{v}				
19. Other than toilets, do you have an on-going indoor plumbing retrofit or exch	lange program?	Yes 💌		
Other than toilets, do you have an on-going indoor plumbing retrofit or exch		!	effectiveness?	
		Yes v	effectiveness?	We do not measure Gainesville

	Entire Service Area	Zip Code Older Homes	Awareness	Behavior Ve do not measure
	c. If this is an on-going progra when might you implement thi	m, what year was it implemented? Otherwise, s practice?	1980's	
	d. Approximately how many fix	ctures are replaced annually?	Please ente	er #.
			Low flow shower head and fauce	t aerator giveaways
20.	Do you have a leak detection p	program specific to residential customers?	No 🔻	Please also answer question 20a.
	a. Are you considering implem	enting any rain sensor programs in the future?	▼[
			Please make your se	lection.
	Entire Service Area	Zip Code	Awareness	Behavior We do not measure
	Specific Neighborhoods	Older Homes	Knowledge	All of These
			▼	
			▼	
		•		
		SECTION 4 - OUTDOOR CONSERVA		24145
	The following sec	tion concerns programs and/or incentives relati		
21.	Have you implemented any ou retrofit programs?	tdoor water conservation replacement/rebate, in	ncentive and/or No	

	a. Are you considering implementing any replacement/rebate, incentive and/or retrofit indoor $\[b]$ water conservation programs in the future?			No			
Pleas	se continue to the next question.				▼▼		
22.	Have you implemented a rain sensor program?			No	•		
	a. Are you considering implementing any rain set	nsor programs in the future?		No	•		
	Entire Service Area Zip Code Specific Neighborhoods Older Homes		Awareness			Behavior	We do not measure
]			
		•					

23.		ultations or evaluations for private residential ions that will help them to conserve and/or redu		Yes	▼.		
					▼[
	a. Service areas targeted includ Thire Service Area Specific Neighborhoods	le: Zip Code Older Homes	b. How have ☐ Awarenes ✓ Knowledg	is	easured ef	fectiveness? Behavior All of These	✓ We do not measure
	Please select all that ap	ply above.					
	c. What year did you begin thes	se services?	Late 70's				
	d. Approximately how many res	sidences benefit annually?	>2000				
		_			Please d	escribe tracking above	<u>).</u>
		Please make your selection					
24.	Do you have an incentive prog	am for irrigation system improvements?		No	▼		
				No			_
	a. Are you considering implement	enting any rain sensor programs in the future?		NO	`		
	Entire Service Area	Zip Code	Awareness			Behavior	We do not measure
	Specific Neighborhoods	Older Homes	Knowledge			All of These	
		•					
25.	Do you have an incentive progression xeriscape/Florida-friendly lands	am for residential customers to use drought-to scaping on their property?	olerant or	No	•		
	a. Are you considering impleme	enting any rain sensor programs in the future?		No	~ [
		_	□.				
	Entire Service Area	Zip Code	Awareness			Behavior All of These	We do not measure
			<u> </u>				
							

Please continue to the next question.

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below.

26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water savings.
Blease indicate if you enforce the provide the performance of the performance.

		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
Water Use Restrictions	Adoption Year:	<u> </u>	
Native Plant Use	Adoption Year:	▼	•
Drought Tolerant Plant Use	Adoption Year:	▼]	
Rain Sensors	Adoption Year:	▼.	
Site Design Review	Adoption Year:	▼.	₹
Efficient Irrigation			

	Efficient Irrigation	Adoption Year:]		•			•
	Turf Use Restrictions			-		_			
		Adoption Year:				<u> </u>			. •
	Please select all that apply abo	ove.							
27.	Do you require any permitting ac that promotes efficient water use		to indoor and outdoo	or plumbing	No 🔻				
Pleas	se continue to the next question.								
28.	Are all governmental entities and	exempt users metered?			Yes 🔻				
	a. Since what year have all users	been metered?			Please enter	the year.			
			All users except	hydrants have alw					
	The fall sector		ON 6 - WATER RA			0/1/201			
29.	Are your water rates structured t	uestions relate ONLY to s o promote water conserva		ial customers w	Yes	3/4-inch w	ater meter.		
						b. Please	provide your co structure belo	-	rate
	a. What year did you implement of	conservation-based rates			Г		Gallon Rang	e s	\$ Rate
			Ple	ease enter the ye	ear.	Tier 1	0-9	\$	1.01
	c. How many tiers are structured	in your residential rates?		3	-	Tier 2	10-24	\$	1.33
						Tier 2	25+	\$	2.29
					-	Tier 4			
						Tier 5			
						Tier 6			
	se continue to the next question.								
	How much is your monthly water	service charge for a typic	cal SF customer?	\$ 11.00					
	se continue to the next question.								
	Do you bill monthly or bi-monthly	y?		monthly					
	se continue to the next question. Do you impose a surcharge for e	xcessive residential wate	r use that is not						
52.	reflected in the inclined rate stru				No 🔻				
Pleas	se continue to the next question.								
33.	Do you have a drought rate?				No 🔻				
				·	, i		Please continu	ie to SEC	TION 7.
	The following of	SECTION 7 Juestions relate ONLY to s	- WASTEWATER			2/4 inch w			
24					ith a 5/6-inch of	3/4-IIICH W	ater meter.		
	How much is your monthly waste customer? se continue to the next question.	ewater service charge for	a typical Sr	\$ 17.00					
35.	Please describe your wastewater	residential rate \$2.27/m	onth base customer c	harge + \$2.61/Kg	gal. Wastewater	flow calcul	ated as the minim	um of the	
	structure.	custome	er's winter maximum	water usage or the	e current month	water usage			
			EUSE / RECLAIN		PPOCPAM		Please continu	te to SEC	TION 8.
	Since you indicated in	the first section that you				plete the fo	ollowing section.		
36.	When did you begin your reuse/r	eclaimed water program?		1993					
37.	How would you describe your reuse changes?within your service	•			Aggressive		Mildly Aggressive	Pa	assive
38.	What approximate percentage of has access to reclaimed water?	your entire residential se	rvice area currently		Please enter	percentage			
	D:\Clients Active\St Johns\Survey F Prepared by: Chrisell Jones, PBS	Results\#Database.xls	Page 6	Yes ▼ S of 7				Gaine May 5, 2	

39.	Do you have plans to expand your service area?	Yes 🔻	When? new developm				
40.	What approximate percentage of your reclaimed metering device to measure demand?	residential customers have a	Please enter percentage.				
41.	Approximately how many residential customers of water service?	do you provide with reclaimed	Please enter the number of custom	ers.			
42.	How are your rates structured?I Flat Rate + per 1,000 gal. rateI Per 1,000 gal.I Other	\$10/ month flat rate					
	a. Do you have plans to implement a volumetric rate in the future?	•					
43.	Please describe any methods you employ to con	serve reclaimed/reuse water below.					
	Please provide description of reuse conversation methods above. SECTION 9 - COMMENTS The following section is provided if you have any comments or additional information you would like to share at this time.						
		Vater Management District, thank you for participied all the results, it would be our pleasure to provide the second seco					
	• YES, I would like a copy of the survey results.	Please provide the email addresses of tho results.	se in your organization who should rec	eive a copy of the			
		Recipient 1 Email Address: huttonrh@gru.	comTitle:	Sr. Water/Wastewater Engineer			
		Recipient 2 Email Address: shepherdwj@g	gru.com Title:				
		Recipient 3 Email Address:	Title:				
		Recipient 4 Email Address:	Title:				

Utility Name:	Date Survey Completed:
Indian River County Utilities Respondent's Name:	6-May-04 Area Code and Phone Number:
Michael Hotchkiss	77-567-8000, ext. 1821
Position/Title:	Email:
Capital Projects Manager Department:	mhotchkiss@ircgov.com Fax:
Engineering	772-770-5143
Engineering Total Number of Single Family Water Customers: Total Number	of Multi Family Water Customers:
Please complete all information above	re.
SECTION 1 - GENERAL INFORM	IATION
1. Do you have multiple service areas within your service boundaries?	No
Please continue to the next question.	
2. Have you done extensive system upgrades and/or maintenance over the past 2-5 years?	Yes 💌
a. Please provide a brief description of the upgrades/maintenance performed below:	
Replaced polybutylene services, A/C pipe, decommissioned packaged plants, regionalized service system.	
Please continue to the next question.	
3. What percentage of your service area is comprised of homes built prior to 1995?	70% Estimate ▼
Please continue to the next question.	
4. Have you implemented any conservation practices that target areas with older homes?	No 🔻
Please continue to the next question.	
5. Do you have a GIS layer showing graphical depiction of the areas where specific	No 🔻
conservation practices have been implemented?	
b. Who can we contact to identify the geographic extent of the areas where specific	Name: Kevin Osthus Email: kosthus@ircgov.com
conservation practices have been implemented?	Phone: 772-567-8000, ext. 1824
Please continue to the next question.	
6. Do you have a reuse/reclaimed water program to serve residential customers with reclaimed water for lawn irrigation?	No
	Please continue to SECTION 2.
SECTION 2 - PUBLIC AWARENESS ACT	TVITIES
7. Do you have an on-going public awareness / education program?	No Please continue to SECTION 3.
8. Does your program include on-going distribution of brochures and/or	Please continue to SEC HON 5.
pamphlets?	No Please also answer question 8c.
	tine Service Area
Outdoor Topics	ecific Neighborhoods Other Specific Area Newer Homes
c. If this is an on-going program, what year was it implemented? Otherwise,	Please enter the year.
when might you implement this practice?	
Speaking Events Special Mailings Other	
0 De you incert water concernation information in water bills on an an asian	· .
9. Do you insert water conservation information in water bills on an on-going basis?	No Please also answer question 9c.
	• • • • • •
Indoor Topics	tire Service Area
	ecific Neighborhoods Other Specific Area Newer Homes
	_
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
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Every Billing Cycle Quarterly Other	
10. Do you send out special mailings on an on-going basis?	No ▼ Please also answer question 10b.
Drought Alerts Other Watering Restrictions All of These	
b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	, Please enter the year.
Monthly Quarterly Other	
	· · · · · · · · · · · · · · · · · · ·
11. Do you issue news releases on an on-going basis?	No ▼ Please also answer question 11c.
Indoor Outdoor	Entire Service Area Zip Code Other All of These
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
12. Do you sponsor public conservation media messages on an on-going basis?	Please also answer question 12c.
With the District	Drought Alerts Watering Restrictions Conservation Tips Other
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Radio Broadcast TV Cable Rillboards	
Radio Broadcast TV Cable Billboards	
13. Do you utilize videos of any kind on an on-going basis?	No ▼ Please also answer question 13c.
Indoor Topics	Schools Speaking Engagements Professional Groups Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Youth Adult Professional Other	
14. Do you promote water conservation contests on an on-going basis?	No Please also answer question 14c.
Indoor Outdoor	Awareness Knowledge We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.

	1			
45. De vev energe landeene werkehene/eeninge en en en geing besie?				
15. Do you sponsor landscape workshops/seminars on an on-going basis?		No 💌	Please also answe	r question 15c.
Staff Non-Staff Outside Professionals	Awareness		Behavior All of These	We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please enter	r the year.	
_				

	SECTION 3 - INDOOR CONSERV. The following section concerns programs and/or incentives rela				rts.
16.	Have you implemented any indoor water conservation replacement/rebate, in retrofit programs?	centive and/or	No 🔻		
	a. Are you considering implementing any replacement/rebate, incentive and/o water conservation programs in the future?	or retrofit indoor	No 🔻		
					
			•		
Pleas	se continue to the next question.				
17.	Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help t and/or reduce their indoor water consumption?	-	Yes 🔻		
	a. How have you measured effectiveness?	edge	Behavior	All of These	We do not measure
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please ente	er the year.	
	~				
18.	Do you have an on-going replacement/rebate program for low-flush toilets?		No 🔻	Please also answer q	uestion 18c.
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness		Behavior	We do not measure
	Specific Neighborhoods Older Homes			All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please fill i	n the year.	
19.			No 🔻	Diagonal and and and and	
	Other than toilets, do you have an on-going indoor plumbing retrofit or excha	_	·	Please also answer q	_
	D:\Clients Active\St Johns\Survey Results\#Database.xls			Rehavior	We do not measure

	Entire Service Area Specific Neighborhoods	Zip Code	Awareness		Behavior All of These	We do not measure
	c. If this is an on-going program when might you implement this	n, what year was it implemented? Otherwise, s practice?		Please enter	the year.	
20.	Do you have a leak detection p	rogram specific to residential customers?		No 🔻	Please also answer q	uestion 20a.
	a. Are you considering implem	enting any rain sensor programs in the future?		•		
			Please I	make your sele	ction.	
	Entire Service Area	Zip Code	Awareness		Behavior All of These	We do not measure
			▼ ▼			
			•			
			▼			
	The following sec	SECTION 4 - OUTDOOR CONSERVA tion concerns programs and/or incentives relati				orts.
21.		door water conservation replacement/rebate, in		No 🔻	Please also answer q	
	a. Are you considering implem water conservation programs i	enting any replacement/rebate, incentive and/or n the future?	retrofit indoor Please make yo	•		
			. iouse mane yo	Jereonon.		
			L	•		

	•		
	•		
22. Have you implemented a rain sensor program?	No 💌	Please also answer	nuestion 222
a. Are you considering implementing any rain sensor programs in the future?	▼[Flease also allswel	
a. Are you considering implementing any rain sensor programs in the future r	Please make your se	election.	
Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Knowledge	Behavior All of These	We do not measure
			

23.	23. Do you provide individual consultations or evaluations for private residential c are interested in recommendations that will help them to conserve and/or reduc outdoor water consumption?			No 🔻	Please also answer o	question 23a.
	a. Are you considering implem	enting any rain sensor programs in the future?	? The set of the set o			
	Entire Service Area Specific Neighborhoods	Zip Code	Awareness		Behavior All of These	We do not measure
]		
		▼				
24.	Do you have an incentive prog	ram for irrigation system improvements?		No 🔻	Please also answer o	question 24a.
	a. Are you considering implem	enting any rain sensor programs in the future?	Please	make your s	election.	
	Entire Service Area	Zip Code	Awareness		Behavior All of These	We do not measure
]		
		-				
25.	Do you have an incentive prog xeriscape/Florida-friendly lands	ram for residential customers to use drought-to scaping on their property?	lerant or	No 🔻		
	a. Are you considering implem	enting any rain sensor programs in the future?		Yes 💌	When? Please enter th	ne year.
	Entire Service Area Specific Neighborhoods	Zip Code Older Homes	Awareness		Behavior All of These	✓ We do not measure
			2001]		
			Our incentive pr	ogram consits o	f not providing irrigation wa	ter.

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below.

26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water savings.

		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
Water Use Restrictions	Adoption Year:		
Native Plant Use	Adoption Year:	▼	_
Drought Tolerant Plant Use	Adoption Year:	•	
Rain Sensors	Adoption Year:		
Site Design Review	Adoption Year:	▼.	
Efficient Irrigation			

	Efficient Irrigation	Adoption Year:]		•			
	Turf Use Restrictions	Adaptian Vacu]		_			
		Adoption Year:				<u> </u>			. •
	Please select all that apply a	bove.							
27.	Do you require any permitting that promotes efficient water u		o indoor and outdoo	or plumbing	No 🔻				
Ploa	se continue to the next questior								
	Are all governmental entities a				Yes 🔻				
	a. Since what year have all use	ers been metered?		1989	1				
		SECTIO	N 6 - WATER RA		TUDE		Please continue	to SEC	TION 6.
		questions relate ONLY to si	ngle-family residenti			or 3/4-inch w	ater meter.		
29.	Are your water rates structured	d to promote water conserva	tion?		Yes 🔻				
						b. Please	provide your co	nmodit	y rate
	a. What year did you implemen	nt conservation-based rates?		1989	٦		Structure belov Gallon Range		\$ Rate
						Tier 1	0-3000	\$	
	c. How many tiers are structure	ed in your residential rates?		4		Tier 2	3001-7000	\$	
						Tier 2	7001-13000	\$	3.85
						Tier 4	13001-99999	\$	5 7.70
						Tier 5			
						Tier 6			
Plea	se continue to the next question	ı.							
30.	How much is your monthly wa	ter service charge for a typic	al SF customer?	\$ 9.05	;				
Plea	se continue to the next question	ì.							
	Do you bill monthly or bi-mont	-		monthly					
	se continue to the next question Do you impose a surcharge for		use that is not						
32.	reflected in the inclined rate st		use that is not		No 🔻				
Plea	se continue to the next questior	1.							
33.	Do you have a drought rate?				No 🔻				
							Please continu	e to SE	CTION 7.
	The following	SECTION 7 questions relate ONLY to si	- WASTEWATER			or 3/4-inch w	ater meter.		
	How much is your monthly wa customer? se continue to the next question	stewater service charge for a		\$ 15.87	_				
	Please describe your wastewa		thousand gallons resi	idential caps at	12k			_	
	structure.			-					
		SECTION 8 - R	EUSE / RECLAIN	IED WATER	PROGRAM		Please continu	e to SE	CTION 8.
	Since you did not	indicate in the first section					to SECTION 8.		
					Aggressive	· V	Mildly Aggressive		Passive
					_]				
	D:\Clients Active\St Johns\Surve		Page 6	Yes 💌				Movin	IRC
	Prepared by: Chrisell Jones, PB	5	Fayed					May 5	, 2004

		Yes		
Flat Rate + per 1,000 gal. rate	Flat Rate			
✓ Per 1,000 gal.	Other	↓		
		SECTION 9 - COMMENTS if you have any comments or additional information you would		continue to SECTION 9.
The following set	alon is provided i	r you nave any comments or additional information you would	like to share at this t	ime.
On behalf of		Water Management District, thank you for participating in this porti piled all the results, it would be our pleasure to provide you with a co		
• YES, I would like a copy of th	e survey results.	Please provide the email addresses of those in your organ results.	ization who should re	ceive a copy of the
		Recipient 1 Email Address: <u>areisfeld@ircgov.com</u> Recipient 2 Email Address:		customer/billing services superviso
			i iue.	
	Ę	Recipient 3 Email Address:		

	y Name: poastal Utilities, Inc.		Date Su	rvey	Completed:		
	pondent's Name:		Area Co	de a	nd Phone Nu	mber:	
	Forrester		/	uo u		9-5353 or (904) 779-929	2
Posi	tion/Title:		Email:				
	lax Utilities Management, Inc. (Contract Operator)		_		<u>M</u>	<u>_F@jaxum.com</u>	
•	irtment: nistration		Fax:			(904) 779-5733	
	I Number of Single Family Water Customers:	Total Number	of Multi I	ami	lv Water Cus	· · ·	
	Please complete all in				,		
	SECTION 1 - GENEI						
					-		
1.	Do you have multiple service areas within your service boundaries?		No	◄			
			1				
			-				
	Serve multilple customer types using two (2) water water production facilities, but through in	nterconnected tran	s/dist grid :	systei	n.		
	Places continue to the next suscition						
	Please continue to the next question.			1			
2.	Have you done extensive system upgrades and/or maintenance over the past 2	-	Yes	▼	-		
	a. Please provide a brief description of the upgrades/maintenance performed b			C 11			
	Yr 2000 - Upgrade and expansion of all water resource, storage, pumping, chlorination, and o	emergency power	generation	facili	ities.		
	Please continue to the next question.						
3.		50			5.00	Estimate -	
э.	What percentage of your service area is comprised of homes built prior to 1999 Please continue to the next question.	57			56%	Estimate	
4.	Have you implemented any conservation practices that target areas with older	homes?	No	-			
	There you implemented any conservation practices that target areas with order	nomes.	NO	•			
	Disco continue to the next muchier						
	Please continue to the next question.						
5.	Do you have a GIS layer showing graphical depiction of the areas where speci conservation practices have been implemented?	fic	No	▼			
	conservation practices have been implemented i		Name:		M.L. Forreste	ſ	
	b. Who can we contact to identify the geographic extent of the areas whether the are	here specific	Email:		MLF@jaxu	m.com	
	conservation practices have been implemented? Please continue to the next question.		Phone:		(904) 779-53	53	
_	Do you have a reuse/reclaimed water program to serve residential customers v			-			
6.	water for lawn irrigation?	with reclaimed	No	•			
					(Serve Golf C	Course only)	
						Please continue	to SECTION 2.
	SECTION 2 - PUBLIC AWAI	RENESS ACT	TIVITIES	;			
7.	Do you have an on-going public awareness / education program?		Yes	•			
	Please continue to the next question.		1				
8.	Does your program include on-going distribution of brochures and/or		Yes	-			
	pamphlets?						
	a. Conservation Topics Include:		r geted Ar nti n e Service			_	
	✓ Induor Topics		ecific Neigh			Older Homes Other Specific Area	Zip Code
	c. If this is an on-going program, what year was it implemented? Otherwise,	2000	1				
	when might you implement this practice?		-				
	d. How are these distributed?	If other, how o	do you di	strib	ute your bro	chures and/or pampl	nlets?
	Speaking Events Special Mailings 🗹 Other	Delivery to area	libaries, in	stitut	ions		
	se continue to the next question.						
9.	Do you insert water conservation information in water bills on an on-going basis?		Yes	▼.			
	a. Conservation Topics Include:	b. Tar	rgeted Are	eas I	nclude:		_
	✓ Indoor Topics		tire Service			Older Homes	Zip Code
	✓ Outdoor Topics	L Sp	ecific Neigh	nborh	Dods	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2000					
	D:\Clients Active\St Johns\Survey Results\#Database.xls					1	ntercoastal
	Prepared by: Chrisell Jones, PBS Page 1	1 of 7				Ν	lay 5, 2004

d. At what frequency are inserts utilized?	
Please continue to the next question.	
10. Do you send out special mailings on an on-going basis?	No
Drought Alerts Other Watering Restrictions All of These	
b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2000
Monthly Quarterly Other	
Please continue to the next question.	
11. Do you issue news releases on an on-going basis?	No 🔻
Indoor Outdoor	Entire Service Area Zip Code Other All of These
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? Please continue to the next question.	2000
12. De veu energes nublic concentration modia moscores en en en reins basic?	Yes
Do you sponsor public conservation media messages on an on-going basis?	b. Typical subject matter includes:
With the District	Drought Alerts □ Watering Restrictions ✓ Conservation Tips □ Other
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2002
d. What media do you utilize in your program? Image: Cable Image: Cable Image: Billboards	e. How much is budgeted for next FY? \$ 4,500.00
Please continue to the next question.	
13. Do you utilize videos of any kind on an on-going basis?	No 🔻
Indoor Topics Outdoor Topics	Schools Speaking Engagements Professional Groups Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2005
Youth Adult Professional Other	
Please continue to the next question.	
14. Do you promote water conservation contests on an on-going basis?	No
Indoor Outdoor	Awareness Knowledge We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2005

	e continue to the next question.					
15.	Do you sponsor landscape workshops/seminars on an on-going basis?		No	—		
	Staff Non-Staff Outside Professionals	Awareness			Behavior All of These	We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2005				
	· · · · · · · · · · · · · · · · · · ·					
						continue to SECTION 3.
	SECTION 3 - INDOOR CONSERV The following section concerns programs and/or incentives rela					forts.
16.	Have you implemented any indoor water conservation replacement/rebate, in retrofit programs?	centive and/or	No	•		
	a. Are you considering implementing any replacement/rebate, incentive and/o water conservation programs in the future?	or retrofit indoor	No	▼		
				-		
Pleas	e continue to the next question.					
17.	Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help t and/or reduce their indoor water consumption?		e ^{Yes}	•		
	a. How have you measured effectiveness?	ledge [Behavio	or	All of These	☑ We do not measure
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2003				
	1-1					
	e continue to the next question.					
18.	Do you have an on-going replacement/rebate program for low-flush toilets?		No	▼	Please also answer	question 18c.
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Knowledge			Behavior All of These	We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Plea	se fill in	the year.	
		2007				
		No current plan	is to imple	ement		
	No					
19.	Other than toilets, do you have an on-going indoor plumbing retrofit or excha	ange program?	No	•	Please also answer	question 19c.
					Rehavior	We do not measure
	D:\Clients Active\St Johns\Survey Results\#Database.xls	e 3 of 7				Intercoastal May 5, 2004

	 Entire Service Area Specific Neighborhoods 	Zip Code	Awareness			Behavior	We do not measure
	c. If this is an on-going progran when might you implement this	n, what year was it implemented? Otherwise, practice?		Plea	se enter t	he year.	
			No plans to imp	lement -]	Largest Wti	Conservation need is in	irrigation
20.	Do you have a leak detection pr	ogram specific to residential customers?		No	•		
	a. Are you considering impleme	nting any rain sensor programs in the future?		No	_		
	Entire Service Area	Zip Code	Awareness			Behavior All of These	We do not measure
			▼ ▼ ▼				
							
							
							ontinue to SECTION 4.
	The following sect	SECTION 4 - OUTDOOR CONSERVA ion concerns programs and/or incentives relati					orts.
21.	Have you implemented any outo retrofit programs?	door water conservation replacement/rebate, in	centive and/or	No	▼		
	a. Are you considering impleme water conservation programs ir	nting any replacement/rebate, incentive and/or the future?	retrofit indoor	No	-		
					. ▼ ▼		
Pleas	se continue to the next question.						
22.	Have you implemented a rain se	ensor program?		No	•		
	a. Are you considering impleme	nting any rain sensor programs in the future?		No	▼		
	Entire Service Area	Zip Code	Awareness Knowledge			Behavior	We do not measure
		~					
Pleas	se continue to the next question.						

□ Specific Neighborhoods □ Older Homes □ All of These Please select all that apply above. □ 2003 0. Mhat year did you begin these services? □ 2003 0. Approximately how many residences benefit annually? 50 Image: service and services benefit annually? 50 Image: service area Image: service area □ Zip Code No □ Specific Neighborhoods □ Older Homes Image: service area □ Zip Code □ Specific Neighborhoods □ Older Homes Image: service area □ Zip Code □ Specific Neighborhoods □ Older Homes Image: service area □ Zip Code □ Specific Neighborhoods □ Older Homes Image: service area □ Zip Code □ Specific Neighborhoods □ Older Homes Image: service area □ Zip Code □ Specific Neighborhoods □ Older Homes Image: service area □ Zip Code □ Specific Neighborhoods □ Older Homes Image: service area □ Zip Code □ Specific Neighborhoods □ Older Homes Image: service area □ Zip Code □ Sp		sultations or evaluations for private residential tions that will help them to conserve and/or redu			_
c. What year did you begin these services? 2005 d. Approximately how many residences benefit annually? 50 Please make your selection. 24. Do you have an incentive program for irrigation system improvements? a. Are you considering implementing any rain sensor programs in the future? 10 Entro Service Area 35. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? 10 25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? 10 25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? No 26. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? No 27. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? No 28. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? No 29. Output 20. Output 2	Entire Service Area	Zip Code	Awareness	Behavior	₩e do not measure
d. Approximately how many residences benefit annually? 50 Please describe tracking above. Please describe tracking above. Please describe tracking above. 24. Do you have an incentive program for irrigation system improvements? a. Are you considering implementing any rain sensor programs in the future? No Bentwice Area 25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? No 25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? No ✓	Please select all that a	oply above.			
Please make your selection. 24. Do you have an incentive program for irrigation system improvements? a. Are you considering implementing any rain sensor programs in the future? Image: Inter Service Area Image: Imag	c. What year did you begin the	se services?	2003		
24. Do you have an incentive program for irrigation system improvements? a. Are you considering implementing any rain sensor programs in the future?	d. Approximately how many re	sidences benefit annually?	50		
24. Do you have an incentive program for irrigation system improvements? a. Are you considering implementing any rain sensor programs in the future? b. Entire Service Area b. Code					
24. Do you have an incentive program for irrigation system improvements? No ▼ a. Are you considering implementing any rain sensor programs in the future? No ▼ Behavior Dig Code □ Awareness □ Behavior We do no Specific Neighborhoods □ Older Homes □ Older Homes □ Older Homes □ Older Homes 25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? No ▼ a. Are you considering implementing any rain sensor programs in the future? No ▼ e □ □ □ e □ □ □ y □ □ □ a. Are you considering implementing any rain sensor programs in the future? No ▼ No ✓ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ • □ □ □ □ • □ □ □ □ • □ □ □		—	Pleas	e describe tracking abov	<i>'</i> e.
A. Are you considering implementing any rain sensor programs in the future? No No No No No No No Specific Neighborhoods Specific Neighborhood		Please make your selection			
a. Are you considering implementing any rain sensor programs in the future? No Lentire Service Area Jip Code Specific Neighborhoods Code Code Code Code Code Code Code Cod	4. Do you have an incentive prog	ram for irrigation system improvements?	No.		
	a. Are you considering implen	enting any rain sensor programs in the future?	No		
□ specific Neighborhoods □ Dider Homes □ Knowledge □ All of These	Entire Service Area	Tin Code	Awareness	Behavior	We do not measure
25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? No a. Are you considering implementing any rain sensor programs in the future? No ✓ □ □ □			Knowledge	All of These	
25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? b. No c. No					
25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? b. No c. No					
25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? b. No c. No					
25. Do you have an incentive program for residential customers to use drought-tolerant or xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? b. No c. No					
xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? No Entire Service Area Zip Code Specific Neighborhoods Older Homes Awareness Behavior We do no Avareness Behavior We do no Avareness Behavior We do no Code Behavior Code Code Code Code Code Code Code <td></td> <td>▼</td> <td></td> <td></td> <td></td>		▼			
xeriscape/Florida-friendly landscaping on their property? a. Are you considering implementing any rain sensor programs in the future? No Entire Service Area Specific Neighborhoods Older Homes Awareness Behavior We do no Specific Neighborhoods Older Homes Image: Control of the service Area Specific Neighborhoods Output Image: Control of the service Area Specific Neighborhoods Output Image: Control of the service Area Specific Neighborhoods Output Image: Control of the service Area Specific Neighborhoods Output Image: Control of the service Area Image: Control of the service Area <th></th> <th></th> <th></th> <th></th> <th></th>					
Entire Service Area Zip Code Specific Neighborhoods Older Homes Image: Code in the set of			No		
Specific Neighborhoods Older Homes All of These	a. Are you considering implen	enting any rain sensor programs in the future?	No 💌		
Specific Neighborhoods □ Older Homes □ Knowledge □ All of These					
Specific Neighborhoods □ Older Homes □ Knowledge □ All of These	Entire Service Area		Awareness	Behavior	We do not measur
lease continue to the next question.		•			
lease continue to the next question.					
					continue to SECTION
SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES					halow
Please do not consider any State or Water Management District policies, practices, or directives when making your selections below. 26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Reso					
and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associat	and/or Building Codes and the				
savings. Please indicate if you enforce the Please indicate if you enforce the Please indicate if you	savings.		Please indicate if you e	nforce the Please	indicate if you have

		corresponding ordinance/code:	analyzed water savings:
Water Use Restrictions	Adoption Year:		
Native Plant Use	Adoption Year:		—
Drought Tolerant Plant Use	Adoption Year:		
Rain Sensors	Adoption Year:	│	
Site Design Review	Adoption Year:	▼	₹

Efficient Irrigation

	Efficient Irrigation Adoption Year:					•
	Turf Use Restrictions					
	Adoption Year:			—		. 💌
	Please select all that apply above.					
27.	Do you require any permitting actions specifically related to indoor and outde that promotes efficient water use changes?	oor plumbing	No 🔻			
Plea	se continue to the next question.					
28.	Are all governmental entities and exempt users metered?		Yes 🔻			
	a. Since what year have all users been metered?	1983	1			
			_			
_					Please continue	to SECTION 6.
	SECTION 6 - WATER R The following questions relate ONLY to single-family resider			or 3/4-inch w	ater meter.	
29.	Are your water rates structured to promote water conservation?		No 🔻			
	a. When do you plan to restructure rates for conservation?	2006	7	h Place	e provide your co	mmodity rate
		2000	-	D. Flease	structure belo	w.
					Gallon Range	
			-	Tier 1	All Use	0.72/M
				Tier 2 Tier 2		
				Tier 4		
				Tier 5		
				Tier 6		
Plea	se continue to the next question.					
30.	How much is your monthly water service charge for a typical SF customer?	\$ 12.21	_			
Plea	se continue to the next question.					
31.	Do you bill monthly or bi-monthly?	Quarterly]			
	se continue to the next question.					
32.	Do you impose a surcharge for excessive residential water use that is not reflected in the inclined rate structure?		No 🔻			
Plea	se continue to the next question.					
33.	Do you have a drought rate?		No 🔻			
					Please continu	e to SECTION 7.
	SECTION 7 - WASTEWATE The following questions relate ONLY to single-family resider			or 2/4-inch w	rator motor	
34	How much is your monthly wastewater service charge for a typical SF	\$ 34.21		01 3/4-IIICH W	aler meler.	
	customer?	φ 54.21	_			
	Se continue to the next question.			рана 1 фалал		10 0 11
35.	Please describe your wastewater residential rate Base Facility Charge: \$49.5 structure. Chg Capped at 30,000 gals.		R; Gallonage C	narge: \$4.14/	Mgals. (Residentia	al Swr Gallonage
_					Please continu	ie to SECTION 8.
	SECTION 8 - REUSE / RECLA Since you did not indicate in the first section that your utility ha			ase continue	to SECTION 8	
			Aggressive	\checkmark	Mildly Aggressive	Passive
			_			
	D:\Clients Active\St Johns\Survey Results\#Database.xls	▼				Intercoastal

	Flat Rate (Do not have Other	e authorized charge/rate for reuse water provid	ed to Golf Course)					
The following section is		CTION 9 - COMMENTS comments or additional information you we		ntinue to SECTION 9.				
addressed implementation of water conservation re-	iles, practices or rates. The SJR	nd service tariffs are controlled by a County-appoir RWMD, through its CUP issued to the utility, has re and pursue both water-conserving rates AND month	quired Intercoastal to (a) aggre					
On behalf of the St. Johns River Water Management District, thank you for participating in this portion of our survey. Once we have compiled all the results, it would be our pleasure to provide you with a copy.								
• YES, I would like a copy of the survey	results. Please provi results. results.	ide the email addresses of those in your or	ganization who should rec	eive a copy of the				
	•	Email Address: <u>MLF@jaxum.com</u>	Title:	V.P.; Jax Util. Mgmt., Inc.				
	•	Email Address: <u>H_Vjames@att.net</u>	Title: Title:	Operations Manager				
J		B Email Address:	Title:					
	Recipient 4		IIIe:					

Utili	ty Name:		Date Su	rvey	Completed:		
JEA						24-May-04	
	pondent's Name: Perkins		Area Co	de a	nd Phone Nu	mber: 904-665-4520	
	tion/Title:		Email:			904-003-4320	
	ager, Water/Sewer System Planning				De	erkte@jea.com	
	artment:		Fax:				
	et Strategy I Number of Single Family Water Customers:	Total Number	of Multi	Fami	w Water Cue	904-665-7369	
TOLA	Please complete all in			raiiii	ly water Cus	lomers.	
	SECTION 1 - GENEI						
	SECTION 1- GENER		ATION				
1.	Do you have multiple service areas within your service boundaries?		No	◄			
			_				
	Disease semtimus to the most musetion						
-	Please continue to the next question.			1			
2.	Have you done extensive system upgrades and/or maintenance over the past 2		Yes				
	a. Please provide a brief description of the upgrades/maintenance performed l						
	Expanded well and storage capacity at several WTP. Significantly expanded water distribution	on system R&R pr	ogram.				
	Please continue to the next guestion.						
3	What percentage of your service area is comprised of homes built prior to 199	50			70%	Estimate 🗸	
0.	Please continue to the next question.	51			70%	Estimate	
4.	Have you implemented any conservation practices that target areas with older	homes?	No	_			
	have you implemented any conservation practices that target areas with older	nomes	NO	•			
	Please continue to the next question.						
5.	Do you have a GIS layer showing graphical depiction of the areas where speci conservation practices have been implemented?	fic	No	▼			
	b. Who can we contact to identify the geographic extent of the areas where specific						
	conservation practices have been implemented?		Phone:		Bloose prov	vide contact informa	tion
_				-	Flease prov	nue contact miorma	uon.
6.	Do you have a reuse/reclaimed water program to serve residential customers water for lawn irrigation?	with reclaimed	Yes	•			
	a. Who should we contact for additional information?		Name:		Jay Yarnell		
			Email:		yarnjj@jea.co		
			Phone:		904-665-6570		
						Please continue	to SECTION 2.
	SECTION 2 - PUBLIC AWAI	RENESS ACT	TIVITIES	5			
7.	Do you have an on-going public awareness / education program?		Yes	•			
	Please continue to the next question.		1				
8.	Does your program include on-going distribution of brochures and/or		Yes	▼			
	pamphlets?						
	a. Conservation Topics Include:		rgeted Ar			_	_
	 ✓ Indoor Topics ✓ Outdoor Topics 		itine Service ecific Neigl			Older Homes Other Specific Area	Zip Code
			ioonio noigi				
	c. If this is an on-going program, what year was it implemented? Otherwise,	1997	1				
	when might you implement this practice?		-				
	d. How are these distributed?	If other, how o	do you di	strib	ute your broo	chures and/or pampl	nlets?
	Speaking Events Special Mailings Other	Bill inserts, pub	lic schools	8			
	se continue to the next question.						
9.	Do you insert water conservation information in water bills on an on-going basis?		Yes	•			
	a. Conservation Topics Include:	b. Tar	geted Ar	eas l	nclude:		_
		=	tire Service			Older Homes	Zip Code
	✓ Outdoor Topics	∟ Sp	ecific Neigl	nborho	oods	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,	1997]				
	when might you implement this practice? D:\Clients Active\St Johns\Survey Results\#Database.xls						JEA
	Prepared by: Chrisell Jones, PBS Page :	1 of 7				Ν	lay 5, 2004

d. At what frequency are inserts utilized? ☐ Every Billing Cycle ☐ Quarterly ☑ Other	If other, how often do you insert conservation information in water bills? 2 or three inserts a year
Please continue to the next question.	
10. Do you send out special mailings on an on-going basis?	Yes 💌
a. Typical subject matter includes:	
a1. What other subject matter is covered in your special mailings?	Primarily on irrigation and waterwise landscaping
b. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	e, <u>1997</u>
c. At what frequency are special mailings sent out?	If other, how often do you send special mailings? As necessary or appropriate.
Please continue to the next question.	
11. Do you issue news releases on an on-going basis?	Yes 🔻
a. Conservation Topics Include: ✓ Indoor ✓ Outdoor	b. Targeted Areas Include: ✓ Entire Service Area Zip Code Other All of These
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? Please continue to the next question.	e, <u>1997</u>
12.	Yes Ves
Do you sponsor public conservation media messages on an on-going basis	? Yes ▼
a. Sponsorship level includes:	b. Typical subject matter includes:
 ✓ With the District ✓ Independently 	□ Drought Alerts □ Watering Restrictions ☑ Conservation Tips □ Other
c. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	e, <u>1997</u>
d. What media do you utilize in your program? ✓ Radio ✓ Broadcast TV Cable Billboards	e. How much is budgeted for next FY? Please enter \$ above
13. Do you utilize videos of any kind on an on-going basis?	Yes 🔻
a. Conservation Topics Include:	b. Under what circumstances are videos utilized?
 ✓ Indoor Topics ✓ Outdoor Topics 	Schools Speaking Engagements Professional Groups Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	e, <u>2000</u>
d. Please list the titles of the videos below:	
Energy and Water Conservation Audit	
e. What are your target audiences?	
Youth Adult Professional Other	Don't know because the majority of the videos are distributed to individuals.
f. What does your annual viewing audience total?	Please enter #.
14. Do you promote water conservation contests on an on-going basis?	No ▼ Please also answer question 14c.
Indoor Outdoor	Awareness Knowledge We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	e, Please enter the year.

15. Do you sponsor landscape workshops/seminars on an on-going basis?		No 💌	Please also answe	r question 15c.
Staff Non-Staff Outside Professionals	Awareness		Behavior All of These	We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please enter	the year.	
				

	SECTION 3 - INDOOR CONSERVATION INCENTIVE PROGRAMS The following section concerns programs and/or incentives relative to your residential indoor water conservation efforts.
16.	Have you implemented any indoor water conservation replacement/rebate, incentive and/or No Please also answer question 16a.
	a. Are you considering implementing any replacement/rebate, incentive and/or retrofit indoor water conservation programs in the future?
	Please make your selection.
17.	Do you provide individual consultations or evaluations on an on-going basis for private residential customers who are interested in recommendations that will help them to conserve Yes and/or reduce their indoor water consumption?
	a. How have you measured effectiveness?
	b. If this is an on-going program, what year was it implemented? Otherwise, <u>1998</u> when might you implement this practice?
	se continue to the next question.
18.	Do you have an on-going replacement/rebate program for low-flush toilets? No Please also answer question 18c.
	Entire Service Area Zip Code Awareness Behavior We do not measure Specific Neighborhoods Older Homes Knowledge All of These
	c. If this is an on-going program, what year was it implemented? Otherwise, Please fill in the year. when might you implement this practice?
19.	No 🔻
	Other than toilets, do you have an on-going indoor plumbing retrofit or exchange program? — Please also answer question 19c.

Rohavior

Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness		Behavior	We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please enter the y	rear.	
20. Do you have a leak detection program specific to residential customers?		Yes 🔻		
a. Service areas targeted include: ✓ Entire Service Area Zip Code Specific Neighborhoods Older Homes	 b. How have Awareness Knowledge 	you measured effecti	veness? Behavior All of These	✓ We do not measure
 c. What year did you begin this program? d. Approximately how many customers benefit annually? e. Do you have written policies or procedures for the program? f. Have you established a schedule for the program? g. Do you utilize performance contracts for leak detection and/or retrofit inspections? h. Do you perform irrigation audits? 	1997 750 No ▼ No ▼ No ▼ Yes ▼			
 SECTION 4 - OUTDOOR CONSERVA The following section concerns programs and/or incentives relati 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or 	ive to your residence	dential outdoor water		ontinue to SECTION 4.
Please continue to the next question.		No		
22. Have you implemented a rain sensor program?		No 💌		
a. Are you considering implementing any rain sensor programs in the future?		No		
Entire Service Area Specific Neighborhoods Older Homes	Awareness Knowledge	_	Behavior All of These	We do not measure
▼ Please continue to the next question.				

		sultations or evaluations for private residenti ions that will help them to conserve and/or re		•		
				▼[
	a. Service areas targeted includ	Je: Zip Code Older Homes	b. How have you r Awareness	neasured effe	ctiveness? Behavior All of These	✓ We do not measure
	Please select all that ap	ply above.				
	c. What year did you begin thes	se services?	2003			
	d. Approximately how many res		80			
		-		Please des	cribe tracking abov	е.
		Please make your selecti	on.		g	
24.	Do you have an incentive progr	ram for irrigation system improvements?				
24.	bo you have an incentive progr	an for ingation system inprovements i	No	▼		
	a. Are you considering impleme	enting any rain sensor programs in the future	•? <u>No</u>			
	_		_		_	
	Entire Service Area	Zip Code			Behavior	We do not measure
	Specific Neighborhoods	Older Homes	Knowledge		All of These	
		▼				
25.	Do you have an incentive progr	ram for residential customers to use drought	-tolerant or			
	xeriscape/Florida-friendly lands	-	No	•		
	a. Are you considering impleme	enting any rain sensor programs in the future	e? No	▼[
	_		_		_	
	Entire Service Area	Zip Code	Awareness		Behavior	We do not measure
	Specific Neighborhoods	Older Homes	Knowledge		All of These	
		_1				
						
Pleas	e continue to the next question				Plaze	continue to SECTION 5
ICas	· · · · · · · · · · · · · · · · · · ·					Sommue to SECTION 3
		ECTION 5 - LOCAL ORDINANCES, RE				ns below
26.	Please do not consider	ECTION 5 - LOCAL ORDINANCES, RE any State or Water Management District poli ial landscaping, please select which of the fo	cies, practices, or dire	ctives when m	naking your selectio	

		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
Water Use Restrictions	Adoption Year:	Not Applicable	
Native Plant Use	Adoption Year:	Not Applicable	<u> </u>
Drought Tolerant Plant Use	Adoption Year:	Not Applicable	· •
Rain Sensors	Adoption Year:	Not Applicable	▼
Site Design Review	Adoption Year:	Not Applicable	
Efficient Irrigation			

	Efficient Irrigation	on Year:	Not Applica	able	•		
	Turf Use Restrictions						
	Adoptio	on Year:	Not Applica	able	—		
	Please select all that apply above.						
27.	Do you require any permitting actions spe that promotes efficient water use changes		tdoor plumbing	No 🔻			
Pleas	se continue to the next question.						
	Are all governmental entities and exempt u	users metered?		Yes 🔻			
	a. Since what year have all users been me	tered?		Please enter	r the year.		
]	-		
		SECTION 6 - WATER	PATE STRUCT	IIRE			
		relate ONLY to single-family resid			or 3/4-inch w	ater meter.	
29.	Are your water rates structured to promote	e water conservation?		Yes 🔻			
]	b. Please	e provide your co	
	a. What year did you implement conservat	ion-based rates?	1997	1		structure belo Gallon Rang	
				_	Tier 1	1-11,000	.78/Kgal
	c. How many tiers are structured in your re	esidential rates?	3	1 1	Tier 2	12,000-22,000	.97/Kgal
	· · · · · · · · · · · · · · · · · · ·			-	Tier 2	>22,000	4.00/Kgal
					Tier 4		
					Tier 5		
					Tier 6		
Pleas	se continue to the next question.						
	How much is your monthly water service of	charge for a typical SF customer?	? \$15.69	1			
	se continue to the next question.		φ15.0 <i>y</i>	1			
	Do you bill monthly or bi-monthly?		monthly	1			
	se continue to the next question.			-			
	Do you impose a surcharge for excessive reflected in the inclined rate structure?	residential water use that is not		No 🔻			
				1			
Pleas	se continue to the next question.			1			
33.	Do you have a drought rate?			No 🔻			
						Please continu	ie to SECTION 7.
	The following questions (SECTION 7 - WASTEWA relate ONLY to single-family resid			or 3/4-inch w	ater meter.	
	How much is your monthly wastewater set customer? se continue to the next question.		\$28.35]			
35.	Please describe your wastewater residenti structure.	ial rate Charges are based on the are capped at 22Kgal.	metered potable wat	ter flow. We cha	arge \$3.88/K	gal up to 22 Kgal.	Sewer charges
						Please continu	ie to SECTION 8.
		SECTION 8 - REUSE / RECL section that your utility has a reu			mplete the fo	ollowing section	
36.			Oct-04]		g coonom.	
	How would you describe your recent effor			Aggressive		Mildly Aggressive	✓ Passive
	use changes?within your service area to r	-					
38.	What approximate percentage of your entithas access to reclaimed water?	re residential service area curren	ntly <1%				
	D:\Clients Active\St Johns\Survey Results\#Da Prepared by: Chrisell Jones, PBS	tabase.xls Pa	Yes •				JEA May 5, 2004

39.	Do you have plans to expand you	ur service area?		Yes 🔻	When?	2007+	
40.	What approximate percentage of metering device to measure dem		residential customers have	a <u>100%</u>			
41.	Approximately how many resider water service?	ntial customers	do you provide with reclaim	ed 200			
42.	How are your rates structured?	_	If other, please describe y	our rate structure	below.		
	Flat Rate + per 1,000 gal. rate	Flat Rate	1-15Kgal .97/Kgal, 16-30K	gal 1.56Kgal, >30K	gal 4.00/Kga	վ	
	Per 1,000 gal.	✓ Other					
				Γ		7	
			▼	L		1	
43.	Please describe any methods yo	u employ to cor	serve reclaimed/reuse water	below.			
	Conservation rate structure.						
						Please c	ontinue to SECTION 9.
			SECTION 9 - C	OMMENTS			
	The following section	on is provided if	you have any comments or	additional informa	tion you wo	uld like to share at this ti	me.
	On behalf of the	St. Johns River	Water Management District, tha	unk vou for narticina	ting in this po	rtion of our survey	
			piled all the results, it would be				
	$igodoldsymbol{igodoldsymbol{\Theta}}$ YES, I would like a copy of the st	urvey results.	Please provide the email a results.	addresses of those	in your orga	anization who should rec	eive a copy of the
			Recipient 1 Email Addres	ss: yarnjj@jea.com		Title:	Director, Rates & Market Development
		Ê	Recipient 2 Email Addres	ss: uptojm@jea.com	1	Title:	Director, Brand Management
	<u> </u>	J	Recipient 3 Email Addres	<u>. </u>		Title:	Manager, W/S Sys Plan
			Recipient 4 Email Addres	ss:		Title:	

Utilit	y Name:		Date Survey	Completed:		
	of Lady Lake		,		13-May-04	
Resp	oondent's Name:		Area Code a	and Phone Nu	umber:	
Bill V	Vance				352-751-1545	
Posi	tion/Title:		Email:			
	Manager			bva	nce@ladylake.org	
	artment:		Fax:		252 551 1540	
	inistration	Total Number	of Multi Form	ile Water Cou	352-751-1549	
Tota	I Number of Single Family Water Customers:	Total Number		ily water Cu	stomers:	
	Please complete all in					
	SECTION 1 - GENER	AL INFORMA	TION			
1.	Do you have multiple service areas within your service boundaries?		Yes 🔻]		
	a. How many service areas do you have?		Please en	ter number.		
	b. Please provide the names of your service areas below:		, loudoo oli			
	Town of Lady Lake, The Villages, Water Oak, the Recreation Plantation RV Resort					
	Town of Eady Eado, The Vinages, Waler Oali, the Resteation Frankation RV Resort					
	Please continue to the next question.					
2	Have you done extensive system upgrades and/or maintenance over the past	2-5 years?	Yes 🔻	1		
			103	1		
	a. Please provide a brief description of the upgrades/maintenance performed	below:				
	No additional information was provided on the original survey.					
	Disease continue to the next exception					
	Please continue to the next question.					
3.	What percentage of your service area is comprised of homes built prior to 199 Please continue to the next question.	95?		95%	Estimate 🔻	
4.	Have you implemented any conservation practices that target areas with olde	r homes?	No			
			110			
	Please continue to the next question.					
-	Do you have a GIS layer showing graphical depiction of the areas where spec	ific	N- T			
5.	conservation practices have been implemented?		No			
			Name:			
	b. Who can we contact to identify the geographic extent of the areas w	here specific	Email:			
	conservation practices have been implemented?		Phone:			
_				Please pro	vide contact informati	ion.
6.	Do you have a reuse/reclaimed water program to serve residential customers	with reclaimed	No 🔻			
0.	water for lawn irrigation?		No			
				-		
					Please continue to	SECTION 2.
	SECTION 2 - PUBLIC AWA	DENESS ACT				
		RENESS ACT	IVIIIES			
7.	Do you have an on-going public awareness / education program?		No 🔫			
_					Please continue to	o SECTION 3.
8.	Does your program include on-going distribution of brochures and/or		No 💌			
	pamphlets?			Please al	so answer question 8	ic.
	Indoor Topics	Eni	ti n e Service Area	а	Older Homes	Zip Code
	Outdoor Topics		ecific Neighborh		Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please en	ter the year.		
	when might you implement this practice?		1	···· <i>,</i> ····		
	Speaking Events Special Mailings Other					
	C stranning around C strannings C since					
9.	,		Yes 🔻			
	basis?		·			
	a. Conservation Topics Include:	b. Tar	geted Areas	Include:		
	Indoor Topics	√ Eni	tire Service Are	a	Older Homes	Zip Code
	Outdoor Topics	=	ecific Neighborh		Other Specific Area	Newer Homes
	Please select all that apply above.					
	c. If this is an on-going program, what year was it implemented? Otherwise,	1993	1			
	when might you implement this practice?	1775	1			
	d. At what frequency are inserts utilized?	If other how a	often do vou	insert conso	vation information in	water hille?
	Every Billing Cycle Quarterly Other		nien uo you			
	D:\Clients Active\St Johns\Survey Results\#Database.xls					Lady Lake
	Prepared by: Christell Jones, PBS Page 1	of 7				lay 5, 2004

Every Billing Cycle	Quarterly	✓ Other		Occassionally			
10. Do you send out spe	cial mailings on an or	n-going basis?			No 🔻	Please also answer question	on 10b.
Drought Alerts	Other Wa	atering Restrictions	All of These				
	ng program, what yea lement this practice?	r was it implemen	ted? Otherwise,		Please enter	r the year.	
Monthly	Quarterly	Other					
11. Do you issue news r	eleases on an on-goir	ng basis?			No 🔻	Please also answer question	on 11c.
Indoor				Entire Ser	vice Area	Zip Code	
-	ng program, what yea lement this practice?	r was it implement	ted? Otherwise,		Please enter	r the year.	
12. Do you sponsor pub	lic conservation medi	a messages on an	on-going basis?		No 🔻	Please also answer question	on 12c.
With the District				Droug	ht Alerts rvation Tips	Watering Restr	ictions
	ng program, what yea lement this practice?	r was it implement	ted? Otherwise,		Please enter	r the year.	
Radio	Broadcast TV	Cable 🗌 Billboa	ards				
13. Do you utilize video	s of any kind on an on	-going basis?			No 🔻	Please also answer question	on 13c.
Indoor TopicsOutdoor Topics				Schools	nal Groups	Speaking Enga	gements <shops< td=""></shops<>
	ng program, what yea lement this practice?	r was it implement	ted? Otherwise,		Please enter	r the year.	
Vouth	Adult	Professional	Other				
14. Do you promote wat	er conservation conte	sts on an on-goin	g basis?		No v	Please also answer question	on 14c.
Indoor	Outdoor			Awarenes	s		/e do not measure
	ng program, what yea lement this practice?	r was it implement	ted? Otherwise,		Please enter	r the year.	

,

Staff Non-Staff Outside Profession	nals	Awareness Knowledge	Behavior All of These	We do not measure
c. If this is an on-going prog when might you implement t	ram, what year was it implemented? Otherwise, his practice?	, 2007		
	No			
	SECTION 3 - INDOOR CONSERV	ATION INCENTIVE PR		continue to SECTION 3
The following s	ection concerns programs and/or incentives rel			fforts.
Have you implemented any i retrofit programs?	ndoor water conservation replacement/rebate, in	ncentive and/or No	•	
a. Are you considering imple water conservation program	ementing any replacement/rebate, incentive and, s in the future?	/or retrofit indoor Yes	▼ When? 2007	
		· · ·	▼	
			~	
ase continue to the next questi	on.			
residential customers who a	nsultations or evaluations on an on-going basis re interested in recommendations that will help r indoor water consumption?		Please also answer	question 15c.
	_			
b. If this is an on-going prog when might you implement t	Awareness Know ram, what year was it implemented? Otherwise, his practice?		All of These	We do not measure
	ram, what year was it implemented? Otherwise,			We do not measure
when might you implement t	ram, what year was it implemented? Otherwise,	, Please	enter the year.	
when might you implement t	ram, what year was it implemented? Otherwise, his practice?			
when might you implement t	ram, what year was it implemented? Otherwise, his practice?	, Please	enter the year.	question 18c.
when might you implement to Do you have an on-going rep Entire Service Area Specific Neighborhoods	ram, what year was it implemented? Otherwise, his practice?	, Please	enter the year. Please also answer	question 18c.
when might you implement to Do you have an on-going rep Entire Service Area Specific Neighborhoods c. If this is an on-going prog	ram, what year was it implemented? Otherwise, his practice?	, Please	enter the year. Please also answer Behavior All of These	question 18c.
when might you implement to Do you have an on-going rep Entire Service Area Specific Neighborhoods c. If this is an on-going prog	ram, what year was it implemented? Otherwise, his practice?	, Please	enter the year. Please also answer Behavior All of These	
when might you implement to Do you have an on-going rep Entire Service Area Specific Neighborhoods c. If this is an on-going prog	ram, what year was it implemented? Otherwise, his practice?	, Please	enter the year. Please also answer Behavior All of These	question 18c.
when might you implement to Do you have an on-going rep Entire Service Area Specific Neighborhoods c. If this is an on-going prog when might you implement to	ram, what year was it implemented? Otherwise, his practice?	, Please	enter the year. Please also answer Behavior All of These	question 18c.
when might you implement to Do you have an on-going rep Entire Service Area Specific Neighborhoods c. If this is an on-going prog when might you implement to	ram, what year was it implemented? Otherwise, his practice?	, Please	enter the year. Please also answer Behavior All of These fill in the year.	question 18c.
when might you implement to Do you have an on-going rep Entire Service Area Specific Neighborhoods c. If this is an on-going prog when might you implement to Other than toilets, do you have Entire Service Area Specific Neighborhoods	ram, what year was it implemented? Otherwise, his practice?	, Please No Awareness Knowledge Please Awareness Awareness No Awareness No Awareness No Awareness No No	enter the year. Please also answer Behavior All of These fill in the year. Please also answer Behavior	question 18c.

	when might you implement the	is practice?		
20.	Do you have a leak detection	program specific to residential customers?	No 🔻	Please also answer question 20a.
	a. Are you considering implen	nenting any rain sensor programs in the future?	, v	
			Please make your se	election.
	Entire Service Area Specific Neighborhoods	Zip Code Older Homes	Awareness Knowledge	Behavior We do not measure All of These
			•	
		▼		

	The following sect		TDOOR CONSERVA s and/or incentives relati				fforts.
21.	Have you implemented any ou retrofit programs?	tdoor water conservati	on replacement/rebate, ir	ncentive and/or	No 💌	Please also answer	question 21a.
	a. Are you considering implementing any replacement/rebate, incentive an water conservation programs in the future?			r retrofit indoor			
				Please make ye	our selection.		
					▼		
					;		
					· •		
22.	Have you implemented a rain s	sensor program?			No 🔻	Please also answer	question 22a.
	a. Are you considering implem	enting any rain sensor	programs in the future?	Please	make your sel		
	Entire Service Area Specific Neighborhoods	Zip Code		Awareness		Behavior All of These	We do not measure
]		
			T				
23.	Do you provide individual cons are interested in recommendat outdoor water consumption?				No 🔻	Please also answer	question 23a.
	a. Are you considering implem	enting any rain sensor	programs in the future?	Please	▼ make your sel	ection.	
	Entire Service Area	Zip Code		Awareness	5	Behavior	We do not measure
	D:\Clients Active\St Johns\Survey Re Prepared by: Chrisell Jones, PBS	sults\#Database.xls	Page 4 d	of 7			Lady Lake May 5, 2004

Entire Service Area Specific Neighborhoods	Zip Code		Awareness Knowledge		Behavior All of These	We do not measure
24. Do you have an incentive pro-			No	▼ Pleas	se also answer o	question 24a.
a. Are you considering impler	nenting any rain sensor	programs in the future?		e your selection.		
Entire Service Area	Zip Code		Awareness		Behavior All of These	We do not measure
		•				
25. Do you have an incentive pro xeriscape/Florida-friendly lan			olerant or No	Pleas	se also answer o	uestion 25a.
a. Are you considering impler	nenting any rain sensor	programs in the future?		•		
			Please mak	e your selection.		
Entire Service Area Specific Neighborhoods	Zip Code		Awareness		Behavior	We do not measure
		•				
		· ·				

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below.

26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water savings.

-		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
Water Use Restrictions	Adoption Year:	▼	
Native Plant Use	Adoption Year:		
Drought Tolerant Plant Use	Adoption Year:		
Rain Sensors	Adoption Year:	▼	
Site Design Review	Adoption Year:		
Efficient Irrigation	Adoption Year:	▼	$\mathbf{ abla}$
Turf Use Restrictions	Adoption Year:	_	 ▼

Please select all that apply above.

27. Do you require any permitting actions specifically related to indoor and outdoor plumbing

. Are all governmental entities and exempt users metered?					
. Are an governmental entries and exempt users metered :		Yes 🔻			
a. Since what year have all users been metered?		Please ent	er the year.		
]			
SECTION 6 - WATER					
The following questions relate ONLY to single-family resid Are your water rates structured to promote water conservation?	lential customers	with a 5/8-inch	or 3/4-inch v	vater meter.	
		No 🔻			
a. When do you plan to restructure rates for conservation?	2007?		b. Please	e provide your con	modity rate
		-		structure below	
		_		Gallon Range	\$ Rat
		-	Tier 1		
			Tier 2		
			Tier 2		
			Tier 4		
			Tier 5		
			Tier 6	Please complete	rates above
. How much is your monthly water service charge for a typical SF customer?	\$12				
ase continue to the next question.					
. Do you bill monthly or bi-monthly?	monthly				
ase continue to the next question.					
Do you impose a surcharge for excessive residential water use that is not reflected in the inclined rate structure?		No 🔻			
]			
]			
ase continue to the next question.					
Do you have a drought rate?		No			
SECTION 7 - WASTEWAT		UCTURE		Please continue	to SECTIO
SECTION 7 - WASTEWAT The following questions relate ONLY to single-family resid			or 3/4-inch v	vater meter.	
. How much is your monthly wastewater service charge for a typical SF	\$16	1			
customer?	ψīσ				
ase continue to the next question.					
. Please describe your wastewater residential rate High flat rate then based u	ipon water consump	otion.			
structure.					
				Please continue	to SECTIO
structure.	AIMED WATER	PROGRAM	1	Please continue	to SECTIO
					to SECTIO
structure. SECTION 8 - REUSE / RECL/					to SECTIO
structure. SECTION 8 - REUSE / RECL/			ease continue		to SECTIO
structure. SECTION 8 - REUSE / RECL/		d program, ple	ease continue	e to SECTION 8.	
structure. SECTION 8 - REUSE / RECL/		d program, ple	ease continue	e to SECTION 8.	
structure. SECTION 8 - REUSE / RECL/		d program, ple	ease continue	e to SECTION 8.	
structure. SECTION 8 - REUSE / RECL/		d program, ple	ease continue	e to SECTION 8.	
structure. SECTION 8 - REUSE / RECL/		d program, ple	ease continue	e to SECTION 8.	
structure. SECTION 8 - REUSE / RECL/		d program, ple	ease continue	e to SECTION 8.	
structure. SECTION 8 - REUSE / RECL/		d program, ple	ease continue	e to SECTION 8.	
structure. SECTION 8 - REUSE / RECL/		d program, ple	ease continue	e to SECTION 8.	

Please continue to SECTION 9.
SECTION 9 - COMMENTS
The following section is provided if you have any comments or additional information you would like to share at this time.
The Town of Lady Lake is in the process of purchasing a wastewater treatment facility and has plans to incorporate its expansion (500,000 gpd) and creation of reuse capabilities in the next 3-4 years. We will be pursuing our next CUP in 2007 and will be considering how best to accomodate many of the water conservation items identified within this survey. To date we have been less than pro-active in this regard and we realize that in the future we must get better due to the importance of water as a natural resource here in Florida. Thanks for the poportunity to share these thoughts with you.

On behalf of the St. Johns River Water Management District, thank you for participating in this portion of our survey. Once we have compiled all the results, it would be our pleasure to provide you with a copy.

 \bigcirc YES, I would like a copy of the survey results.

______ uuu 1,000 gai.



_							
	ty Name: on County Utilities		Date Surv	vey Comp		17 May 04	
	pondent's Name:		Area Cod	e and Ph		17-May-04	
Charl	les Howard				35	2-687-1856	
	tion/Title:		Email:			10	
•	ations Superintendent artment:		Fax:	<u>charl</u>	<u>es.howar</u>	d@marioncount	<u>yfl.org</u>
	ations		rax.		35	2-687-8900	
-	I Number of Single Family Water Customers: 20,360	Total Number	of Multi Fa	amily Wa	ter Custor	ners:	1,240
	SECTION 1 - GENEI	RAL INFORM	IATION				
1.	Do you have multiple service areas within your service boundaries?		Yes	•			
	a. How many service areas do you have?	28					
	b. Please provide the names of your service areas below: Citrus Park - Deer Path - Dunnellon Airport - Golden Ocala - Marion Oaks - Oak Trace - Pal	m Cay - Peppertre	e - Pine Run	- Raven H	lill - S. Oca	la Industrial Park - S	outh Lake Weir -
	Salt Springs - Samira Villas - Silver Springs Shores - South Forty - South Oak - Spruce Creel						
_	Please continue to the next question.		1				
2.	Have you done extensive system upgrades and/or maintenance over the past 2	2-5 years?	Yes	•			
	a. Please provide a brief description of the upgrades/maintenance performed l						
	Consolidation into subregional treatment facilities, extension of water and sewer services, an	id improvement of	f infrastructu	re.			
	Please continue to the next question.						
3	What percentage of your service area is comprised of homes built prior to 199	E2			55%	Estimate 🔻	
0.	Please continue to the next question.	51			33%	estimate	
4.	Have you implemented any conservation practices that target areas with older	homes?	No	▼			
	· · · · · · ·						
	Please continue to the next question.						
5.	Do you have a GIS layer showing graphical depiction of the areas where speci	fic	No	7			
5.	conservation practices have been implemented?		Name:				
	b. Who can we contact to identify the geographic extent of the areas where specific						
	conservation practices have been implemented?	iore opeenie	Email: Phone:				
				Plea	se provid	e contact informa	ation.
6.	Do you have a reuse/reclaimed water program to serve residential customers water for lawn irrigation?	with reclaimed	No	•			
	water for fawn infigation?						
						Please continue	to SECTION 2.
	SECTION 2 - PUBLIC AWAI	RENESS ACT	TIVITIES				
7.	Do you have an on-going public awareness / education program?		Yes	-			
	Please continue to the next question.		1				
8.	Does your program include on-going distribution of brochures and/or pamphlets?		Yes 💌	,			
		h T.					
	a. Conservation Topics Include:		r geted Area nti n e Service A		e:	Older Homes	Zip Code
	☑ Outdoor Topics	_	ecific Neighb			Other Specific Area	
			_				
	c. If this is an on-going program, what year was it implemented? Otherwise,	1994					
	when might you implement this practice? d. How are these distributed?	If other how	de veu dist	ributovo	ur broch	ures and/or pamp	bloto?
	✓ Speaking Events	at a booth once				ires and/or pamp	
			a month at th	e man.			
Plea	se continue to the next question.						
9.	Do you insert water conservation information in water bills on an on-going		No	•			
	basis?		110	Ple	ease also	answer question	9c.
					-	10000	_
	Indoor Topics Outdoor Topics	=	ntire Service A			Older Homes	Zip Code
		L Sp	ecific Neighb	ornoods	L	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please	enter the	vear.		
	when might you implement this practice?						
	D:\Clients Active\St Johns\Survey Results\#Database.xls	1 of 7					Marion
	Prepared by: Chrisell Jones, PBS Page					1	May 5, 2004

Every Billing Cycle Quarterly Other	
10. Do you send out special mailings on an on-going basis?	No 💌
	Please also answer question 10b.
Drought Alerts Other Watering Restrictions All of These	
b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Monthly Quarterly Other	
11. Do you issue news releases on an on-going basis?	No Please also answer question 11c.
Indoor Outdoor	Entire Service Area Zip Code Other All of These
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
12.	
Do you sponsor public conservation media messages on an on-going basis?	No Please also answer question 12c.
With the District	Drought Alerts Watering Restrictions
	Conservation Tips Other
c. If this is an on-going program, what year was it implemented? Otherwise,	Please enter the year.
when might you implement this practice?	
Radio Broadcast TV Cable Billboards	
13. Do you utilize videos of any kind on an on-going basis?	Voc. 🔻
	Yes
a. Conservation Topics Include:	b. Under what circumstances are videos utilized?
✓ Outdoor Topics	Professional Groups Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise,	1998
when might you implement this practice?	
d. Please list the titles of the videos below:	
Please provide v	ideo titles above.
e. What are your target audiences?	
✓ Youth ✓ Adult ✓ Professional Other	
f. What does your annual viewing audience total?	25
14. Do you promote water conservation contests on an on-going basis?	No 🔻
	Please also answer question 14c.
Indoor Outdoor	Awareness Knowledge We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise,	Please enter the year.
when might you implement this practice?	

15. Do you sponsor landscape workshops/seminars on an on-going basis?		No 💌	Please also answer	question 15c.
Staff Non-Staff Outside Professionals	Awareness		Behavior All of These	We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please enter	the year.	
 ▼ 				

	SECTION 3 - INDOOR CONSERVATION INCENTIVE PROGRAMS The following section concerns programs and/or incentives relative to your residential indoor water conservation efforts.
16.	Have you implemented any indoor water conservation replacement/rebate, incentive and/or No
	a. Are you considering implementing any replacement/rebate, incentive and/or retrofit indoor No
	\checkmark
Plea	se continue to the next question.
17.	Do you provide individual consultations or evaluations on an on-going basis for private residential customers who are interested in recommendations that will help them to conserve Yes and/or reduce their indoor water consumption?
	a. How have you measured effectiveness?
	b. If this is an on-going program, what year was it implemented? Otherwise, <u>1998</u> when might you implement this practice?
	se continue to the next question.
18.	Do you have an on-going replacement/rebate program for low-flush toilets? No Vertice Please also answer question 18c.
	Entire Service Area Zip Code Awareness Behavior We do not measure Specific Neighborhoods Older Homes Knowledge All of These
	c. If this is an on-going program, what year was it implemented? Otherwise, Please fill in the year. when might you implement this practice?
	No
19.	
	Other than toilets, do you have an on-going indoor plumbing retrofit or exchange program? — Please also answer question 19c.

	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Knowledge	Behavior We do not measure
	c. If this is an on-going program, what year was it implemented? Otherw when might you implement this practice?	ise, Please en	ter the year.
20.	Do you have a leak detection program specific to residential customers?	Yes ▼ ▼	
	a. Service areas targeted include: ✓ Entire Service Area Zip Code ✓ Specific Neighborhoods Older Homes	 b. How have you measured Awareness Knowledge 	d effectiveness? ☐ Behavior ✓ We do not measure ☐ All of These
	c. What year did you begin this program?	1998	
	d. Approximately how many customers benefit annually?	200	
	e. Do you have written policies or procedures for the program?	Yes 🔻	
	f. Have you established a schedule for the program?g. Do you utilize performance contracts for leak detection and/or retrofit	No	
	inspections?	Yes V	
	h. Do you perform irrigation audits?	Tes V	
	▼		
			Please continue to SECTION 4.
			Thease continue to be offering.
	SECTION 4 - OUTDOOR CONSE	RVATION INCENTIVE PROG	RAMS
	SECTION 4 - OUTDOOR CONSE The following section concerns programs and/or incentives		
21.		relative to your residential outdoo	
21.	The following section concerns programs and/or incentives Have you implemented any outdoor water conservation replacement/reba	relative to your residential outdoo ate, incentive and/or	
21.	The following section concerns programs and/or incentives Have you implemented any outdoor water conservation replacement/rebar retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a	relative to your residential outdoo ate, incentive and/or No ▼	
21.	The following section concerns programs and/or incentives Have you implemented any outdoor water conservation replacement/rebar retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a	relative to your residential outdoo ate, incentive and/or No ▼	
21.	The following section concerns programs and/or incentives Have you implemented any outdoor water conservation replacement/rebar retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a	relative to your residential outdoo ate, incentive and/or No ▼	
21.	The following section concerns programs and/or incentives Have you implemented any outdoor water conservation replacement/rebar retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a	relative to your residential outdoo ate, incentive and/or No ▼	
	The following section concerns programs and/or incentives Have you implemented any outdoor water conservation replacement/rebar retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a	relative to your residential outdoo ate, incentive and/or No ▼	
Pleas	The following section concerns programs and/or incentives. Have you implemented any outdoor water conservation replacement/rebar retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a water conservation programs in the future?	relative to your residential outdoo ate, incentive and/or No ▼	or water conservation efforts.
Pleas	The following section concerns programs and/or incentives. Have you implemented any outdoor water conservation replacement/rebar retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a water conservation programs in the future?	relative to your residential outdoo ate, incentive and/or and/or retrofit indoor No No No No No	Please also answer question 22a.
Pleas	The following section concerns programs and/or incentives. Have you implemented any outdoor water conservation replacement/rebar retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a water conservation programs in the future? se continue to the next question. Have you implemented a rain sensor program?	relative to your residential outdoo No ate, incentive and/or ind/or retrofit indoor No Image: state	Please also answer question 22a.
Pleas	The following section concerns programs and/or incentives Have you implemented any outdoor water conservation replacement/rebate retrofit programs? a. Are you considering implementing any replacement/rebate, incentive a water conservation programs in the future? see continue to the next question. Have you implemented a rain sensor program? a. Are you considering implementing any rain sensor programs in the future?	relative to your residential outdoo ate, incentive and/or ind/or retrofit indoor No ure? Please make your s Awareness	Please also answer question 22a. election. Behavior We do not measure

23.	Do you provide individual consultations or evaluations for private residential of are interested in recommendations that will help them to conserve and/or reduce outdoor water consumption?	customers who Yes Vice their
	a. Service areas targeted include: ✓ Entire Service Area Zip Code Specific Neighborhoods Older Homes	b. How have you measured effectiveness? ☐ Awareness ☐ Behavior ☑ We do not measure ☐ Knowledge ☐ All of These
	Please select all that apply above.	
	c. What year did you begin these services?	1998
	d. Approximately how many residences benefit annually?	1,000
	No	Please describe tracking above.
24.	Do you have an incentive program for irrigation system improvements?	No 🔻
		Please also answer question 24a.
	a. Are you considering implementing any rain sensor programs in the future?	Please make your selection.
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Behavior We do not measure Knowledge All of These
	▼	
25.	Do you have an incentive program for residential customers to use drought-to xeriscape/Florida-friendly landscaping on their property?	lerant or No Please also answer question 25a.
	a. Are you considering implementing any rain sensor programs in the future?	
		Please make your selection.
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Behavior We do not measure Knowledge All of These
	▼	
		Please continue to SECTION 5

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below.

26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water savings.
Blease indicate if you enforce the provide the performance of the performance.

g		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
Water Use Restrictions	Adoption Year:		
Native Plant Use	Adoption Year:	▼	_
Drought Tolerant Plant Use	Adoption Year:]	
Rain Sensors	Adoption Year:]	
Site Design Review	Adoption Year:]	
Efficient Irrigation			.

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	Efficient Irrigation	Adoption Year:					▼			
	Turf Use Restrictions	Adoption Yoor					•			
		Adoption Year:					<u> </u>			. •
	Please select all that apply a	bove.								
27.	Do you require any permitting that promotes efficient water u		indoor and outdoor	⁻ plumbing	Yes	•				
	a. Please explain below what p Marion County Land Development (elate to water cons	servation.						
	That of County Land Development									
Plea	se continue to the next question	.							_	
28.	Are all governmental entities a	nd exempt users metered?			Yes	•				
	a. Since what year have all use	ers been metered?	[1993						
]					Please continue	to SE	CTION 6.
		SECTION	6 - WATER RAT	TE STRUCT	URE					
20	The following Are your water rates structured	questions relate ONLY to sing		al customers	with a 5/8	-inch or	3/4-inch wa	ater meter.		
23.					Yes	•				
			[b. Please	provide your cor structure below		ity rate
	a. What year did you implemen	t conservation-based rates?	[1993		F		Gallon Range		\$ Rate
							Tier 1	6,000 / per 1,00	0 gls	\$ 1.14
	c. How many tiers are structure	ed in your residential rates?	[2			Tier 2	above / per 1,00	0 gls	\$ 1.72
							Tier 2			
						-	Tier 4 Tier 5			
							Tier 6			
Plea	se continue to the next question).								
	How much is your monthly wat		SF customer?	\$25.00						
Plea	se continue to the next question	ı.			-					
31.	Do you bill monthly or bi-mont	hly?	[Monthly						
	se continue to the next question		an that is wat							
32.	Do you impose a surcharge for reflected in the inclined rate st		se that is not		No	•				
Plea	se continue to the next question	.	L							
33.	Do you have a drought rate?				No	•				
		SECTION 7	WASTEWATER	ρλτε ςτρ	ΠΟΤΠΡ	F		Please continu	<mark>e to S</mark> l	ECTION 7.
	The following	questions relate ONLY to sing					3/4-inch wa	ater meter.		
	How much is your monthly was customer? se continue to the next question	-	ypical SF	\$35.00						
	Please describe your wastewat		\$3.25 per 1,000 cap	ped at 8,000	_	_				
	structure.			<u> </u>						
		SECTION 8 - RE	USE / RECLAIM	ED WATER	PROG	RAM		Please continu	e to S	ECTION 8.
	Since you did not	indicate in the first section the					e continue	to SECTION 8.		
]				_			_
					🗌 Agg	ressive		Vildly Aggressive	\checkmark	Passive
			[
				. .						Marion
	D:\Clients Active\St Johns\Surve Prepared by: Chrisell Jones, PBS		Page 6	of 7						5, 2004

☐ Flat Rate + per 1,000 gal. rate ☑ Per 1,000 gal.	Flat Rate	.05 cents per 1,000 gls	
		SECTION 9 - COMMENTS	Please continue to SECTION 9.
The following sec	tion is provided in	SECTION 9 - COMMENTS f you have any comments or additional information you would	
The following sec	tion is provided it		
		f you have any comments or additional information you would	l like to share at this time.
On behalf of t	he St. Johns River '		d like to share at this time.
On behalf of t	he St. Johns River ' Once we have comj	f you have any comments or additional information you would Water Management District, thank you for participating in this porti	d like to share at this time. ion of our survey. py.
On behalf of t	he St. Johns River ' Once we have comj	Fyou have any comments or additional information you would Water Management District, thank you for participating in this porti- piled all the results, it would be our pleasure to provide you with a co Please provide the email addresses of those in your organ results. Recipient 1 Email Address: <u>marsha.senger@marioncountyfl</u>	d like to share at this time. ion of our survey. py. ization who should receive a copy of the .orgTitle:
On behalf of t	he St. Johns River ' Once we have comj	Fyou have any comments or additional information you would Water Management District, thank you for participating in this porti piled all the results, it would be our pleasure to provide you with a co Please provide the email addresses of those in your organ results.	d like to share at this time.

Prepared by PBS&J exclusively for the St. Johns River Water Management District, Department of Water Supply Management, May 2004

l Itilit	y Name:		Data Su	rvov i	Completed:
	of Melbourne		Dale Su	Ivey	7-May-04
	pondent's Name:		Area Co	de ar	d Phone Number:
-	fer Wilster		/	ao ai	(321) 674-5761
Posi	tion/Title:		Email:		
Envir	onmental Community Outreach Manager				Jwilster@melbourneflorida.org
Depa	artment:		Fax:		
	c Works & Utilities				(321) 674-5765
lota	I Number of Single Family Water Customers:			amil	y Water Customers:
	Please complete all in				
	SECTION 1 - GENER	RAL INFORM	IATION		
1	Do you have multiple service areas within your service boundaries?		Yes		
	Do you have multiple service aleas within your service boundaries?		Tes	•	
	a. How many service areas do you have?	9			
	b. Please provide the names of your service areas below:				
	Melbourne, Melbourne Village, Palm Shores, Satellite Beach, Indian Harbour Beach, Indialan	ntic, Melbourne E	Beach, unin	corpo	ated Brevard County areas, wholesale water provided
	to West Melbourne				
	Please continue to the next question.			1	
2.	Have you done extensive system upgrades and/or maintenance over the past 2	-5 years?	Yes	▼	
	a. Please provide a brief description of the upgrades/maintenance performed b	elow:			
	Went online with new \$23 million surface water treatment plant in 2002. Over \$1 million a y	year in waterline 1	replacemen	it proje	ects and upgrades
	Please continue to the next question.				
3.	What percentage of your service area is comprised of homes built prior to 1995	5?			<u>60%</u> ▼
	Please enter percentage and make a selection above.				
4.	Have you implemented any conservation practices that target areas with older	homes?	Yes	-	
	a. Please list the specific areas targeted below.	inomico i	163	•	
	older toilets and older shower heads and various conservation devices				
	Please continue to the next question.				
5.	Do you have a GIS layer showing graphical depiction of the areas where specif	ic	No	-	
5.	conservation practices have been implemented?				
			Name:		
	b. Who can we contact to identify the geographic extent of the areas wh conservation practices have been implemented?	ere specific	Email: Phone:		
	conservation practices have been implemented i		Filone.		Please provide contact information.
	Do you have a reuse/reclaimed water program to serve residential customers w	with reclaimed			
6.	water for lawn irrigation?	and reclaimed	Yes	<u> </u>	
	a. Who should we contact for additional information?		Name:		robert klaproth
			Email:		rklaproth@melbourneflorida.org
			Phone:		321-674-5761
					Please continue to SECTION 2.
	SECTION 2 - PUBLIC AWAR				
_		CENESS ACT		,	
7.	Do you have an on-going public awareness / education program?		Yes	▼	
-	Please continue to the next question.				
8.	Does your program include on-going distribution of brochures and/or pamphlets?		Yes	▼	
	pampmets?				
	a. Conservation Topics Include:		geted Ar		clude:
	✓ Indoor Topics ✓ Outdoor Topics		nti n e Service Decific Neigh		Older Homes Zip Code
		L sp	ecilic weigr	טחזטמר	ods Other Specific Area Newer Homes
		1001			
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1981			
	d. How are these distributed?	If other how	do vou di	etribu	te your brochures and/or pamphlets?
	✓ Speaking Events ✓ Special Mailings ✓ Other			SUIDU	te your brochures and/or paniphiets?
		Also, at special	events.		
Place	se continue to the next question.				
	· · · · · · · · · · · · · · · · · · ·			,	
9.	Do you insert water conservation information in water bills on an on-going basis?		Yes	▼.	
	a. Conservation Topics Include:		geted Ar		
	 ✓ Indoor Topics ✓ Outdoor Topics 	=	tire Service		Older Homes Zip Code
		L_ Sp	ecific Neigh	ohrodr	ods Other Specific Area Newer Homes
		- 0002	-		
	c. If this is an on-going program, what year was it implemented? Otherwise,	2003	_		
	D:\Clients Active\St Johns\Survey Results\#Database.xls				Melbourne
	D. Chomo Active for Control Control Wey Accounts #Database.Als				

when might you implement this practice?		and an information in an end of 100
d. At what frequency are inserts utilized? □ Every Billing Cycle □ Quarterly □ Other	If other, how often do you insert conservo	
ease continue to the next question. 0. Do you send out special mailings on an on-going basis?		
U. Do you send out special mailings on an on-going basis?	Yes 🔻	
a. Typical subject matter includes:		
Drought Alerts I Other I Watering Restrictions All of These		
a1. What other subject matter is covered in your special mailings?	General indoor and outdoor water conservation	information (PW&Utilities Connec
a i. What other subject matter is covered in your special manings?	is monthly, Conservation News is quarterly)	information. (1 w&ounties connee
b. If this is an on-going program, what year was it implemented? Otherwise,	1997	
when might you implement this practice?		
c. At what frequency are special mailings sent out?	If other, how often do you send special i	nallings ?
ease continue to the next question. 1. Do you issue news releases on an on-going basis?		
··· Do you issue news releases on an on-going basis :	Yes	
a. Conservation Topics Include:	b. Targeted Areas Include:	_
	✓ Entire Service Area ✓ Other	Zip Code
✓ Outdoor	- Other	
c. If this is an on-going program, what year was it implemented? Otherwise,	1981	
when might you implement this practice? ease continue to the next question.		
2.	Yes	
Do you sponsor public conservation media messages on an on-going basis?		
a. Sponsorship level includes:	b. Typical subject matter includes: Drought Alerts	
 ✓ With the District ✓ Independently 	Conservation Tips	✓ Watering Restrictions ✓ Other
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1997	
d. What media do you utilize in your program?	e. How much is budgeted for next FY?	
☑ Radio ☑ Broadcast TV ☑ Cable ☐ Billboards	e. now much is budgeted for next P is	Please enter \$ abo
_		
3. Do you utilize videos of any kind on an on-going basis?	Yes 💌	
	- <u></u> -	
a. Conservation Topics Include:	b. Under what circumstances are videos Schools	Speaking Engagements
✓ Outdoor Topics	Professional Groups	Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1981	
d. Please list the titles of the videos below:		
Conserving Water on the Space Coast, Down the Drain, Water Hog Haven, My Florida Yar	d: 2004 Florida Friendly Landscape Seminar, Wate	er for Life, Water Follies, Professor
Water: Fantastic Facts about H20, What Do You Know About H20		
e. What are your target audiences?		
Vouth Adult Professional Other		
	400	
✓ Youth ✓ Adult Professional Other f. What does your annual viewing audience total?	400	
✓ Youth ✓ Adult Professional Other f. What does your annual viewing audience total? ease continue to the next question.		
✓ Youth ✓ Adult Professional Other f. What does your annual viewing audience total? lease continue to the next question.	No V	so answer question 14c.
✓ Youth ✓ Adult Professional Other	No V	· _
 Youth Adult Professional Other f. What does your annual viewing audience total? ease continue to the next question. 4. Do you promote water conservation contests on an on-going basis? 	No Vertex Please als	· _
 Youth Adult Professional Other f. What does your annual viewing audience total? ease continue to the next question. 4. Do you promote water conservation contests on an on-going basis? 	No Vertex Please als	

15.	Do you sponsor landscape workshops/seminars on an on-going basis?		Yes 💌		
	a. Workshops/seminars are given by:	b. How have	you measured e	ffectiveness?	
	✓ Staff	Awareness		Behavior	We do not measure
	✓ Non-Staff Outside Professionals	✓ Knowledge		All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2001			
	d. Do you track actual water use changes? No 🔻				
	e. How are you tracking behavior effectiveness?			ts are required to comple 2004 had 600 attendees)	ete and turn in at the end of
				Please	continue to SECTION 3.
	SECTION 3 - INDOOR CONSERV The following section concerns programs and/or incentives rela				forts
16.	Have you implemented any indoor water conservation replacement/rebate, ind		Yes 🔻		
	retrofit programs?		·		
			•		
	a. What year did you begin implementing these programs?		1997		
	b. Do you have written policies/procedures concerning implementation and n the program(s)?	naintenance of	Yes 🔻		
	c. Do you follow-up with the customer in any manner after installation?		Yes 🔻		
Pleas	se continue to the next question.				
17	De veu previde individuel concultations er evaluations en en en seine basis	for private			
	Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help the and/or reduce their indoor water consumption?		e Yes 🔻		
	a. How have you measured effectiveness?		Behavior	All of These	✓ We do not measure
		cuyc L			we do not measure
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1981			
Bloo	se continue to the next question.				
	Do you have an on-going replacement/rebate program for low-flush toilets?		Yes 🔻		
			103		
	a. Service areas targeted include:	_	you measured e		
	Entire Service Area Izip Code Specific Neighborhoods Older Homes	Awareness		Behavior All of These	We do not measure
	Specific Neighborhoods Older Homes	C Knowledge		All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise,	1997			
	when might you implement this practice?		-		
	d. Approximately how many toilets are replaced annually?	200			
	. ▼				
Pleas	se continue to the next question.				
19.	Other than toilets, do you have an on-going indoor plumbing retrofit or excha	inge program?	Yes 🔻		

✓ Entire Service Area Zip Code	b. How have you measured effe		
	Awareness	Behavior	We do not measure
Specific Neighborhoods	✓ Knowledge	All of These	
c. If this is an on-going program, what year was it implemented? Otherwise,	1981		
when might you implement this practice?	1981		
d. Approximately how many fixtures are replaced annually?	1000		
u. Approximately now many fixtures are replaced annually?	1000		
Please continue to the next question.			
20. Do you have a leak detection program specific to residential customers?	No 🔻		
		Please also answer q	uestion 20a.
a. Are you considering implementing any rain sensor programs in the future?	—		
	Please make your selec	tion	
	r lease make your selee		
		_	_
Entire Service Area	Awareness	Behavior	We do not measure
Specific Neighborhoods Older Homes	Knowledge	All of These	
	▼		
			
	<u> </u>		
	•		
	~		
SECTION 4 - OUTDOOR CONSERVA		MS	
The following section concerns programs and/or incentives relat			
21. Have you implemented any outdoor water conservation replacement/rebate, in			orts.
	acontivo and/or		orts.
retrofit programs?	ncentive and/or Yes		orts.
retrofit programs?	ncentive and/or Yes		orts.
retrofit programs?	ncentive and/or Yes		orts.
retrofit programs?	Yes 🗸		orts.
retrofit programs?	Yes 🗸		orts.
	Yes		orts.
a. What year did you begin implementing these programs?	Yes •		orts.
a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and n	Yes •		orts.
a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)?	Yes ▼ 2001 No ▼		orts.
a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and n the program(s)? c. Do you follow-up with the customer in any manner after installation?	Yes •		orts.
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and n the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? 	Yes ▼ 2001 No ▼		orts.
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and n the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 	ves 2001 No No No No No No No N		orts.
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? 	ves 2001 No No No No No No No N		prts.
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and n the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 	$\begin{array}{c} 2001 \\ \hline \\ No \\ \hline \\ No \\ \hline \\ $		orts.
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and n the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 	$\begin{array}{c} 2001 \\ \hline \\ No \\ \hline \\ No \\ \hline \\ $		orts.
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and n the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 	haintenance of $\frac{2001}{N_0}$ \checkmark No \checkmark No \checkmark Yes \checkmark		
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and n the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 	haintenance of $\frac{2001}{N_0}$ \checkmark No \checkmark No \checkmark Yes \checkmark		
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Service areas targeted include: Entire Service Area Zip Code 	Yes ▼ naintenance of No ▼ No ▼ No ▼ No ▼ ▼ ▼ Awareness ► ► ■	Behavior	We do not measure
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Service areas targeted include: 	Yes ▼ maintenance of No ▼ No ▼ No ▼ No ▼ ▼ No ▼ No ▼ ▼ ▼ ▼ b. How have you measured effect ■ ■ ■		
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Service areas targeted include: Entire Service Area Zip Code 	Yes ▼ naintenance of 2001 No ▼ No ▼ No ▼ Yes ▼ No ▼ Yes ▼ No ▼ No ▼ Yes ▼ No ▼ Awareness Knowledge	Behavior	We do not measure
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Service areas targeted include: Entire Service Area Zip Code Specific Neighborhoods 	Yes ▼ naintenance of No ▼ Awareness Knowledge	Behavior All of These Ct all that apply above	We do not measure
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Service areas targeted include: Difference areas targeted include: Specific Neighborhoods Clider Homes c. What year did you begin this program? 	Yes ▼ naintenance of 2001 No ▼ Please sele Please enter ti	Behavior All of These In all that apply about	We do not measure
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Service areas targeted include: Entire Service Area Zip Code Specific Neighborhoods 	Yes ▼ naintenance of No ▼ Awareness Knowledge	Behavior All of These In all that apply about	We do not measure
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Service areas targeted include: Difference areas targeted include: Specific Neighborhoods Clider Homes c. What year did you begin this program? 	Yes ▼ naintenance of 2001 No ▼ Please sele Please enter ti	Behavior All of These In all that apply about	We do not measure
 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and m the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Service areas targeted include: Difference areas targeted include: Specific Neighborhoods Clider Homes c. What year did you begin this program? 	Yes ▼ naintenance of 2001 No ▼ Please sele Please enter ti	Behavior All of These at that apply abov	We do not measure

23.		ultations or evaluations for private residential ons that will help them to conserve and/or redu		Yes	▼ . 1		_
				•	•		
	a. Service areas targeted include There Service Area Specific Neighborhoods	e: Zip Code Older Homes	b. How have Awarenes	S	red effectiv	veness? Behavior All of These	✓ We do not measure
	Please select all that app	ly above.					
	c. What year did you begin these	e services?	1981				
	d. Approximately how many resi		52	-			
		,					
		Please make your selection.		Ple	ease descri	ibe tracking above	9.
		r lease make your selection.	•				
24.	Do you have an incentive progra	am for irrigation system improvements?		No	•		
				·			
	a. Are you considering impleme	nting any rain sensor programs in the future?		No	_		
		_	Π.			—	
	Entire Service Area	Zip Code	Awareness			Behavior	We do not measure
						All of These	
				-			
				_			
		•					
25.	Do you have an incentive progra	am for residential customers to use drought-to	lerant or	No	-		
	xeriscape/Florida-friendly lands	caping on their property?		No	•		
	a. Are you considering impleme	nting any rain sensor programs in the future?		No	-		
	_		_			_	_
	Entire Service Area	Zip Code	Awareness			Behavior	We do not measure
	Specific Neighborhoods	Older Homes	Knowledge			All of These	
		▼					

Please continue to the next question.

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below.

26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water savings.

		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
✓ Water Use Restrictions	Adoption Year: 1980	Enforcement practiced	Savings not analyzed
✓ Native Plant Use	Adoption Year: 2003	Enforcement practiced	Savings not analyzed
✓ Drought Tolerant Plant Use	Adoption Year: 2003	Enforcement practiced	Savings not analyzed
✓ Rain Sensors	Adoption Year: 2001	Enforcement practiced	Savings not analyzed
✓ Site Design Review			

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	✓ Site Design Review	Adoption Year:	1980	Enforceme	nt practiced	•	Savings not ana	ilyzed 💌
	Efficient Irrigation	Adoption Year:]		•		-
	Turf Use Restrictions	Adoption Year:				•		
				_				i
Pleas	se continue to the next question	l.						
27.	Do you require any permitting		to indoor and outdoo	or plumbing	No			
	that promotes efficient water u	se changes?						
Pleas	se continue to the next question	l.						
28.	Are all governmental entities a	nd exempt users metered?	,		Yes 🔻			
	a. Since what year have all use	rs been metered?			Please ente	r the year.		
		SECT	ION 6 - WATER RA	TE STRUCTI	IRE			
		questions relate ONLY to	single-family resident			or 3/4-inch w	ater meter.	
29.	Are your water rates structured	d to promote water conser	vation?		Yes 🔻			
						b. Please	provide your co	ommodity rate
		· · · · · · · · · · · · · · · · · · ·	- 0				structure belo	ow.
	a. What year did you implemen	t conservation-based rate					Gallon Rang	ge \$Rate
				ease enter the ye	ear.	Tier 1		
	c. How many tiers are structure	ed in your residential rates				Tier 2		
			Plea	se enter the # al	bove.	Tier 2		
					•	Tier 4 Tier 5		
						Tier 6		
					L		Please complet	e rates above.
20			iaal CE austaman2	¢ 1.40				
	How much is your monthly wat se continue to the next question		ical SF customer?	\$ 4.40				
	Do you bill monthly or bi-mont			monthly				
	se continue to the next question	-		monuny				
32.	Do you impose a surcharge for		er use that is not		No.			
•=-	reflected in the inclined rate st	ructure?			No 🔻			
Pleas	se continue to the next question	I.						
33.	Do you have a drought rate?				No			
							Please contin	ue to SECTION 7.
	The following	SECTION questions relate ONLY to	7 - WASTEWATER			or 3/A-inch w	ator motor	
3/	How much is your monthly wa			\$ 7.76		or o/4 mon w		
	customer?	-		φ <i>1.10</i>				
	se continue to the next question							
35.	Please describe your wastewat structure.	ter residential rate based	on amount of water use	ed				
							Please contin	ue to SECTION 8.
		SECTION 8 -	REUSE / RECLAIN	NED WATER	PROGRAM			
	Since you indicated	l in the first section that yo	our utility has a reuse/	reclaimed progr	am, please co	mplete the fo	llowing section.	
	When did you begin your reuse			1988				_
37.	How would you describe your use changes?within your servi	-			Aggressive		Mildly Aggressive	Passive
								Melbourne
	D:\Clients Active\St Johns\Surve Prepared by: Chrisell Jones, PB		Page 6	6 of 7				May 5, 2004

38.	What approximate percentage of your entire r has access to reclaimed water?	residential service area currently 10%	
39.	Do you have plans to expand your service are	ea? Yes Vhen? soon	n
40.	What approximate percentage of your reclaim metering device to measure demand?	ned residential customers have a 100%	
41.	Approximately how many residential custome water service?	ers do you provide with reclaimed 2,000	
42.	How are your rates structured?		
	Flat Rate + per 1,000 gal. rate Flat Rate		
	Per 1,000 gal.		
	a. Do you have plans to implement a volumet rate in the future?	tric <u>maybe</u>	
43.	Please describe any methods you employ to	conserve reclaimed/reuse water below.	
	make it available every other day to keep from r	running out and still meeting demand	
			Please continue to SECTION 9
			Please continue to SECTION 9.
	The following section is provide	SECTION 9 - COMMENTS	
some	· · ·	SECTION 9 - COMMENTS ed if you have any comments or additional information you would like to	
some	The following section is provide of your questions are too vague		
some	· · ·		
some	· · ·		
some	· · ·		
some	of your questions are too vague	ed if you have any comments or additional information you would like to	o share at this time.
some	of your questions are too vague On behalf of the St. Johns Riv		o share at this time.
some	of your questions are too vague On behalf of the St. Johns Riv	ed if you have any comments or additional information you would like to ver Water Management District, thank you for participating in this portion of o	o share at this time. ur survey.
some	of your questions are too vague On behalf of the St. Johns Riv Once we have co	ed if you have any comments or additional information you would like to ver Water Management District, thank you for participating in this portion of or compiled all the results, it would be our pleasure to provide you with a copy. Please provide the email addresses of those in your organization	o share at this time. ur survey.
some	of your questions are too vague On behalf of the St. Johns Riv Once we have co	ed if you have any comments or additional information you would like to ver Water Management District, thank you for participating in this portion of or compiled all the results, it would be our pleasure to provide you with a copy. Please provide the email addresses of those in your organization results.	o share at this time. ur survey.
some	of your questions are too vague On behalf of the St. Johns Riv Once we have co	ed if you have any comments or additional information you would like to ver Water Management District, thank you for participating in this portion of or compiled all the results, it would be our pleasure to provide you with a copy. Please provide the email addresses of those in your organization results. Recipient 1 Email Address: jwilster@melbourneflorida.org	o share at this time. ur survey. who should receive a copy of the Title:
some	of your questions are too vague On behalf of the St. Johns Riv Once we have co	ed if you have any comments or additional information you would like to ver Water Management District, thank you for participating in this portion of or compiled all the results, it would be our pleasure to provide you with a copy. Please provide the email addresses of those in your organization results. Recipient 1 Email Address: <u>iwilster@melbourneflorida.org</u> Recipient 2 Email Address: <u>rklaproth@melbourneflorida.org</u>	o share at this time. ur survey. who should receive a copy of the Title:

Utilit							
	ty Name: ge County Utilities Water Division		Date St	urvey	Completed:	30-Jun-04	
	pondent's Name:		Area Co	ode ai	nd Phone N		
•	ieline W. Torbert					407-836-6891	
	ition/Title:		Email:				
	ager, Orange County Utilities Water Division artment:		Fax:		Jacque	line.Torbert@ocfl.ne	<u>et</u>
Utliti			I un.			407-836-6838	
Tota	Il Number of Single Family Water Customers: 93,570 connections	Total Number	of Multi	Fami	ly Water Cu	stomers:	355 connections
	SECTION 1 - GENER	AL INFORMA	TION				
1.	Do you have multiple service areas within your service boundaries?		Yes	-			
		-	1	I			
	a. How many service areas do you have?	5	_				
	b. Please provide the names of your service areas below: North Service Area, South Service Area, East Service Area, West Service Area and Southw	vest Service Area					
	Please continue to the next question.						
2.	Have you done extensive system upgrades and/or maintenance over the past	t 2-5 years?	Yes	-			
	a. Please provide a brief description of the upgrades/maintenance performed	l below:					
	Please provide description	n above.					
3.	What percentage of your service area is comprised of homes built prior to 19				60%	Actual 🗸	
0.	Please continue to the next question.	190 i			0070	Actual	
4.		er homes?	Yes	-			
	a. Please list the specific areas targeted below.	er nomes i	163				
	In 2003/4 conducted a pilot toilet replacement program to document the amount of water sa	aved by retrofitting	with low-	flow to	oilets. Study i	s still ongoing.	
	Please continue to the next question.						
	· · · · · · · · · · · · · · · · · · ·	-ifie					
5.	Do you have a GIS layer showing graphical depiction of the areas where spec conservation practices have been implemented?	cinc	No	. 💌			
	· · · · · · · · · · · · · · · · · · ·		Name:				
	b. Who can we contact to identify the geographic extent of the areas v	where specific	Email:				
	conservation practices have been implemented?		Phone:		Please pro	vide contact informa	tion.
	Do you have a reuse/reclaimed water program to serve residential customers	with reclaimed	Yes	_ ·			
6.	water for lawn irrigation?		res	•			
	a. Who should we contact for additional information?		Name: Email:		Al Castro	Dooff not	
	Please provide contac	ct information.	Phone:		AI.Castilue		
		DENESS AC		c			
	SECTION 2 - PUBLIC AWA	RENESS AC	TIVITIE	S			
7.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program?	RENESS AC	TIVITIE Yes	S T			
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question.	RENESS AC	1	S ▼.			
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program?	RENESS AC	1	S ▼			
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or		Yes	•	nclude:		
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include:	b. T ai ☑ Er	Yes Yes rgeted Ar	▼ reas li e Area		✓ Older Homes	Zip Code
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include:	b. T ai ☑ Er	Yes Yes	▼ reas li e Area		✓ Older Homes ☐ Other Specific Area	☐ Zip Code ✓ Newer Homes
	Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Indoor Topics	b. Ta ⊡ Er ⊽ Sp	Yes Yes rgeted Ar	▼ reas li e Area			
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include:	b. T ai ☑ Er	Yes Yes rgeted Ar	▼ reas li e Area			
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise,	b. Ta ☑ Er ☑ Sp 1995	Yes Yes rgeted Ar ntine Servic pecific Neig	▼ reas li e Area hborho	oods		Newer Homes
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics C. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	b. Ta ☑ Er ☑ Sp 1995	Yes Yes rgeted Ar ntine Servic pecific Neig	▼ reas li e Area hborho	oods	Other Specific Area	Newer Homes
	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Indoor Topics Outdoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed?	b. Taı ✓ Er ✓ Sp 1995	Yes Yes rgeted Ar ntine Servic pecific Neig	▼ reas li e Area hborho	oods	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Image: Speaking Events Image: Special Mailings Image: Speaking Events Image: Special Mailings	b. Taı ✓ Er ✓ Sp 1995	Yes Yes rgeted Ar ntine Servic pecific Neig	▼ reas li e Area hborho	oods	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Indoor Topics Outdoor Topics Outdoor Topics C. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Implement this practice? d. How are these distributed? Implement this practice? d. How are these distributed? Implement the special Mailings Implement to the next question. Other Do you insert water conservation information in water bills on an on-going	b. Taı ✓ Er ✓ Sp 1995	Yes Yes rgeted Ar ntine Servic pecific Neig	▼ reas li e Area hborho	oods	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Image: Speaking Events Image: Special Mailings Speaking Events Image: Special Mailings Do you insert water conservation information in water bills on an on-going basis?	b. Tai ✓ Er ✓ Sp 1995 If other, how of the county.	Yes Yes rgeted An tine Servic becific Neig do you d	▼ reas lı hborho istribl	ute your bro	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Speaking Events Special Mailings Speaking Events Special Mailings Do you insert water conservation information in water bills on an on-going basis? a. Conservation Topics Include:	b. Tan ✓ Er ✓ Sp 1995 If other, how of the county.	Yes Yes rgeted An Titine Servic Decific Neig do you d Yes Yes rgeted An		nclude:	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Image: Speaking Events Image: Special Mailings Speaking Events Image: Special Mailings Do you insert water conservation information in water bills on an on-going basis? a. Conservation Topics Include: Image: Indoor Topics	b. Tai ✓ Er ✓ Sp 1995 If other, how of the county. b. Tai ✓ Er	Yes Yes rgeted An tine Servic do you d Yes Yes rgeted An tire Servic		ute your bro	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Speaking Events Special Mailings Speaking Events Special Mailings Do you insert water conservation information in water bills on an on-going basis? a. Conservation Topics Include:	b. Tai ✓ Er ✓ Sp 1995 If other, how of the county. b. Tai ✓ Er	Yes Yes rgeted An Titine Servic Decific Neig do you d Yes Yes rgeted An		ute your bro	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Image: Speaking Events Image: Special Mailings Special Mailings Special Mailings Other Boy you insert water conservation information in water bills on an on-going basis? a. Conservation Topics Include: Indoor Topics Indoor Topics a. Conservation Topics Include: Indoor Topics Image: Outdoor Topics Image: Outdoor Topics	b. Tai ✓ Er ✓ Sp 1995 If other, how of the county. b. Tai ✓ Er	Yes Yes rgeted An tine Servic do you d Yes Yes rgeted An tire Servic		ute your bro	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Image: Speaking Events Image: Special Mailings Speaking Events Image: Special Mailings Do you insert water conservation information in water bills on an on-going basis? a. Conservation Topics Include: Image: Indoor Topics	b. Tar	Yes Yes rgeted An tine Servic do you d Yes Yes rgeted An tire Servic		ute your bro	Other Specific Area	Newer Homes
8.	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Indoor Topics Outdoor Topics Outdoor Topics C. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Implement this practice? d. How are these distributed? Implement to the next question. Do you insert water conservation information in water bills on an on-going basis? a. Conservation Topics Include: Indoor Topics Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. At what frequency are inserts utilized?	b. Tar	Yes Yes rgeted An tine Servic do you d Yes Yes rgeted An tire Servic		ute your bro	Other Specific Area	Newer Homes
8. Plea	SECTION 2 - PUBLIC AWA Do you have an on-going public awareness / education program? Please continue to the next question. Does your program include on-going distribution of brochures and/or pamphlets? a. Conservation Topics Include: Indoor Topics Outdoor Topics c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. How are these distributed? Image: Speaking Events Image: Special Mailings Special Mailings Special Mailings Other Special Mailings Image: Im	b. Tar	Yes Yes rgeted An tine Servic do you d Yes Yes rgeted An tire Servic		ute your bro	Other Specific Area	Newer Homes

	Every Billing Cycle	✓ Quarterly	Other		
Please	continue to the next of	uestion.			
10. D	o you send out specia	al mailings on an o	n-going basis?	Yes 🔻	
a.	. Typical subject matter		atering Restrictions All of These		
	a1. What other s	subject matter is co	vered in your special mailings?	Water Restriction ntoices to new customers; Co customers with conservation information in the	
	. If this is an on-going when might you impler		r was it implemented? Otherwise,	1998	
c.	At what frequency an Monthly	e special mailings	sent out?	If other, how often do you send special weekly mail outs for new customers on restrict	
Please	continue to the next of	uestion.			
11. D	o you issue news rele	eases on an on-goi	ng basis?	Yes 💌	
a.	Conservation Topics Indoor Outdoor	Include:		 b. Targeted Areas Include: Entire Service Area Other 	Zip Code All of These
w	. If this is an on-going hen might you impler continue to the next o	nent this practice?	r was it implemented? Otherwise,	2001	
12. D	o vou sponsor public	conservation med	a messages on an on-going basis?	Yes 🔻	
	. Sponsorship level in			b. Typical subject matter includes:	
	✓ With the District ☐ Independently			 Drought Alerts Conservation Tips 	Watering Restrictions Other
	. If this is an on-going /hen might you impler		r was it implemented? Otherwise,	2001	
d.	. What media do you u ✓ Radio ✓ Br	· · · <u>·</u>	am? Cable 🗌 Billboards	e. How much is budgeted for next FY?	\$75,000
Please	continue to the next of	question.			
13. D	o you utilize videos o	f any kind on an on	-going basis?	Yes 🔻	
a.	Conservation Topics Indoor Topics Outdoor Topics	Include:		 b. Under what circumstances are videos Schools Professional Groups 	s utilized? ✓ Speaking Engagements ✓ Seminars/Workshops
	. If this is an on-going /hen might you impler		r was it implemented? Otherwise,	1995	
	. Please list the titles of ideos produced by AWW		:		
¥.	lucos produced by AWW	л.			
e.	. What are your target	audiences?			
	✓ Youth		Professional Other		
f.	What does your annu	al viewing audiend	e total?	10,000+	
Please	continue to the next of	uestion.			
14. D	o you promote water	conservation conte	ests on an on-going basis?	Yes 🔻	
a.	. Contest themes inclu ✓ Indoor Ou			b. How have you measured effectiveness	_
	. If this is an on-going /hen might you impler		r was it implemented? Otherwise,	1998	
d.	. What groups do you	typically target?		Youth	
Please	continue to the next of	uestion.			

•

15.	Do you sponsor landscape workshops/seminars on an on-going basis?		Yes 🔻		
	a. Workshops/seminars are given by:	b. How have	you measured ef	fectiveness?	
	✓ Staff	Awareness		Behavior	We do not measure
	✓ Non-Staff Outside Professionals	Knowledge		✓ All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2001			
	d. Do you track actual water use changes?				
		Tracking water	consumption will b	e implemented in late 20	004. Water consumption for
	e. How are you tracking behavior effectiveness?		ling cycles will be re	ecorded, water consumpt	ion will be tracked starting
		20 doxic often of	tondino modrohon fi	or 12 killing guales	
				Please	continue to SECTION 3.
	SECTION 3 - INDOOR CONSERVA				
	The following section concerns programs and/or incentives rela	tive to your res	idential indoor w	ater conservation ef	forts.
16.	Have you implemented any indoor water conservation replacement/rebate, incretrofit programs?	centive and/or	Yes 🔻		
			Yes 💌	2003	
			Yes	2003	
	a. What year did you begin implementing these programs?		2003		
	b. Do you have written policies/procedures concerning implementation and n	naintenance of	Yes		
	the program(s)?				
	c. Do you follow-up with the customer in any manner after installation?		Yes 🔻		
Pleas	se continue to the next question.				
17.	Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help th conserve and/or reduce their indoor water consumption?		Yes 🔻		
	a. How have you measured effectiveness?	edae [Behavior	All of These	✓ We do not measure
		9-			We do not measure
	b. If this is an on-going program, what year was it implemented? Otherwise,	2001			
	when might you implement this practice?		_		
					tion with individuals and discussion discus
		onen receive er	ins for to answer me	ore detailed questions an	a send materials to mem.
	Yes				
	se continue to the next question.				
18.	Do you have an on-going replacement/rebate program for low-flush toilets?		Yes 🔻		
	a. Service areas targeted include:	b. How have	you measured ef	fectiveness?	
	Entire Service Area	Awareness		Behavior	We do not measure
	Specific Neighborhoods Older Homes	Knowledge		All of These	
			Please se	lect all that apply ab	ove.
	c. If this is an on-going program, what year was it implemented? Otherwise,	2003			
	when might you implement this practice?	500	7		
	 Approximately how many toilets are replaced annually? How are you tracking behavior effectiveness? 	500			
	e. now are you tracking behavior electiveness?				
	f. Do you track actual water use changes?	Ple	ease describe tra	cking above.	
19.	Other than toilets, do you have an on-going indoor plumbing retrofit or excha	nge program?	Yes 💌		
	a. Service areas targeted include:	• • •	you measured ef	fectiveness?	
	✓ Entire Service Area ☐ Zip Code	Awareness	, 54 116454164 61	Behavior	We do not measure
	Specific Neighborhoods	Knowledge		All of These	
			Please se	lect all that apply ab	ove.
	c. If this is an on-going program, what year was it implemented? Otherwise,	2003			
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		<pre>/ -</pre>			

when might you implement this practice?

	d. Approximately how many fixtures are replaced annually?	700
		A showerhead exchange program is done once a year, old showerheads are exchanged
	Yes	for new ones - guarantees the installation of the new showerheads
20.	Do you have a leak detection program specific to residential customers?	No 🔻
	a. Are you considering implementing any rain sensor programs in the future?	Voc - When? 2004
		Yes Vilent: 2004
	Entire Service Area I Zip Code Specific Neighborhoods Older Homes	Awareness Behavior We do not measure Knowledge All of These
		▼
		· · · · · · · · · · · · · · · · · · ·
		In 2004 a pilot program for rain sensor give-aways & installation was initiated.
		Customer must attend a landscape & irrigation workshop. Also their irrigation system
		Please continue to SECTION 4.
	SECTION 4 - OUTDOOR CONSERVA	TION INCENTIVE PROGRAMS
	The following section concerns programs and/or incentives relation	
21.	Have you implemented any outdoor water conservation replacement/rebate, in	centive and/or 🔪
	retrofit programs?	NO •
	a. Are you considering implementing any replacement/rebate, incentive and/or water conservation programs in the future?	retrofit indoor No

	\bullet
	$\overline{}$
Please continue to the next question.	
22. Have you implemented a rain sensor program?	Yes 🔻
	▼
a. Service areas targeted include: Entire Service Area Specific Neighborhoods Older Homes	b. How have you measured effectiveness? Awareness Behavior Knowledge All of These
	Please select all that apply above.
c. What year did you begin this program?	2004
d. Approximately how many residences benefit annual	lly? 25
	In 2004 a pilot program for rain sensor give-aways & installation was initiated.
	Customer must attend a landscape & irrigation workshop. Also their irrigation syste
Please continue to the next question.	
23. Do you provide individual consultations or evaluations	s for private residential sustamors who
are interested in recommendations that will help them outdoor water consumption?	• 165 •
	▼
a. Service areas targeted include:	b. How have you measured effectiveness?
D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones, PBS	OCL Page 4 of 7 May 5, 2004

Entire Service Area Specific Neighborhoods	Zip Code		Awareness		Behavior	✓ We do not meas	ure
Please select all that app	bly above.						
c. What year did you begin thes	e services?		2001				
d. Approximately how many res	idences benefit ann	ually?	500				
					orkshops will do priva	te consulatations upo	n
		-	request of water cu	istomer.			
	P	lease make your selection					
24. Do you have an incentive progra	am for irrigation sys	tem improvements?	N	lo 🔻			
a. Are you considering impleme	enting any rain sense	or programs in the future?			nen? 2004		
Entire Service Area Specific Neighborhoods	Zip Code		Awareness Knowledge		Behavior	We do not meas	ure
		•					
25. Do you have an incentive progra			olerant or	lo 🔻			_
xeriscape/Florida-friendly lands		-	·			_	
a. Are you considering impleme	enting any rain sense	or programs in the future?	Y	'es 🔻 Wh	nen? 2004		
Entire Service Area Specific Neighborhoods	Zip Code		Awareness		Behavior	We do not meas	ure
		•					
Please continue to the next question.					Please of	ontinue to SECTIO	N 5.
		ORDINANCES, RES					
Please do not consider a 26. Specifically related to residentia and/or Building Codes and the y	al landscaping, pleas		wing components	s are contained in	your adopted Ord	linances, Resolutio	
savings.				ate if you enforce ling ordinance/co		indicate if you hav zed water savings:	
✓ Water Use Restrictions	Adoption Year:	1993	Enforcement	practiced	Water sa	vings analyzed	 -
Native Plant Use	Adoption Year:]	_	•		•
Drought Tolerant Plant Use	Adoption Year:			•	-		 -
Rain Sensors	Adoption Year:]		•		•
Site Design Review	Adoption Year:	Enter adoption year above	. Make s	selection above.	Make	e selection above.	•
Efficient Irrigation	Adoption Year:		· ·	_	•		 ▼
Turf Use Restrictions	Adoption Year:]	_	· •		 ↓
			_ ·				· 1

27. Do you require any permitting actions specifically related to indoor and outdoor plumbing \sim

Pleas	e continue to the next question.							
28.	Are all governmental entities and exempt user	s metered?		Yes 🔻				
	a. Since what year have all users been metere	d?	1980]				
]		Please continue to	SECTIO	
		SECTION 6 - WATER R	ATE STRUCT	URE		Flease continue to	SECIIC	JN 0.
20	The following questions relate Are your water rates structured to promote wa	e ONLY to single-family residen	tial customers v	with a 5/8-inch	or 3/4-inch w	ater meter.		
23.	Are your water rates structured to promote wa			Yes 🔻				
]	b. Please	provide your comm structure below.	nodity r	ate
	a. What year did you implement conservation-	based rates?	1997]		Gallon Range	\$	Rate
				_	Tier 1	0-3000	\$	0.89
	c. How many tiers are structured in your resid	ential rates?	4		Tier 2	4000-15000	\$	1.19
					Tier 2 Tier 4	16000-30000 31000+	\$ \$	2.09 2.61
					Tier 5	510001		2.01
					Tier 6			
Pleas	e continue to the next question.							
30.	How much is your monthly water service char	ge for a typical SF customer?	\$5.47]				
Pleas	e continue to the next question.							
	Do you bill monthly or bi-monthly?		Monthly					
Pleas	e continue to the next question. Do you impose a surcharge for excessive resi	dential water use that is not		·				
52.	reflected in the inclined rate structure?			No 🔻				
]				
	se continue to the next question.		-					
33.	Do you have a drought rate?			No T		Please continue to	SECT	
	S	ECTION 7 - WASTEWATE	R RATE STR	UCTURE		Flease continue t	0 SECT	ION 7.
	The following questions relate	e ONLY to single-family residen	tial customers v	with a 5/8-inch	or 3/4-inch w	ater meter.		
34.	How much is your monthly wastewater service customer?	e charge for a typical SF	\$13.96					
Pleas	se continue to the next question.							
35.	Please describe your wastewater residential restructure.	ate Uniform Rate of \$3.17 per 1	,000 gallons with	a cap at 14,000) gallons			
						Please continue to	o SECT	ION 8.
	SEC Since you indicated in the first sect	TION 8 - REUSE / RECLAI ion that your utility has a reuse				ollowing section.		
36.	When did you begin your reuse/reclaimed wat	er program?	Dec-86]				
37.	How would you describe your recent efforts to use changes?within your service area to resid	•	er	Aggressive		Mildly Aggressive	🗌 Pas	ssive
38.	What approximate percentage of your entire rehas access to reclaimed water?	esidential service area currently	20%					
39.	Do you have plans to expand your service are	a?	No 🔻	_]		
40.	What approximate percentage of your reclaim metering device to measure demand?	ed residential customers have	a 99%					
41.	Approximately how many residential custome reclaimed water service?	rs do you provide with	1700 connection	L				
42.	How are your rates structured?	If other, please describe yo						
	☐ Flat Rate + per 1,000 gal. rate ☐ Flat Rate ☐ Per 1,000 gal. ☑ Other	Fixed Monthly Charge by m the volume charge. Retail vo						
		and , oralle charge. Retall Ve	Line onurge is o			μ		

	a 1,000 gai.				
			▼		
43. Pleas	se describe any methods y	ou employ to con	nserve reclaimed/reuse water below.		
	Ple	ase provide des	scription of reuse conversation methods above.		
	The following sect	ion is provided if	SECTION 9 - COMMENTS	would like to share at this	timo
			Vater Management District, thank you for participating in this iled all the results, it would be our pleasure to provide you wit		
۲	YES, I would like a copy of the	survey results.	Please provide the email addresses of those in your or results.	organization who should re	eceive a copy of the
			Recipient 1 Email Address: <u>Jacqueline.Torbert@oct</u>	il.net Title:	Manager, Utilities Water
	$\langle \cdot \cdot \rangle$	P	Recipient 2 Email Address:	Title:	
		Y	Recipient 3 Email Address:	Title:	
			Recipient 4 Email Address:	Title:	

Utili	ty Name:		Date Su	rvev	Completed	•	
	ndo Utilities Commission		Date ea	,	e e inprete a	3-Jun-04	
Res	pondent's Name:		Area Co	de ar	nd Phone N	lumber:	
Mich	ael K Malone					1.407.709.6691	
Posi	ition/Title:		Email:				
	r Conservation Coordinator				<u>m</u>	malone@ouc.com	
	artment:		Fax:				
	r Business Unit					1.407.236.9625	
l ota	I Number of Single Family Water Customers:	Total Number		-ami	y Water Cu	istomers:	
	Please complete all i						
	SECTION 1 - GENER	AL INFORMA	TION				
1.	Do you have multiple service areas within your service boundaries?		No	▼			
	Please continue to the next question.						
2	Have you done extensive system upgrades and/or maintenance over the past	t 2 E vooro?	Yes	•			
2.			res	•			
	a. Please provide a brief description of the upgrades/maintenance performed We have upgraded all 8 of our water plants to utilize ozination for water treatment.	below:					
	Please continue to the next guestion.						
2						·	
5.	What percentage of your service area is comprised of homes built prior to 19 <i>Please enter percentage and make a selection above.</i>	95?					
4.	Have you implemented any conservation practices that target areas with olde	er homes?	No	•			
	Our conservation efforts target our whole service area.						
	Please continue to the next question.						
5.	Do you have a GIS layer showing graphical depiction of the areas where spec conservation practices have been implemented?	cific	No	•	h		
	b. Who can we contact to identify the geographic extent of the areas v conservation practices have been implemented? <i>Please continue to the next question.</i>	vhere specific	Name: Email: Phone:		Michael K I mmalone 407.709.66	@ouc.com	
6.	Do you have a reuse/reclaimed water program to serve residential customers	with reclaimed	Yes	~ .			
0.	water for lawn irrigation?			•			
	a. Who should we contact for additional information?		Name:		Michael K I		
			Email:			@ouc.com	
			Phone:		407.709.66	91	
						Please continue to	SECTION 2.
	SECTION 2 - PUBLIC AWA	RENESS AC	TIVITIES	:			
_		NENEOO AO					
7.	Do you have an on-going public awareness / education program? Please continue to the next question.		Yes	▼.			
8.	Does your program include on-going distribution of brochures and/or pamphlets?		Yes	-			
	a. Conservation Topics Include:		rgeted Are tine Service		nclude:		
	✓ Indoor Topics		ecific Neigh		ods	Older Homes Other Specific Area	Zip Code
		L SP	ecilic Neigi	DOITIC	003	Uner Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	982 approximate					
	d. How are these distributed?	If other how (do vou die	strihi	ite vour br	ochures and/or pamph	lets?
	Speaking Events Special Mailings Other	0		, .	r r	ns newsletter (news and in	
		customers. Bill 1	inserts inclu	lde th	e Connection	is newsletter (news and in	formation from
Plos	se continue to the next question.						
9.	basis?		Yes	•			
	a. Conservation Topics Include:	b. Tar	geted Are	eas Ir	nclude:		
	Indoor Topics	🗸 En	tire Service	Area		Older Homes	Zip Code
	✓ Outdoor Topics	Sp	ecific Neigh	borho	oods	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	982 approximate	2				
	d. At what frequency are inserts utilized?						
	Every Billing Cycle Ouarterly Other						.
	D:\Clients Active\St Johns\Survey Results\#Database.xls	- 1 7					Orlando
	Prepared by: Chrisell Jones, PBS Page 1	ot /				N	ay 5, 2004

Please continue to the next question. 10. Do you send out special mailings on an on-going basis? yos a. Typical subject matter includes:		Every Billing Cycle	🗸 Quarterly	Other		Conservation messages are pro-	ovided annually but the frequency increases as a res	sult of
10. Do you send out special mailings on an on-going basis? Vis a. Typical subject matter includes: Other a. Typical subject matter includes: Other a. Typical subject matter includes: Other b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? 1000000000000000000000000000000000000	Plea	se continue to the next o	uestion.					
□ Drought Adrits ◯ Other Waturing Restrictions ↓ If of These al. What other subject matter is covered in your special mailings? The annual OUC Water Quality Report is provided via direct mail to customers. This report volds in depth information regarding money-saving and convenient was. b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? If other, how often do you send special mailings? The OUC Water Quality Report is dischalated to all customers annually. Please continue to the next question. If other, how often do you send special mailings? 11. Do you issue news releases on an on-going basis? viss	10.	Do you send out specia	al mailings on a	n on-going basis	?	Yes 🔻	_	
□ Drought Adrits ◯ Other Waturing Restrictions ↓ If of These al. What other subject matter is covered in your special mailings? The annual OUC Water Quality Report is provided via direct mail to customers. This report volds in depth information regarding money-saving and convenient was. b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? If other, how often do you send special mailings? The OUC Water Quality Report is dischalated to all customers annually. Please continue to the next question. If other, how often do you send special mailings? 11. Do you issue news releases on an on-going basis? viss		· Tomical subject worth				,		
b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? 199 If other, how often do you send special mailings? If other, how often do you send special mailings? Please continue to the next question. If other, how often do you send special mailings? If noder If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other, how often do you send special mailings? If other If other is duration releases on an on-going basis? If other If outget If other is a on-going program, what year was it implemented? Otherwise, when might you implement this practice? If other If how you oping program, what year was it implemented? Otherwise, when might you implement this practice? If white bartice? If how his an on-going program, what year was it impl				Watering Restrictio	ons All of These			
when might you implement this practice? I other Please continue to the next question. 11. Do you issue news releases on an on-going basis? I ndoor I ndoor I ndoor I other b. Targeted Areas include: I ndoor I n		a1. What other s	ubject matter is	s covered in your	special mailings?			
■ Monthy ■ Quartery ♥ Other Please continue to the next question. 11. Do you issue news releases on an on-going basis? Yes ■ Conservation Topics Include: ■ Difference ■ Indoor ■ Difference ● Utilize > Difference ● Difference > Difference<					mented? Otherwise,	1999		
11. Do you issue news releases on an on-going basis? yes ✓ a. Conservation Topics Include:				•				
a. Conservation Topics Include:	Plea	se continue to the next q	uestion.					
 ☐ Indoor ☐ Indoor ☐ Intire Service Area ☐ 2/p Code ☐ Outdoor ☐ Outdoor<!--</th--><th>11.</th><td>Do you issue news rele</td><td>ases on an on-g</td><td>going basis?</td><td></td><td>Yes 🔻</td><td></td><td></td>	11.	Do you issue news rele	ases on an on-g	going basis?		Yes 🔻		
when might you implement this practice? Please continue to the next question. 12. Do you sponsor public conservation media messages on an on-going basis? a. Sponsorship level includes:		✓ Indoor	Include:			Entire Service Area	Zip Code	
12. Do you sponsor public conservation media messages on an on-going basis? Yes a. Sponsorship level includes:	Plea	when might you implen	nent this practic		mented? Otherwise,	999 approximatel		
Do you sponsor public conservation media messages on an on-going basis? a. Sponsorship level includes: Ø With the District Ø Independently c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? d. What media do you utilize in your program? e. How much is budgeted for next FY? § 200,0 Ø Radio Ø Broadcast TV Cable Billboards Please continue to the next question. 13. Do you utilize videos of any kind on an on-going basis? Yes Ø Indoor Topics Ø Speaking Engagements Ø Outdoor Topics Ø Speaking Engagements Ø Outdoor Topics Ø Speaking Engagements Ø Nord ropics Ø Professional Groups e. If this is an on-going program, what year was it implemented? Otherwise, Ø nord ropics Ø Speaking Engagements Ø Outdoor Topics Ø Speaking Engagements Ø Seminars/Workshops c. If this is an on-going program, what year was it implemented? Otherwise, Ø nord ropics Ø Outdoor Topics Ø Speaking Engagements Ø Net when might you implement this practice? 0 Otherwise, Ø Outdoor Topics Ø Outdoor Topics Ø Outdoor Topics 0. Hease list the titles of the videos below: </th <th></th> <th></th> <th></th> <th></th> <th></th> <th>Vac –</th> <th></th> <th></th>						Vac –		
✓ With the District ✓ Drought Alerts ✓ Watering Restrictions ✓ Independently ✓ Conservation Tips ○ Other c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? Ø99 approximate d. What media do you utilize in your program? e. How much is budgeted for next FY? \$200,0 ✓ Radio ✓ Broadcast TV Cable Billboards Please continue to the next question. Yes ✓ 13. Do you utilize videos of any kind on an on-going basis? Yes ✓ ✓ Indoor Topics Schools ✓ Speaking Engagements ✓ Outdoor Topics Schools ✓ Speaking Engagements ✓ Outdoor Topics Seminars/Workshops 2000 • Hour might you implement this practice? 2000 • Lift his is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? 2000 • Hour Energy Survey is provided to customers in Spanish and English on VHS video, interactive CD-ROM and can be accessed online at www.ouc.com. Annually over		Do you sponsor public	conservation m	nedia messages o	on an on-going basis	?		
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when might you implement this practice? d. What media do you utilize in your program?						Conservation Tips		
✓ Radio ✓ Broadcast TV					mented? Otherwise,	999 approximatel		
13. Do you utilize videos of any kind on an on-going basis? Yes a. Conservation Topics Include: b. Under what circumstances are videos utilized? □ Indoor Topics □ Schools □ Speaking Engagements □ Outdoor Topics □ Professional Groups □ Seminars/Workshops c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? 2000 d. Please list the titles of the videos below: The OUC Home Energy Survey is provided to customers in Spanish and English on VHS video, interactive CD-ROM and can be accessed online at www.ouc.com. Annually over								
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☑ Indoor Topics ☐ Schools ☑ Speaking Engagements ☑ Outdoor Topics ☑ Professional Groups ☑ Seminars/Workshops c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? 2000 d. Please list the titles of the videos below: Image: Comparison of the videos below: The OUC Home Energy Survey is provided to customers in Spanish and English on VHS video, interactive CD-ROM and can be accessed online at www.ouc.com. Annually over	Plea	Radio Bro	u tilize in your pr padcast TV	ogram?	Billboards	e. How much is budgeted	for next FY? \$200	0,000
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		Radio Radio Radio Readio	utilize in your pr padcast TV question. f any kind on an Include: program, what	rogram? Cable on-going basis? year was it imple		Yes ▼ b. Under what circumstan Schools Professional Groups	nces are videos utilized? ✓ Speaking Engagements	0,000
		Radio R	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be	rogram? Cable on-going basis? year was it imple ce?	mented? Otherwise,	Yes ▼ b. Under what circumstan Schools ✓ Professional Groups 2000	Ices are videos utilized? ☑ Speaking Engagements ☐ Seminars/Workshops	
e. What are your target audiences?		Radio R	utilize in your pr poadcast TV guestion. f any kind on an Include: program, what nent this practic of the videos be grvey is provided to	rogram? Cable Cable con-going basis? year was it imple ce? How: coustomers in Spani	mented? Otherwise,	Yes ▼ b. Under what circumstan Schools ✓ Professional Groups 2000	Ices are videos utilized? ☑ Speaking Engagements ☐ Seminars/Workshops	
✓ Youth ✓ Adult ✓ Professional □ Other		Radio Radio Provide a secontinue to the next of Do you utilize videos of a. Conservation Topics Outdoor Topics Outdoor Topics Outdoor Topics c. If this is an on-going when might you implem d. Please list the titles of The OUC Home Energy Su 2,266 customers learn to co	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be grvey is provided to mserve water resources	rogram? Cable Cable con-going basis? year was it imple ce? How: coustomers in Spani	mented? Otherwise,	Yes ▼ b. Under what circumstan Schools Professional Groups 2000 video, interactive CD-ROM and c	aces are videos utilized? Speaking Engagements Seminars/Workshops an be accessed online at www.ouc.com. Annually o	
f. What does your annual viewing audience total?		Radio Radio Browner Radio	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be rivey is provided to miserve water resou audiences?	Cable	mented? Otherwise, ish and English on VHS efforts.	Yes ▼ b. Under what circumstan Schools Professional Groups 2000 video, interactive CD-ROM and c	aces are videos utilized? Speaking Engagements Seminars/Workshops an be accessed online at www.ouc.com. Annually o	
		Radio R	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be prvey is provided to mserve water resound audiences?	o cable cab	mented? Otherwise, ish and English on VHS efforts.	Yes ▼ b. Under what circumstan Schools ✓ Professional Groups 2000 video, interactive CD-ROM and c We target our entire customer Over 2,266	aces are videos utilized? Speaking Engagements Seminars/Workshops an be accessed online at www.ouc.com. Annually o	
Please continue to the next question.	13.	Radio Browner of the second second in the second secon	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be rvey is provided to mserve water resor audiences? Adult	o cable cab	mented? Otherwise, ish and English on VHS efforts.	Yes ▼ b. Under what circumstan Schools ✓ Professional Groups 2000 video, interactive CD-ROM and c We target our entire customer Over 2,266	aces are videos utilized? Speaking Engagements Seminars/Workshops an be accessed online at www.ouc.com. Annually o	
Please continue to the next question. 14. Do you promote water conservation contests on an on-going basis? No Please also answer question 14c.	13. Plea	Radio R	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be rvey is provided to mserve water resound audiences? I Adult al viewing audiences	ogram? Cable con-going basis? on-going basis? year was it imple year was it i	mented? Otherwise, ish and English on VHS efforts.	Yes b. Under what circumstan Schools Professional Groups 2000 video, interactive CD-ROM and c We target our entire customer Over 2,266 customers	aces are videos utilized? Speaking Engagements Seminars/Workshops an be accessed online at www.ouc.com. Annually of base of 190,000.	
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14. Do you promote water conservation contests on an on-going basis? No → Please also answer question 14c.	13. Plea	Radio R	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be rycey is provided to mserve water resor audiences? I Adult al viewing audie question. conservation co tdoor program, what	Cable	mented? Otherwise, ish and English on VHS efforts.	Yes ✓ b. Under what circumstan Schools Schools ✓ 2000 ✓ video, interactive CD-ROM and c ✓ We target our entire customer ✓ Over 2,266 ✓ customers No Awareness	aces are videos utilized? Image: Speaking Engagements Image: Seminars/Workshops can be accessed online at www.ouc.com. Annually of base of 190,000. Image: Please also answer question 14c. Image: The Market and State also answer question 14c. Image: The Market also answer question 14c. Image: The Market also answer question 14c. Image: The Market also answer question 14c.	over
14. Do you promote water conservation contests on an on-going basis?	13. Plea	Radio R	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be rvey is provided to mserve water resound audiences? I Adult al viewing audiences	ogram? Cable con-going basis? on-going basis? year was it imple year was it i	mented? Otherwise, ish and English on VHS efforts.	Yes b. Under what circumstan Schools Professional Groups 2000 video, interactive CD-ROM and c We target our entire customer Over 2,266 customers	aces are videos utilized? Speaking Engagements Seminars/Workshops an be accessed online at www.ouc.com. Annually of base of 190,000.	
14. Do you promote water conservation contests on an on-going basis? No ✓ □ Indoor ○ Outdoor □ Awareness □ Knowledge □ We do not measure	13. Plea	Radio Radio Radio Provide the set of Conservation Topics Indoor Topics Outdoor Topics Outdoor Topics Outdoor Topics Outdoor Topics C. If this is an on-going when might you implem d. Please list the titles of The OUC Home Energy Su 2,266 customers learn to co e. What are your target	Itilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be rivey is provided to miserve water resort audiences? I Adult al viewing audie question. conservation co	Cable C	mented? Otherwise, ish and English on VHS efforts.	Yes ✓ b. Under what circumstan Schools Schools ✓ 2000 ✓ video, interactive CD-ROM and c ✓ We target our entire customer ✓ Over 2,266 ✓ customers No Awareness	aces are videos utilized? Image: Speaking Engagements Image: Seminars/Workshops can be accessed online at www.ouc.com. Annually of base of 190,000. Image: Please also answer question 14c. Image: The Market Action Please also answer question 14c. Image: The Market Action Please also answer question 14c. Image: The Market Action Please also answer question 14c.	over
14. Do you promote water conservation contests on an on-going basis? No ✓ Please also answer question 14c. □ Indoor ○ Outdoor □ Awareness □ Knowledge □ We do not measur c. If this is an on-going program, what year was it implemented? Otherwise, Please enter the year.	13. Plea	Radio R	utilize in your pr padcast TV question. f any kind on an Include: program, what nent this practic of the videos be rycey is provided to mserve water resor audiences? I Adult al viewing audie question. conservation co tdoor program, what	Cable	mented? Otherwise, ish and English on VHS efforts.	Yes ✓ b. Under what circumstan Schools Schools ✓ 2000 ✓ video, interactive CD-ROM and c ✓ We target our entire customer ✓ Over 2,266 ✓ customers No Awareness	aces are videos utilized? Image: Speaking Engagements Image: Seminars/Workshops can be accessed online at www.ouc.com. Annually of base of 190,000. Image: Please also answer question 14c. Image: The Market Action Please also answer question 14c. Image: The Market Action Please also answer question 14c. Image: The Market Action Please also answer question 14c.	over

.

15.	Do you sponsor landscape workshops/seminars on an on-going basis?		No	₹	
	Staff Non-Staff Outside Professionals	Awareness		Behavior All of These	We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2005]		
	No				
		Through the imp	blementation	of the OUCanopy Tree Plantin	g Program, customers will
				and landscaping tips and inform	
					continue to SECTION 3.
	SECTION 3 - INDOOR CONSERV, The following section concerns programs and/or incentives rela				orts.
16.	Have you implemented any indoor water conservation replacement/rebate, in retrofit programs?	centive and/or	No	▼	
	a. Are you considering implementing any replacement/rebate, incentive and/o water conservation programs in the future?	or retrofit indoor	Yes	✓ When? 2006	
			· –	•	
				•	
Plea	se continue to the next question.				
	Do you provide individual consultations or evaluations on an on-going basis	for private	1	1	
	residential customers who are interested in recommendations that will help t conserve and/or reduce their indoor water consumption?	-	Yes	▼	
	a. How have you measured effectiveness?	edge	Behavior	✓ All of These	We do not measure
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2002]		
	c. How are you tracking behavior effectiveness?	Each month we the previous mo		e overall consumption of our cus ars.	stomers and compare it to
	d. Do you track actual water use changes?				
Plea	se continue to the next question.				
	Do you have an on-going replacement/rebate program for low-flush toilets?		No		
				Please also answer	question 18c.
	Entire Service Area	Awareness		Behavior	We do not measure
	Specific Neighborhoods	Knowledge		All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please	fill in the year.	
	when might you implement this practice?		-		
19.	Other than toilets, do you have an on-going indoor plumbing retrofit or excha	ange program?	No	▼ Please also answer	question 19c.
		□ •···			
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness		Behavior All of These	We do not measure
		č			

c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
20. Do you have a leak detection program specific to residential customers?	Yes 🔻
	▼
a. Service areas targeted include:	b. How have you measured effectiveness?
Entire Service Area Izip Code Specific Neighborhoods Older Homes	□ Awareness □ Behavior □ We do not measure □ Knowledge ☑ All of These
c. What year did you begin this program?	2003
d. Approximately how many customers benefit annually?	169
e. Do you have written policies or procedures for the program?	Yes 🔻
f. Have you established a schedule for the program?	Yes 🗶
g. Do you utilize performance contracts for leak detection and/or retrofit inspections?	Yes 🔻
h. Do you perform irrigation audits?	Yes 🔻
i. How are you tracking behavior effectiveness?	We track each irrigation audit in our computer system as WAUD or Water Audits.
j. Do you track actual water use changes?	This allows us to provide a monthly count of the audits performed. We, also use the
SECTION 4 - OUTDOOR CONSERVA	TION INCENTIVE PROGRAMS
SECTION 4 - OUTDOOR CONSERVA The following section concerns programs and/or incentives relat 21. Have you implemented any outdoor water conservation replacement/rebate, i	ive to your residential outdoor water conservation efforts.
The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs?	ive to your residential outdoor water conservation efforts. ncentive and/or No
The following section concerns programs and/or incentives relat 21. Have you implemented any outdoor water conservation replacement/rebate, i	ive to your residential outdoor water conservation efforts. ncentive and/or
The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or	ive to your residential outdoor water conservation efforts.
The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or	ive to your residential outdoor water conservation efforts.
The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or	ive to your residential outdoor water conservation efforts.
The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or	ive to your residential outdoor water conservation efforts.
The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or	ive to your residential outdoor water conservation efforts.
 The following section concerns programs and/or incentives related any outdoor water conservation replacement/rebate, in retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or water conservation programs in the future? 	ive to your residential outdoor water conservation efforts.
The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or	ive to your residential outdoor water conservation efforts. ncentive and/or ves vertication of ves
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The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, incentive and/or retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program?	ive to your residential outdoor water conservation efforts. ncentive and/or No or retrofit indoor Yes When? 2006 Ves Ves Ves Ves Ves Ves Ves Ves Ves Ves
The following section concerns programs and/or incentives relat Are you implemented any outdoor water conservation replacement/rebate, i retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Are you considering implementing any rain sensor programs in the future?	ive to your residential outdoor water conservation efforts. ncentive and/or No or retrofit indoor Yes When? 2006 Ves Please also answer question 22a. Please make your selection.
The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, incentive and/or retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program?	ive to your residential outdoor water conservation efforts. ncentive and/or No or retrofit indoor Yes When? 2006 Ves Please also answer question 22a. Please make your selection.
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The following section concerns programs and/or incentives related 21. Have you implemented any outdoor water conservation replacement/rebate, incentive and/or water conservation programs in the future? a. Are you considering implementing any replacement/rebate, incentive and/or water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Are you considering implementing any rain sensor programs in the future?	ive to your residential outdoor water conservation efforts. Incentive and/or No Yes When? 2006 I Please also answer question 22a. Please make your selection. Please make your selection. Awareness Audition These I Ves
The following section concerns programs and/or incentives related any outdoor water conservation replacement/rebate, incentive and/or retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/or water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Are you considering implementing any rain sensor programs in the future? 	ive to your residential outdoor water conservation efforts. Incentive and/or No Incentive indoor Yes When? 2006 When? Incentive indoor Incentive indoor Yes Incentive indoor When? Incentive indoor Yes Yes Incentive indoor Yes Yes
21. Have you implemented any outdoor water conservation replacement/rebate, i retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/o water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Are you considering implementing any rain sensor programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Are you considering implementing any rain sensor programs in the future? Specific Neighborhoods Older Homes 23. Do you provide individual consultations or evaluations for private residential	ive to your residential outdoor water conservation efforts. Incentive and/or No Incentive indoor Yes When? 2006 When? Incentive indoor Incentive indoor Yes Incentive indoor When? Incentive indoor Yes Yes Incentive indoor Yes Yes
21. Have you implemented any outdoor water conservation replacement/rebate, i retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/o water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Are you considering implementing any rain sensor programs in the future? Please continue to the next question. 22. Have you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? 21. Do you provide individual consultations or evaluations for private residential are interested in recommendations that will help them to conserve and/or red	ive to your residential outdoor water conservation efforts. Incentive and/or No r retrofit indoor Yes Vhen? 2006 Image: Selection. Please make your selection. Please make your selection. Awareness Awareness Behavior We do not measure All of These Customers who Yes
21. Have you implemented any outdoor water conservation replacement/rebate, i retrofit programs? a. Are you considering implementing any replacement/rebate, incentive and/o water conservation programs in the future? Please continue to the next question. 22. Have you implemented a rain sensor program? a. Are you considering implementing any rain sensor programs in the future? Please continue to the next question. 22. Have you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? a. Are you considering implementing any rain sensor programs in the future? 21. Do you provide individual consultations or evaluations for private residential are interested in recommendations that will help them to conserve and/or red	ive to your residential outdoor water conservation efforts. Incentive and/or No r retrofit indoor Yes Vhen? 2006 Image: Selection. Please make your selection. Please make your selection. Awareness Awareness Behavior We do not measure All of These Customers who Yes

a. Service area		le: Zip Code Older Homes		b. How have Awarenes		ectiveness?	We do not measure
Please	select all that ap	oly above.					
c. What year d	id you begin thes	se services?			Please enter th	he year.	
d. Approximat	ely how many res	idences benefit ann	ually?		Please enter #	L	
e. How are you	I tracking behavi	or effectiveness?			•	dits are from customer	-
f. Do you track	actual water use	e changes?	Yes 🔻	consumption to	r one or more month	s. They are anxious to	earn why their water
24. Do you have a	n incentive progr	am for irrigation sys	tem improvements?		No 💌		
a. Are you con	sidering impleme	enting any rain sense	or programs in the future	?	Yes 💌 V	When? 2006	
Entire Servi		Zip Code		Awareness		Behavior	We do not measure
]		
		am for residential cu scaping on their prop	istomers to use drought perty?	-tolerant or	Yes 💌		
a. Service area ✓ Entire Servi ☐ Specific Nei		le: Zip Code		b. How have Awareness	you measured effe	Ectiveness? Behavior All of These	We do not measure
c. What year d	id you begin this	program?		2002			
-		provements are reco	rded annually?		Please enter #	L	
e How are you	utracking behavi	or effectiveness?			0	ates provide an incentiv	ve for customers using
•	k actual water us		Yes 🔻	Florida Friendly	/ landscape items.		

Please continue to SECTION 5.

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below.

26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water savings.

		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
Water Use Restrictions	Adoption Year:	· · · · · · · · · · · · · · · · · · ·	
Native Plant Use	Adoption Year:	•	•
Drought Tolerant Plant Use	Adoption Year:	_	
Rain Sensors	Adoption Year:		
Site Design Review	Adoption Year:	•	
Efficient Irrigation	Adoption Year:	▼	
Turf Use Restrictions	Adoption Year:		

27.	. Do you require any permitting actions specifically related to indoor and outdoor plumbing			
	that promotes efficient water use changes?	No	•	

	We do not make manage water consumption. This lies in the realm of the City of Orlando and Orange County Florida.							
Pleas	se continue to the next question.							
28.	Are all governmental entities and exempt users metered?		,	Yes 🔻				
	a. Since what year have all users been metered?		1923	·				
	·····							
						Please continue t	o SECTION 6.	
	SECTION The following questions relate ONLY to sing	l 6 - WATER RA gle-family resident			or 3/4-inch w	ater meter.		
29.	Are your water rates structured to promote water conservati			Yes 🔻				
					b. Please	provide your com structure below.	-	
	a. What year did you implement conservation-based rates?		2001	Г		Gallon Range	\$ Rate	
				-	Tier 1	First 3,000 Gallons In City / Outside Ci	ty Limits 0.801/0.945	
	c. How many tiers are structured in your residential rates?		4	-	Tier 2	Next 12,000 Gallons In City / Outside City	Limits 1.071/1.263	
				-	Tier 2	Next 15,000 Gallons In City / Outside City		
				-	Tier 4	Next 30,000 Gallons In City / Outside C	ity Limits 2.348/2.771	
				-	Tier 5			
				L	Tier 6			
Pleas	se continue to the next question.							
30.	How much is your monthly water service charge for a typica	I SF customer?	4.55 for					
Pleas	se continue to the next question.							
	Do you bill monthly or bi-monthly?		monthly					
	se continue to the next question.							
32.	Do you impose a surcharge for excessive residential water u reflected in the inclined rate structure?	use that is not		No 🔻				
Pleas	se continue to the next question.							
	Do you have a drought rate?			No 🔻				
	, .		•			Please continue	to SECTION 7.	
		WASTEWATER						
	The following questions relate ONLY to sing	gle-family resident		ith a 5/8-inch o	or 3/4-inch w	ater meter.		
34.	How much is your monthly wastewater service charge for a to customer?	typical SF	Not Applicable					
Pleas	se continue to the next question.							
35.	Please describe your wastewater residential rate Not Applie	cable We do not ma	nage wastewater.					
	structure.							
						Please continue	to SECTION 8.	
	Since you indicated in the first section that your u				mplete the fo	llowing section.		
36.	When did you begin your reuse/reclaimed water program?		1989					
	How would you describe your recent efforts to promote reus use changes?within your service area to residential custome			Aggressive	✓ N	lildly Aggressive	Passive	
38.	What approximate percentage of your entire residential serv has access to reclaimed water?	vice area currently		Please ente	r percentage			
39.	Do you have plans to expand your service area?		-	Г				
40.	What approximate percentage of your reclaimed residential	customers have a		Please ente	r percentage			
41.	metering device to measure demand? Approximately how many residential customers do you prov	vide with		Please ente	r the number	of customers.		
••	reclaimed water service?							
42.	How are your rates structured? Flat Rate + per 1,000 gal. rate							
	✓ Per 1.000 gal.						0.1	
	D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones, PBS	Page 6 d	of 7				Orlando May 5, 2004	

	✓ Per 1,000 gal.	✓ Other			
			▼		
43.	Please describe any methods yo	ou employ to con	serve reclaimed/reuse water below.		
	Plea	ase provide des	scription of reuse conversation methods above.		
	The following secti	on is provided if	SECTION 9 - COMMENTS you have any comments or additional information you wou	ld like to share at this t	ime.
			Vater Management District, thank you for participating in this por iled all the results, it would be our pleasure to provide you with a c		
	• YES, I would like a copy of the s	survey results.	Please provide the email addresses of those in your organ results.	nization who should re	ceive a copy of the
			Recipient 1 Email Address: mmalone@ouc.com	Title:	Water Conservation
	(<u>''</u> }	Ŷ	Recipient 2 Email Address: <u>dbradshaw@ouc.com</u>	Title:	Water Engineering
		J.	Recipient 3 Email Address:	Title:	
			Recipient 4 Email Address:	Title:	

lity Name:	Date Survey Completed:						
y of Ormond Beach					8-Jun-04		
spondent's Name: 1 Sheahan	Area Code and Phone Number:						
sition/Title:	Email:			386-676-3583			
lites Manager		Eman.		sheaha	n@ormondbeach.org	1 C	
partment:		Fax:				2	
lic Works					386-676-3294		
tal Number of Single Family Water Customers: Total	Number	r of Multi	Fami	ly Water Cus	tomers:		
Please complete all information	tion abo	ve.					
SECTION 1 - GENERAL I	NFORM	IATION	1				
Do you have multiple service areas within your service boundaries?		No	•	-			
Please continue to the next question.			1				
Have you done extensive system upgrades and/or maintenance over the past 2-5 yea		Yes	▼	-			
 a. Please provide a brief description of the upgrades/maintenance performed below: Replacement of 2" galvanized iron pipe water mains with new 8" PVC water mains. Meter replacen mains. 		am to repl	ace all	meters more th	an 10 years old. Loopin	g of dead end	
Please continue to the next question.				1			
• What percentage of your service area is comprised of homes built prior to 1995? Please enter percentage and make a selection above.							
Have you implemented any conservation practices that target areas with older homes	s?	No	•				
Please continue to the next question.							
Do you have a GIS layer showing graphical depiction of the areas where specific conservation practices have been implemented?		No	•				
b. Who can we contact to identify the geographic extent of the areas where specific conservation practices have been implemented?		Name: Email: Phone:				1.00	
				Please prov	vide contact informat	ion.	
Do you have a reuse/reclaimed water program to serve residential customers with re- water for lawn irrigation?	claimed	Yes	•				
a. Who should we contact for additional information?		Name: Email: Phone:		Tim Sheahan sheahan@orn 386-676-3583	nondbeach.org	org	
		i none.		380-070-3385	Please continue t	o SECTION 2	
SECTION 2 - PUBLIC AWARENE	SS AC	TIVITIE	s				
Do you have an on-going public awareness / education program? Please continue to the next question.		Yes	•				
Does your program include on-going distribution of brochures and/or pamphlets?		Yes	•				
a. Conservation Topics Include:	b. Ta	rgeted A	reas l	nclude:			
☐ Indoor Topics ✓ Outdoor Topics	=	nti n e Servic Decific Neig			Older Homes Other Specific Area	Zip Code	
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	1998						
	er how	do vou d	istrih	ute vour bro	chures and/or pamph	lets?	
		Earth Day					
ase continue to the next question.							
Do you insert water conservation information in water bills on an on-going			_ ·				
basis?		No	₹.	Please als	so answer question 9	ic.	
Indoor Topics	=	ntire Servic pecific Neig			Older Homes	Zip Code	
c. If this is an on-going program, what year was it implemented? Otherwise,		Pleas	se ent	er the year.			
when might you implement this practice?		-					

	Every Billing Cycle	Quarterly	Other			
10	Do you cond out speci	al mailings on an o	n-going basis?		· · · · · · · · · · · · · · · · · · ·	_
10.	10. Do you send out special mailings on an on-going basis?			No Please also answer question 10b.		
	_		_			
	Drought Alerts	Other W	atering Restrictions	All of These		
			ar was it implemented?	Otherwise,	Please enter the year.	
	when might you imple	ment this practice?				
	Monthly	Quarterly	Other			
11.	Do you issue news rel	eases on an on-goir	na hasis?			_
	Do you issue news rei	eases on an on-goi			Yes 🔻	
	a. Conservation Topic	s Include:			b. Targeted Areas Include:	
	 ✓ Indoor ✓ Outdoor 				Entire Service Area Izip Code Other All of These	
			ar was it implemented?	Otherwise,	1998	
Plea	when might you imple se continue to the next					
12.					Yes ▼	
			a messages on an on-ge	oing basis?		
`	a. Sponsorship level in	ncludes:			b. Typical subject matter includes:	
	✓ Independently				Conservation Tips Other	
					1000	
	when might you imple		ar was it implemented?	Otherwise,	1998	
	d. What media do you	utilize in your progr	am?		e. How much is budgeted for next FY? \$ 4,900.0)0
	✓ Radio ✓ B	roadcast TV	Cable 🗸 Billboards			
Plea	se continue to the next	question.				
13.	Do you utilize videos o	of any kind on an on	-going basis?		Yes 🔻	Π
	a. Conservation Topic	s Include:			b. Under what circumstances are videos utilized?	
	Indoor Topics	s monute.			Schools Speaking Engagements	
	✓ Outdoor Topics				Professional Groups Seminars/Workshops	
	c. If this is an on-going	a program, what yea	ar was it implemented?	Otherwise.	1998	
	when might you imple			,		
	d. Please list the titles	of the videos below	<i>ı</i> :			
	Water-wise Landscaping					
	e. What are your targe	t audiences?				
	Vouth	✓ Adult	Professional Other			
	f. What does your ann	ual viewing audienc	e total?		?	
Plea	se continue to the next	question.				
14.	Do you promote water	conservation conte	ests on an on-going basi	s?	Yes 🔻	
	a. Contest themes incl				b. How have you measured effectiveness?	
	Indoor V O	utdoor			Awareness V Knowledge We do not measure	;
	c. If this is an on-going	g program, what vea	ar was it implemented?	Otherwise,	1998	
	when might you imple		-	,		

d. What groups do you typically target?	Schools, Builders, Irrigation contactors, homeowners
Please continue to the next question.	
15. Do you sponsor landscape workshops/seminars on an on-going basis?	Yes 🔻
a. Workshops/seminars are given by: Staff Non-Staff Outside Professionals	b. How have you measured effectiveness? ✓ Awareness Behavior We do not measured ✓ Knowledge All of These
c. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	
d. Do you track actual water use changes?	
e. How are you tracking behavior effectiveness?	we're not
	Please continue to SECTIO
SECTION 3 - INDOOR CONSER The following section concerns programs and/or incentives re	VATION INCENTIVE PROGRAMS
16. Have you implemented any indoor water conservation replacement/rebate, retrofit programs?	incentive and/or Yes
 the program(s)? c. Do you follow-up with the customer in any manner after installation? Please continue to the next question. 17. Do you provide individual consultations or evaluations on an on-going basi residential customers who are interested in recommendations that will help and/or reduce their indoor water consumption? 	
-	owledge Behavior All of These We do not measure
b. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	e, Please enter the year.
18. Do you have an on-going replacement/rebate program for low-flush toilets?	? No ▼ Please also answer question 18c.
Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Behavior We do not measure Knowledge All of These
c. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	e, Please fill in the year.

Other than toilets, do you have an on-going indoor plumbing retrofit or exchange program?

Robavior

No

▼

	Entire Service Area Specific Neighborhoods	Zip Code Older Homes	Awareness Knowledge		Behavior	We do not measure
	c. If this is an on-going program when might you implement this	m, what year was it implemented? Otherwise, s practice?		Please enter the ye	ear.	
		~				
20.	Do you have a leak detection p	rogram specific to residential customers?	N	lo 🔻 Pleas	se also answer q	uestion 20a.
	a. Are you considering implem	enting any rain sensor programs in the future?		_		
			Please m	ake your selection.		
	Entire Service Area Specific Neighborhoods	Zip Code	Awareness Knowledge		Behavior	We do not measure
			▼ ▼			
			▼ ▼			
	The following sec	SECTION 4 - OUTDOOR CONSERVA tion concerns programs and/or incentives relati				orts.
21.	Have you implemented any out retrofit programs?	tdoor water conservation replacement/rebate, in	ncentive and/or	Yes 🔻		

 a. What year did you begin implementing these programs? b. Do you have written policies/procedures concerning implementation and maintenance of the program(s)? c. Do you follow-up with the customer in any manner after installation? d. Do you have a mobile irrigation lab program? 	1998 Yes No Yes
Please continue to the next question. 22. Have you implemented a rain sensor program?	Yes 💌
a. Service areas targeted include: b. How have to the service Area ☑ Entire Service Area ☑ Zip Code ☑ Awareness ☑ Specific Neighborhoods ☑ Older Homes ☑ Knowledge	
c. What year did you begin this program? 1998 d. Approximately how many residences benefit annually? ?	
Please continue to the next question.	

23.	Do you provide individual consultations or evaluations for private residential cu are interested in recommendations that will help them to conserve and/or reduc outdoor water consumption?		No	▼.			
	a. Are you considering implementing any rain sensor programs in the future?		Yes	•	When?	2005	
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness			=	ehavior III of These	We do not measure
]				
	se continue to the next question.						
24.	Do you have an incentive program for irrigation system improvements?		Yes				
	a. Service areas targeted include: Entire Service Area Izip Code Specific Neighborhoods Older Homes	b. How have y ✓ Awareness ✓ Knowledge 	ou mea	asured ef		e ss? Behavior All of These	We do not measure
	c. What year did you begin this program?	2004	1			All of These	
	d. Approximately how many improvements are recorded annually?	?	 				
				Please o	escribe fi	racking abov	9.
	Please make your selection.					3	
25.	Do you have an incentive program for residential customers to use drought-tole xeriscape/Florida-friendly landscaping on their property?	erant or	Yes	•			
				•			
	a. Service areas targeted include: V Entire Service Area Zip Code Specific Neighborhoods Older Homes	b. How have y ✓ Awareness ✓ Knowledge	ou mea	asured ef		ess? Behavior All of These	We do not measure
	c. What year did you begin this program?	pre 1995]				
	d. Approximately how many improvements are recorded annually?	?]				
	_						

Please continue to the next question.

savings.

SECTION 5 - LOCAL ORDINANCES, RESOLUTIONS AND BUILDING CODES

Please do not consider any State or Water Management District policies, practices, or directives when making your selections below. 26. Specifically related to residential landscaping, please select which of the following components are contained in your adopted Ordinances, Resolutions, and/or Building Codes and the year adopted; or what year you plan adopt. Also indicate if you have performed an analysis to determine associated water

		Please indicate if you enforce the corresponding ordinance/code:	Please indicate if you have analyzed water savings:
✓ Water Use Restrictions	Adoption Year: 2001	Enforcement practiced	Savings not analyzed
✓ Native Plant Use	Adoption Year: 2004 pending	Enforcement not practiced	Savings not analyzed
✓ Drought Tolerant Plant Use	Adoption Year: 2004 pending	Enforcement not practiced	Savings not analyzed
✓ Rain Sensors	Adoption Year: 2001	Enforcement practiced	Savings not analyzed
Site Design Review	Adoption Year: 2003 amended	Enforcement practiced	Savings not analyzed

Efficient Irrigation

D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones, PBS

	Efficient Irrigation	Adoption Year:				•	Not Applicable		
✓	Turf Use Restrictions	Adoption Year:	2003 amended	Enforcemer	t practiced	•	Savings not analyz	zed	_
			2000 unitided						
Please conti	inue to the next question	.							
-	u require any permitting omotes efficient water u		ated to indoor and outdoo	or plumbing	Yes 🔻				
			fically relate to water cor required on all homes, a mini		landscaped are	ea must beof xer	ic plantings.		
			•						
	inue to the next question				-				
28. Are all	governmental entities a	nd exempt users meter	ed?		Yes 🔻				
a. Sinc	e what year have all use	rs been metered?		pre 1996					
							Please continue	to SEC	TION 6.
			CTION 6 - WATER RA						
29. Are vo	The following our water rates structured		to single-family resident servation?			or 3/4-inch w	ater meter.		
					Yes 🔻				
						b. Please	provide your con structure below		y rate
a. Wha	at year did you implemen	t conservation-based r	ates?	pre 1996			Gallon Range		\$ Rate
						Tier 1	\$8.26+\$2.08 per1	000	
c. How	many tiers are structure	ed in your residential ra	ites?	1		Tier 2			
						Tier 2			
						Tier 4			
						Tier 5			
						Tier 6	Please complete	rates a	bove.
	nuch is your monthly wat	-	typical SF customer?	18.66 for 5000gal					
	nue to the next question								
-	u bill monthly or bi-mont	-		monthly					
	inue to the next question u impose a surcharge for		water use that is not						
	ed in the inclined rate st				No 🔻				
Please conti	inue to the next question	ı.							
33. Do you	u have a drought rate?				No 💌				
							Please continue	e to SE	
	The following		ON 7 - WASTEWATER to single-family resident			or 3/4-inch w	ater meter		
34 How m	nuch is your monthly was			\$25.33					
custor	• •	-		<i>423.33</i>					
	e describe your wastewat).78 base rate (includes fir	st 2,000 gal.) =\$2	.91 per 1000	gal. over 2,00) gal.		
structu	ure.		``		1				
							Places setting		CTION
		SECTION	8 - REUSE / RECLAII	NED WATER I	PROGRAM		Please continue	e to SE	
	Since you indicated		t your utility has a reuse/				llowing section.		
36. When	did you begin your reuse	e/reclaimed water prog	am?	pre 1996					
	vould you describe your anges?within your servi	-	te reuse/reclaimed water ustomers?		Aggressive	· ✓	Mildly Aggressive		Passive
	approximate percentage	-	al service area currently	5%					
				Yes 🔻				Or	rmond
	Clients Active\St Johns\Surve		Page 6	6 of 7				May 5	

39.	Do you have plans to expand your service area? <u>Yes</u> ♥ When? <u>2004</u>
40.	What approximate percentage of your reclaimed residential customers have a 0% Please enter percentage. metering device to measure demand?
41.	Approximately how many residential customers do you provide with reclaimed 1,000 water service?
42.	How are your rates structured? I Flat Rate + per 1,000 gal. rate I Flat Rate I Per 1,000 gal. I Other
	a. Do you have plans to implement a volumetric
43.	Please describe any methods you employ to conserve reclaimed/reuse water below. Notice on web site.
	SECTION 9 - COMMENTS The following section is provided if you have any comments or additional information you would like to share at this time.
	The following section is provided if you have any comments of additional mornation you would like to share at this time. Sty of Ormond Beach is a member of the Water Authority of Volusia (WAV). This organization employs a full time conservation coordinator that acts on behalf of member nments. Many of the responses in this survey reflect the conservation efforts of the organization.
	On behalf of the St. Johns River Water Management District, thank you for participating in this portion of our survey. Once we have compiled all the results, it would be our pleasure to provide you with a copy.

• YES, I would like a copy of the survey results.



Please provide the email addresses of those in your organization who should receive a copy of the results. Recipient 1 Email Address: Title:

Recipient 2 Email Address:	Title:	
Recipient 3 Email Address:	Title:	
Recipient 4 Email Address:	Title:	

Prepared by PBS&J exclusively for the St. Johns River Water Management District, Department of Water Supply Management, May 2004

c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? 2003 d. How are these distributed? 2003 g. Speaking Events g. Special Mailings Other 0 ther Please continue to the next question. 9. Do you insert water conservation information in water bills on an on-going basis? No ▼ Please also answer question 9c. □ Indoor Topics □ Older Homes □ Zip Code 0 Outdoor Topics □ Other Specific Area □ Newer Hom c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? Please enter the year.		y Name:		Date Su	irvey	Completed:		
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Operations: Product Section (Control Control Contenecont Control Control Contenecont Control Control C				Email:			321-932-3471	
Unlikes	Opera	tions Division Manager				nipper@	palmbayflorida.org	1
Total Number of Single Family Water Customers: 1,000 Total Number of Multi Family Water Customers: 1,500 Rease continue to the next question. Interview of the next question. Interview of the next question. Interview question of the upgrade and/or maintenance ever the past 24 years? Ym Image: Continue to the next question. Rease continue to the next question. Note a vect start question. Note a vect start question. Rease continue to the next question. Note a vect question. Note a vect down due to the next question. Note a vect down due to the next question. Note a vect down due to the next question. Note a vect down due to the next question. Note a vect down due to the next question. Note a vect down due to graphic data to the arease where spec	-			Fax:				
			Numbor	of Multi	Fam	ily Water Cue		4 500
SECTION 1 - GENERAL INFORMATION De you have multiple service areas within your service boundaries? No Please continue to the near question. Have you done extensive system upgrades and/or maintenance over the past 2-5 years? Have you done extensive system upgrades and/or maintenance over the past 2-5 years? Have you done extensive system upgrades and/or maintenance over the past 2-5 years? Have you done extensive system upgrades and/or maintenance over the past 2-5 years? Have you done extensive system upgrades and/or maintenance over the past 2-5 years? Have you inplemented as Completed of homes bulk prior to 1995? Please continue to the near question. Have you implemented any conservation practices that target areas with older homes? Hease continue to the near question. Have you implemented any conservation practices that target areas with older homes? Hease continue to the near question. How you implemented any conservation practices that target areas with older homes? Hease continue to the near question. How you implemented any conservation practices have boon implemented? Name: Hease continue to the near question. Conservation practices have boon implemented? Name: Hease continue to the near question. Conservation practices have boon implemented? Sectrion 2- DUBLIC AVARENESS ACTIVITIES Conservation Topics include: Device the past question. Sectrion 2- DUBLIC AVARENESS ACTIVITIES Conservation Topics include: Device the past question. Sectrion 2- DUBLIC AVARENESS ACTIVITIES Conservation Topics include: Device the past question. Sectrion 2- DUBLIC AVARENESS ACTIVITIES Please continue to the near question. Conservation Topics include: Device the past question. Device the maint question information in water bills on an on-going Sectrion 2- DUBLIC AVARENESS ACTIVITIES Conservation Topics include: Device the past question. Conservation topic past with proceed and the past was the implemented? Otherwise, Device the past duest Avea Device the past. Device the section are ast	Total				am	ily Water Cus	tomers.	4,300
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c. If this is an on-going program, what year was it implemented? Otherwise, 2003 d. How are these distributed? ✓ Speaking Events ✓ Special Mailings ○ Other Please continue to the next question. 9. Do you insert water conservation information in water bills on an on-going basis? No ▼ Please also answer question 9c. □ Indoor Topics □ Indoor Topics ○ Outdoor Topics ○ C. If this is an on-going program, what year was it implemented? Otherwise, Please enter the year. When might you implement this practice?				•				= '
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basis? NO Please also answer question 9c. Indoor Topics Entire Service Area Older Homes Zip Code Outdoor Topics Specific Neighborhoods Other Specific Area Newer Hom c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? Please enter the year. Data Data	Pleas	se continue to the next question.						
C. If this is an on-going program, what year was it implemented? Otherwise, Please enter the year.	9.			No	•	Please als	so answer question s	e.
C. If this is an on-going program, what year was it implemented? Otherwise, Please enter the year.				time Control		_	Older Homes	
c. If this is an on-going program, what year was it implemented? Otherwise, Please enter the year.			=					Newer Homes
when might you implement this practice?								
D:\Clients Active\St. Johns\Sunvey Results\#Database vis Palm Bay				Pleas	e en	ter the year.		
Prepared by: Chrisell Jones, PBS Page 1 of 7 May 5, 2004		D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones, PBS Page 1 of 7					N	•

Every Billing Cycle Quarterly Other	
10. Do you send out special mailings on an on-going basis?	
	No Please also answer question 10b.
Drought Alerts Other Watering Restrictions All of These	
b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Monthly Quarterly Other	
11. Do you issue news releases on an on-going basis?	
	No Please also answer question 11c.
Indoor	Entire Service Area
	Other All of These
c. If this is an on-going program, what year was it implemented? Otherwise,	Please enter the year.
when might you implement this practice?	
12.	No 🔽 Di ci co
Do you sponsor public conservation media messages on an on-going basis?	Please also answer question 12c.
 With the District Independently 	Drought Alerts Watering Restrictions Conservation Tips Other
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Radio Broadcast TV Cable Billboards	
Radio Broadcast TV Cable Billboards	
13. Do you utilize videos of any kind on an on-going basis?	Yes 🔻
a. Conservation Topics Include:	b. Under what circumstances are videos utilized? Schools
✓ Outdoor Topics	Professional Groups Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2003
d. Please list the titles of the videos below:	
Conserving Water on the Space Coast	
e. What are your target audiences?	
✓ Youth Adult Professional Other	
f. What does your annual viewing audience total?	N/A
Please continue to the next question.	
14. Do you promote water conservation contests on an on-going basis?	No Please also answer question 14c.
Indoor Outdoor	Awareness Knowledge We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.

15. Do you sponsor landscape workshops/seminars on an on-going basis?	Yes	✓	
a. Workshops/seminars are given by:	_b. How have you measu	red effectiveness?	
Staff ✓ Non-Staff Outside Professionals	✓ Awareness	Behavior	We do not measure
	✓ Knowledge	All of These	
c. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	e, 2001		
d. Do you track actual water use changes?			
	Surveys		
e. How are you tracking behavior effectiveness?			
			continue to SECTION 3.
SECTION 3 - INDOOR CONSER			
The following section concerns programs and/or incentives re		loor water conservation effe	orts.
16. Have you implemented any indoor water conservation replacement/rebate, retrofit programs?	incentive and/or Yes	▼	
		▼	
a. What year did you begin implementing these programs?	2002		
b. Do you have written policies/procedures concerning implementation and	d maintenance of No	▼	
the program(s)?	No	-	
c. Do you follow-up with the customer in any manner after installation?	NO	•	
Please continue to the next question.			
17. Do you provide individual consultations or evaluations on an on-going bas residential customers who are interested in recommendations that will help and/or reduce their indoor water consumption?	- No	▼	
· _	owledge Behavior	All of These	
		All of These	We do not measure
b. If this is an on-going program, what year was it implemented? Otherwis	se, 2006		
when might you implement this practice?	-,		
•			
Please continue to the next question.			
18. Do you have an on-going replacement/rebate program for low-flush toilets?	?		
		Please also answer of the second s	juestion loc.
Entire Service Area	Awareness	Behavior	We do not measure
Specific Neighborhoods	Knowledge	All of These	
c. If this is an on-going program, what year was it implemented? Otherwise			
	e, Please	fill in the year.	
when might you implement this practice?	e, Please	fill in the year.	
	e, Please	fill in the year.	
	e, Please	fill in the year.	
	e, Please	fill in the year.	
	e, Please	fill in the year.	
	e, Please	fill in the year.	
when might you implement this practice?	Ves	fill in the year.	
when might you implement this practice? 19. Other than toilets, do you have an on-going indoor plumbing retrofit or exc	change program?		
when might you implement this practice?	Ves		⊡ We do not measure Palm Bay

	Entire Service Area Specific Neighborhoods	Zip Code Older Homes	Awareness			Behavior All of These	✓ We do not measure
	c. If this is an on-going program when might you implement this	n, what year was it implemented? Otherwise, practice?	2002				
	d. Approximately how many fixe	ures are replaced annually?	1000				
Pleas	e continue to the next question.						
		ogram specific to residential customers?		No	•		
	a. Are you considering impleme	enting any rain sensor programs in the future?		No _	•		
	Entire Service Area Specific Neighborhoods	Zip Code	Awareness			Behavior All of These	We do not measure
			▼ ▼ ▼				
		· •					
						Please	continue to SECTION 4.
		SECTION 4 - OUTDOOR CONSERVA				S	continue to SECTION 4.
	Have you implemented any out	SECTION 4 - OUTDOOR CONSERVA ion concerns programs and/or incentives relati door water conservation replacement/rebate, ir	ive to your reside	ential outo	door wate	S	
	Have you implemented any out retrofit programs? a. Are you considering impleme	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or	ive to your residencentive and/or	ential outo		S	
	Have you implemented any out retrofit programs?	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or	ive to your residencentive and/or	No	door wate	S	
	Have you implemented any out retrofit programs? a. Are you considering impleme	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or	ive to your residencentive and/or	No	door wate	S	
	Have you implemented any out retrofit programs? a. Are you considering impleme	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or	ive to your residencentive and/or	No	door wate	S	
	Have you implemented any out retrofit programs? a. Are you considering impleme water conservation programs in	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/on h the future?	ive to your residencentive and/or	No	door wate	S	
Pleas	Have you implemented any out retrofit programs? a. Are you considering impleme water conservation programs in e continue to the next question.	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/on n the future?	ive to your reside ncentive and/or r retrofit indoor	No	door wate	S	
Pleas 22.	Have you implemented any out retrofit programs? a. Are you considering impleme water conservation programs in e continue to the next question. Have you implemented a rain se	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or in the future?	ive to your reside incentive and/or r retrofit indoor	No No No	door wate	S	
Pleas 22.	Have you implemented any out retrofit programs? a. Are you considering impleme water conservation programs in e continue to the next question. Have you implemented a rain se	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/on n the future?	ive to your reside incentive and/or r retrofit indoor	No	door wate	S	
Pleas 22.	Have you implemented any out retrofit programs? a. Are you considering impleme water conservation programs in e continue to the next question. Have you implemented a rain se	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or in the future?	ive to your reside incentive and/or r retrofit indoor	No No No	loor wate	S	
Pleas 22.	Have you implemented any out retrofit programs? a. Are you considering impleme water conservation programs in e continue to the next question. Have you implemented a rain so a. Are you considering implemented Entire Service Area	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or in the future? ensor program? enting any rain sensor programs in the future?	ive to your reside incentive and/or r retrofit indoor	No No No	loor wate	S r conservation eff	orts.
Pleas 22.	Have you implemented any out retrofit programs? a. Are you considering impleme water conservation programs in e continue to the next question. Have you implemented a rain so a. Are you considering implemented Entire Service Area	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or in the future? ensor program? enting any rain sensor programs in the future?	ive to your reside incentive and/or r retrofit indoor	No No No	loor wate	S r conservation eff	orts.
Pleas 22.	Have you implemented any out retrofit programs? a. Are you considering impleme water conservation programs in e continue to the next question. Have you implemented a rain so a. Are you considering implemented Entire Service Area	ion concerns programs and/or incentives relati door water conservation replacement/rebate, in enting any replacement/rebate, incentive and/or in the future? ensor program? enting any rain sensor programs in the future?	ive to your reside incentive and/or r retrofit indoor	No No No	loor wate	S r conservation eff	orts.

	onsultations or evaluations for private residential lations that will help them to conserve and/or redu ?		No	•		
a. Are you considering imple	ementing any rain sensor programs in the future?		No	•		
Entire Service Area	Zip Code	Awareness			Behavior All of These	We do not meas
]			
	▼					
ease continue to the next questi	on.					
4. Do you have an incentive pro	ogram for irrigation system improvements?		No	<u> </u>		
a. Are you considering imple	ementing any rain sensor programs in the future?		No	· ·		
Entire Service Area Specific Neighborhoods	Zip Code	Awareness			Behavior All of These	We do not mea
]			
	-					
	ogram for residential customers to use drought-to ndscaping on their property?	lerant or	No	-		
a. Are you considering imple	ementing any rain sensor programs in the future?		No	•		
Entire Service Area Specific Neighborhoods	Zip Code	Awareness			Behavior All of These	We do not mea
]			
						
ease continue to the next questi	on.				Please of	continue to SECTI
	on. SECTION 5 - LOCAL ORDINANCES, RES ler any State or Water Management District policie				ODES	continue to SECTIO

		corresponding ordinance/code:	analyzed water savings:
Water Use Restrictions	Adoption Year:		
Native Plant Use	Adoption Year:	▼	_
Drought Tolerant Plant Use	Adoption Year:		· •
Rain Sensors	Adoption Year:	▼	
Site Design Review	Adoption Year:		₹
Efficient Irrigation			

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	Efficient Irrigation	Adoption Year:		_	•	 ▼			
	Turf Use Restrictions			-		•			
		Adoption Year:			_	~_			. 🕶
	Please select all that apply a	bove.							
27.	Do you require any permitting a that promotes efficient water us		lated to indoor and outdo	or plumbing	No 🔻				
Pleas	se continue to the next question								
28.	Are all governmental entities a	nd exempt users mete	red?		Yes 🔻				
	a. Since what year have all use	rs been metered?			Please enter the	year.			
		SE	CTION 6 - WATER RA		DE				
	The following		Y to single-family residen			-inch wa	ater meter.		
29.	Are your water rates structured	I to promote water co	nservation?	· · ·	Pleas	se make	your selection.		
					b	. Please	provide your co	nmodity i	rate
							structure below	N.	
						Ting 4	Gallon Range		Rate
						Tier 1 Tier 2	0-10,000	\$	2.90 3.76
						Tier 2	20,000 plus	\$	4.63
						Tier 4	· •		
						Tier 5			
						Tier 6			
Pleas	se continue to the next question								
30.	How much is your monthly wat	er service charge for	a typical SF customer?	?					
Pleas	se continue to the next question								
31.	Do you bill monthly or bi-month	hly?		monthly					
	se continue to the next question Do you impose a surcharge for		water use that is not						
32.	reflected in the inclined rate str				No 🔻				
Pleas	se continue to the next question								
33.	Do you have a drought rate?				No				
	The following		ON 7 - WASTEWATE Y to single-family residen			-inch wa	Please continu	e to SEC ⁻	<mark>TION 7.</mark>
	How much is your monthly was customer? se continue to the next question		e for a typical SF	?					
35.	Please describe your wastewat structure.		esidential customer are only arge of \$ 12.82	y charged for a ma	ximum of 10,000 g	allons pe	er month plus mor	thly base	facility
		SECTION	8 - REUSE / RECLAII		ROGRAM		Please continu	e to SEC	FION 8.
	Since you indicated		at your utility has a reuse			te the fo	llowing section.		
36.	When did you begin your reuse	e/reclaimed water prog	jram?	2000					
37.	How would you describe your i use changes?within your servi				Aggressive	1	Aildly Aggressive	🗸 Pa	.ssive
38.	What approximate percentage of has access to reclaimed water?	of your entire resident		100%					
	D:\Clients Active\St Johns\Survey Prepared by: Chrisell Jones, PBS	y Results\#Database.xls	Page	Yes ▼ 6 of 7				Palm May 5, 2	

39.	Do you have plans to expand your service area	Yes ▼ When? ?
40.	What approximate percentage of your reclaime metering device to measure demand?	residential customers have a 0% <i>Please enter percentage.</i>
41.	Approximately how many residential customer water service?	s do you provide with reclaimed 400
42.	How are your rates structured?	If other, please describe your rate structure below.
	✓ Flat Rate + per 1,000 gal. rate ✓ Flat Rate	NO CHARGE
	✓ Per 1,000 gal. ✓ Other	
	a. Do you have plans to implement a volumetri	c
	rate in the future?	
43.	Please describe any methods you employ to co	onserve reclaimed/reuse water below.
	NONE	
		SECTION & COMMENTS
	The following eaction is provided	SECTION 9 - COMMENTS if you have any comments or additional information you would like to share at this time.
	The following section is provided	in you have any comments of additional information you would like to share at this time.
		r Water Management District, thank you for participating in this portion of our survey. npiled all the results, it would be our pleasure to provide you with a copy.
	• YES, I would like a copy of the survey results.	Please provide the email addresses of those in your organization who should receive a copy of the

results.

Recipient 1 Email Address:

Recipient 3 Email Address: Recipient 4 Email Address:

Recipient 2 Email Address: garrig@palmbayflorida.org

Prepared by PBS&J exclusively for the St. Johns River Water Management District, Department of Water Supply Management, May 2004

Title:

Title: Title:

Title:

-						
Utilit	y Name:		Date Sur	vey Comple	ted:	
City of	of Palm Coast				9-Jun-04	
Resp	oondent's Name:		Area Coo	le and Phon	e Number:	
Brian	Matthews				386-986-2353	
Posi	tion/Title:		Email:			
Envir	onmental Specialist			BMAT	THEWS@ci.palm-coast.f	l.us
Depa	artment:		Fax:			
Name	e: Utiltiy Department				386-986-2393	
Tota	I Number of Single Family Water Customers: 24,210	Total Number	of Multi F	amily Water	Customers:	435
	SECTION 1 - GENER	AL INFORM	ΙΔΤΙΟΝ			
	SECTION 1 - GENER					
1.	Do you have multiple service areas within your service boundaries?		Yes	-		
			-	I		
	a. How many service areas do you have?	3				
	b. Please provide the names of your service areas below:					
	Ocean City, Grand Haven, Hammock Dunes					
	Please continue to the next question.					
2.	Have you done extensive system upgrades and/or maintenance over the past 2-	-5 vears?	Yes	-		
			103			
	a. Please provide a brief description of the upgrades/maintenance performed b			. fl		ala in a
	Double our treatment capacity at our membrane softening plant, installed two recirculation lin	ies at ends of syst	tem to return	1 How to syste	em and reduce water quanty fit	Isning
	Please continue to the next question.					
3.	What percentage of your service area is comprised of homes built prior to 1995	?		41	% Estimate 🔻	
	Please continue to the next question.				·	
4.	Have you implemented any conservation practices that target areas with older I	homoc?	N	_		
ч.	Have you implemented any conservation practices that target areas with order i	nomes	No	•		
	Please continue to the next question.					
5.	Do you have a GIS layer showing graphical depiction of the areas where specifi	ic	No	•		
	conservation practices have been implemented?		Nama	D : 14	r1	
	b. Who can we contact to identify the geographic extent of the areas who	oro coocifio	Name: Email:	Brian M	THEWS@ci.palm-coast.f	il uc
	conservation practices have been implemented?	ere specific	Phone:	386-986		<u>1.us</u>
	Please continue to the next question.		Flione.	300-900	-2333	
6.	Do you have a reuse/reclaimed water program to serve residential customers w	ith reclaimed	Yes	•		
	water for lawn irrigation? a. Who should we contact for additional information?		N	D : 14	F - 41	
	a. Who should we contact for additional information?		Name: Email:	Brian M		il uo
					THEWS@ci.palm-coast.f	<u>1.us</u>
			Phone:	386-986	-2333	
					Please continue to	SECTION 2.
	SECTION 2 - PUBLIC AWAR		TIVITIES			
		LNL33 ACI	IVIIILO			
7.	Do you have an on-going public awareness / education program?		Yes	▼		
	Please continue to the next question.		1			
8.	Does your program include on-going distribution of brochures and/or		·	_		
	pamphlets?		Yes			
	a. Conservation Topics Include:	h Tar	acted Are	as Include:		
		_	tine Service			
	✓ Outdoor Topics		ecific Neight		Older Homes Other Specific Area	Zip Code
			cente neight	50110003		Newer Homes
		1000	-			
	c. If this is an on-going program, what year was it implemented? Otherwise,	1982				
	when might you implement this practice?					
	d. How are these distributed?					
	Speaking Events Special Mailings Other					
Plea	se continue to the next question.					
	Do you insert water conservation information in water bills on an on-going		· –	_		
5.	basis?		Yes	▼.		
	a. Conservation Topics Include:	b. Tar	geted Are	as Include:		_
	Indoor Topics	🗹 En	tire Service	Area	Older Homes	Zip Code
	✓ Outdoor Topics	🗌 Sp	ecific Neight	oorhoods	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please	enter the ye	ear.	
			-			
					P	alm Coast

	when might you implement this practice?		
	d. At what frequency are inserts utilized?	If other, how often do you insert conse	ervation information in water bills?
	Every Billing Cycle Quarterly 🗹 Other	periodically, without specific frequency	
10.	Do you send out special mailings on an on-going basis?	Yes 🔻	
	a. Typical subject matter includes:		
	✓ Drought Alerts Other ✓ Watering Restrictions ✓ All of These		
	a1. What other subject matter is covered in your special mailings?	conservation issues in / out, plant tours, water	saving device give aways etc.
	b. If this is an on-going program, what year was it implemented? Otherwise,	not sure	
	when might you implement this practice?		
	c. At what frequency are special mailings sent out?	If other, how often do you send specia	I mailings?
	Monthly Quarterly Other		
Plea	se continue to the next question.		
	Do you issue news releases on an on-going basis?	·	
	Do you issue news releases on an on-going basis?	No	
	Indoor	Entire Service Area	Zip Code
		Other	All of These
		_	
	c. If this is an on-going program, what year was it implemented? Otherwise,	not sure	
	when might you implement this practice?	not sure	
Plea	se continue to the next question.		
12.		Yes	
	Do you sponsor public conservation media messages on an on-going basis?	Tes V	
	a. Sponsorship level includes:	b. Typical subject matter includes:	
	With the District	Drought Alerts	Watering Restrictions
	✓ Independently	Conservation Tips	Other
	c. If this is an on-going program, what year was it implemented? Otherwise,	2004	
	when might you implement this practice?		
	d. What media do you utilize in your program?	e. How much is budgeted for next FY?	\$ -
	🗸 Radio 🗌 Broadcast TV 🗹 Cable 🗌 Billboards		Please enter \$ above.
13.	Do you utilize videos of any kind on an on-going basis?	No 🔻	
	Indoor Topics		
		Professional Groups	Speaking Engagements
	a lifethic is an an aning program what way was it implemented? Otherwise	2005	
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2005	
	Youth Adult Professional Other		
Die -	so continue to the part question		
	se continue to the next question.		
14.	Do you promote water conservation contests on an on-going basis?	No 🔻	
	Indoor Outdoor	Awareness Know	ledge We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise,	Not sure	
	when might you implement this practice?		
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	Prepared by: Chrisell Jones, PBS Page	2 of 7	May 5, 2004

Please continue to the next question.				
15. Do you sponsor landscape workshops/seminars on an on-going basis?		No 💌		
_				
Staff Non-Staff Outside Professionals	Awareness		Behavior	We do not measure
		_		
c. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	, Not Sure			
No				
			Please	continue to SECTION 3
SECTION 3 - INDOOR CONSERV			RAMS	
The following section concerns programs and/or incentives re-		idential indoor	water conservation eff	orts.
16. Have you implemented any indoor water conservation replacement/rebate, in retrofit programs?	ncentive and/or	Yes 💌		
		•		
a. What year did you begin implementing these programs?		1992		
b. Do you have written policies/procedures concerning implementation and	maintenance of	No 💌		
the program(s)? c. Do you follow-up with the customer in any manner after installation?		No 💌		
Please continue to the next question.		·		
17. Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help and/or reduce their indoor water consumption?		e ^{No} 🔻		
Awareness Knov	vledge	Behavior	All of These	We do not measure
b. If this is an on-going program, what year was it implemented? Otherwise when might you implement this practice?	Not sure			
_				
Please continue to the next question.				
18. Do you have an on-going replacement/rebate program for low-flush toilets?		No 🔻		
	□.			
Entire Service Area Ire Service Area Cip Code Specific Neighborhoods Older Homes	Awareness		Behavior All of These	We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise	, Not sure			
when might you implement this practice?				
. • 1				
Please continue to the next question.				
19. Other than toilets, do you have an on-going indoor plumbing retrofit or exch	ange program?	No 🔻		

Entire Service Area	Zip Code	Awareness			Behavior	We do not measure
Specific Neighborhoods	Older Homes	Knowledge			All of These	
			-			
c. If this is an on-going progra when might you implement thi	m, what year was it implemented? Otherwise,	not sure				
when hight you implement th			-			
	▼					
Please continue to the next question	1.					
20. Do you have a leak detection p	program specific to residential customers?		No	•		
a. Are you considering implem	enting any rain sensor programs in the future?	?	No	-		
Entire Service Area		Awareness			Behavior	We do not measure
Specific Neighborhoods	Zip Code Older Homes				All of These	
			_			
		-				
		_				
		•				
		•				
	· · · · · · · · · · · · · · · · · · ·					
					Please	continue to SECTION 4.
			=0/F			
	SECTION 4 - OUTDOOR CONSERV					f
	tion concerns programs and/or incentives rela		lential	outaoor	water conservation er	ions.
21. Have you implemented any ou retrofit programs?	tdoor water conservation replacement/rebate,	incentive and/or	No	-		
					W/h a m 2	
a. Are you considering implem water conservation programs i	nenting any replacement/rebate, incentive and/o in the future?	or retrofit indoor	Yes	. 🕶	When?	
					Ι	
						
Places and set of the set of the	_					
Please continue to the next question						
22. Have you implemented a rain s	sensor program?		No	.		
			•	<u>. </u>		
a. Are you considering implem	nenting any rain sensor programs in the future?	?	No			
Entire Service Area		Awareness			Behavior	We do not measure
Specific Neighborhoods	Zip Code	Knowledge			All of These	
			_			
	▼					
D:\Cliente Active\St. lehne\Surve	NY Rogulta\#Databaga via					Palm Coast

Please continue to the next question.

23.		Itations or evaluations for private residential c ons that will help them to conserve and/or redu			
	a. Are you considering implement	nting any rain sensor programs in the future?	No 🔻		
	Entire Service Area Specific Neighborhoods	Zip Code	Awareness Knowledge	Behavior]We do not measure
		▼			
Plea	se continue to the next question.				
24.	Do you have an incentive progra	m for irrigation system improvements?	No 🔻		
	a. Are you considering implement	nting any rain sensor programs in the future?	No		
	Entire Service Area Specific Neighborhoods	Zip Code	Awareness Knowledge	Behavior All of These]We do not measure
		▼			
25.	Do you have an incentive progra xeriscape/Florida-friendly landso	m for residential customers to use drought-to caping on their property?	erant or No 🗸		
	a. Are you considering implement	nting any rain sensor programs in the future?	No 💌		
	Entire Service Area	Zip Code	Awareness Knowledge	Behavior]We do not measure
					
Plea	se continue to the next question.			Please cont	nue to SECTION 5.
		CTION 5 - LOCAL ORDINANCES, RESO	OLUTIONS AND BUILDIN		
26.	Please do not consider a Specifically related to residentia	ny State or Water Management District policie I landscaping, please select which of the follow ear adopted; or what year you plan adopt. Also	s, practices, or directives whe	en making your selections b ed in your adopted Ordinan	ces, Resolutions,
	savings.		Please indicate if you en corresponding ordinan		cate if you have water savings:
	✓ Water Use Restrictions	Adoption Year: 2001	Enforcement practiced	Savings not a	nalyzed 💌
	Native Plant Use	Adoption Year:]	▼_	•
	Drought Tolerant Plant Use				·

▼ ▼

Rain Sensors
 Site Design Review

Adoption Year:

Adoption Year:

	Site Design Review	Adoption Year:			~		•
	Efficient Irrigation	Adoption Year:					
	Turf Use Restrictions	Adoption Year:					
							· · · ·
	se continue to the next question						
27.	Do you require any permitting that promotes efficient water u	actions specifically related to indoor and use changes?	d outdoor plumb	ing _{No} \blacktriangledown			
	se continue to the next question Are all governmental entities a						
20.				Yes 🔻			
	a. Since what year have all use	rs been metered?	19'	70			
						Please continue to	SECTION 6.
	The following	SECTION 6 - WAT questions relate ONLY to single-family I			h or 3/4-inch w	ater meter.	
29.		d to promote water conservation?		No 🔻			
	a. When do you plan to restruc	cture rates for conservation?	200)5	b. Please	e provide your comr	noditv rate
						structure below.	-
						Gallon Range	\$ Rate
					Tier 1		
					Tier 2		
					Tier 2 Tier 4		
					Tier 5		
					Tier 6		
						Please complete ra	ates above.
20		tor convice charge for a tunical SE quate	mar2 ¢	28.65			
	se continue to the next question	ter service charge for a typical SF custon	mer? <mark>\$</mark>	28.65			
	Do you bill monthly or bi-mont		mon	thly			
	se continue to the next question						
32.	De vers immere e ermehenne fe	r excessive residential water use that is	not	No 🔻	-		
Disc							
	se continue to the next questior Do you have a drought rate?			· —	-		
	bo you have a drought rate.			No		Please continue	to SECTION 7.
		SECTION 7 - WASTER					
		r questions relate ONLY to single-family r			h or 3/4-inch w	ater meter.	
	How much is your monthly wa customer? se continue to the next question	stewater service charge for a typical SF	\$	24.02			
	Please describe your wastewa		th 0 gala used the	n 2.70 / 1000 colo	of water wood we	to 2000 color no odd	itional abanga
55.	structure.	ter residential rate $\frac{\text{Base rate} = 10.07 \text{ with after that.}}{\text{after that.}}$	in o gais used, the	II 2.797 1000 gais 0	n water used up	to 8000 gais., no add	ntional charge
		SECTION 8 - REUSE / RE			M	Please continue	to SECTION 8.
	Since you indicated	d in the first section that your utility has				ollowing section.	
36.	When did you begin your reus	e/reclaimed water program?	199	90			
	How would you describe your	recent efforts to promote reuse/reclaime ice area to residential customers?	ed water	Aggressi	ive	Mildly Aggressive	Passive
						ì	Palm Coast

38.	What approximate percentage of your entrance has access to reclaimed water?	ire residential service area currently	3%		
39.	Do you have plans to expand your service	area?	Yes When?	2005	
40.	What approximate percentage of your rec metering device to measure demand?	laimed residential customers have a	100%		
41.	Approximately how many residential cust water service?	omers do you provide with reclaimed	750		
42.	How are your rates structured?				
	Flat Rate + per 1,000 gal. rate	ate			
	Per 1,000 gal.				
		—			
43.	Please describe any methods you employ	to conserve reclaimed/reuse water belo	w.		
	Please prov	ide description of reuse conversatio			
		SECTION 9 - COMI			
	The following section is pro	vided if you have any comments or addi	tional information you would	like to share at this ti	me.
	On behalf of the St. John	River Water Management District, thank ye	ou for participating in this portio	n of our survey.	
	Once we ha	ve compiled all the results, it would be our pl	easure to provide you with a cop	y.	
	• YES, I would like a copy of the survey resu	Please provide the email addre	sses of those in your organiz	zation who should rec	eive a copy of the
		Recipient 1 Email Address: B	MATTHEWS@ci.palm-coas	t.fl.us Title:	Environmental Specialist
		Recipient 2 Email Address:			
		Recipient 3 Email Address:			
		Recipient 4 Email Address:		Title:	

Prepared by PBS&J exclusively for the St. Johns River Water Management District, Department of Water Supply Management, May 2004

	y Name:		Date Surve	ey Completed:	10.15	
St. Jo Resr	hns County Utility Department County Utility Department		Area Code	and Phone N	10-May-04	
	Kenton		Alea Code		904) 471-2161x17	
	tion/Title:		Email:		,	
	nistrative Manager			<u>fkento</u>	on@co.st-johns.fl.us	
	artment:		Fax:		(904) 461-7619	
Tota	y Dept. I Number of Single Family Water Customers: 16,824	Total Number	of Multi Far	nilv Water Cu		154
						10.
	SECTION 1 - GENEI	RAI INFORM	ATION			
				_		
1.	Do you have multiple service areas within your service boundaries?		No	7		
			1			
		I				
	Discourse of the most superfield					
-	Please continue to the next question.		1			
2.	Have you done extensive system upgrades and/or maintenance over the past 2		Yes	/		
	a. Please provide a brief description of the upgrades/maintenance performed k		1 11 2 6	1		
	We have replaced 2" galvenized lines with pvc lines. We have replaced all gas chlorine feed a Installed magnetic flow meters at water plants. Added Floridan Wells at MWS and NW wate		a chiorine fee	u systems. SCAI	DA upgrades on all booste	er stations.
	Please continue to the next question.	- prano:				
2				700/		
з.	What percentage of your service area is comprised of homes built prior to 1999 Please continue to the next question.	57		70%	Estimate	
4	· · · · · · · · · · · · · · · · · · ·	h a m a a 0				
4.	Have you implemented any conservation practices that target areas with older	nomes ?	No			
	Please continue to the next question.					
5.	Do you have a GIS layer showing graphical depiction of the areas where speci	fic	No 🔻			
	conservation practices have been implemented?		Name:			
	b. Who can we contact to identify the geographic extent of the areas wh	here specific	Email:			
	conservation practices have been implemented?	-	Phone:			
				Please pro	vide contact informat	ion.
6.	Do you have a reuse/reclaimed water program to serve residential customers w	with reclaimed	No 🔻			
	water for lawn irrigation?					
					Please continue to	SECTION 2.
	SECTION 2 - PUBLIC AWA	RENESS ACT	IVITIES			
7	Do you have an on-going public awareness / education program?		1			
7.	Please continue to the next question.		Yes 🔻			
8.	Does your program include on-going distribution of brochures and/or		•			
	pamphlets?		Yes			
	a. Conservation Topics Include:	b. Tar	geted Areas	Include:		
	✓ Indoor Topics		ti r e Service Ar		Older Homes	Zip Code
	✓ Outdoor Topics	🗌 Sp	ecific Neighbo	rhoods	Other Specific Area	Newer Homes
			-			
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please e	nter the year.		
	when might you implement this practice? d. How are these distributed?	lf ath an have				1
	G. How are these distributed? ☐ Speaking Events		-	ibute your bro	chures and/or pamph	lets r
		walk-ins, semina	ars, etc.			
9	Do you insert water conservation information in water bills on an on-going		•			
0.	basis?		Yes 🔻	,		
	a. Conservation Topics Include:	b. Tar	geted Areas	s Include:		
	✓ Indoor Topics	_	tire Service Ar		Older Homes	Zip Code
	✓ Outdoor Topics	=	ecific Neighbo		✓ Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please e	nter the year.		
	when might you implement this practice?				_	lahar Q
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	d. At what frequency are inserts utilized?	If other, how often do you insert conservation information in water bills? We place a brief conservation message in the bill 4-6 times a year.
		ne place a oter conservation message in the oni + o times a year.
10	Do you soud out special mailings on an an asing basis?	
10.	Do you send out special mailings on an on-going basis?	No
	Drought Alerts Other Watering Restrictions All of These	
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	undecided
	Monthly Quarterly Other	
Plea	se continue to the next question.	
	Do you issue news releases on an on-going basis?	Yes 🔻
	a. Conservation Topics Include:	b. Targeted Areas Include:
	✓ Indoor	Entire Service Area I Zip Code Other All of These
	✓ Outdoor	
Plea	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice? se continue to the next question.	2003
12.		Yes 🗸
	Do you sponsor public conservation media messages on an on-going basis? a. Sponsorship level includes:	b. Typical subject matter includes:
	With the District	Drought Alerts Watering Restrictions
	Independently	Conservation Tips
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2002
	d. What media do you utilize in your program? ✓ Radio ✓ Broadcast TV Cable Billboards	e. How much is budgeted for next FY? <u>\$ -</u> Please enter \$ above.
	I Radio I Broadcast TV Cable Billboards	Fiease enter \$ above.
13.	Do you utilize videos of any kind on an on-going basis?	No 🔻
	Indoor Topics Outdoor Topics	Schools Speaking Engagements Professional Groups Seminars/Workshops
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	undecided
	Youth Adult Professional Other	
Plea	se continue to the next question.	
14.	Do you promote water conservation contests on an on-going basis?	No 🔻
	Indoor Outdoor	Awareness Knowledge We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise,	2005
	when might you implement this practice?	

Pleas	se continue to the next question.					
15.	Do you sponsor landscape workshops/seminars on an on-going basis?		No	•		
	□ staff	□ A				
	Staff Staff Outside Professionals	Awareness Knowledge			Behavior All of These	We do not measure
	c If this is an on-going program what uses use it implements to get		-			
	c. If this is an on-going program, what year was it implemented? Otherwis when might you implement this practice?	se, undecided				
	💌					
						continue to SECTION 3.
	SECTION 3 - INDOOR CONSER The following section concerns programs and/or incentives r					orts.
16.	Have you implemented any indoor water conservation replacement/rebate,		No			
	retrofit programs?					_
	a. Are you considering implementing any replacement/rebate, incentive and water conservation programs in the future?	aron retrotit indoor	No	•		
				. ▼ I		
				▼		
Pleas	ise continue to the next question.					
17.	Do you provide individual consultations or evaluations on an on-going bas residential customers who are interested in recommendations that will help and/or reduce their indoor water consumption?		e ^{No}	•		
	·	lowledge	Behavio	or	All of These	We do not measure
	b. If this is an on-going program, what year was it implemented? Otherwis when might you implement this practice?	se, undecided				
Plea	ise continue to the next question.					
	Do you have an on-going replacement/rebate program for low-flush toilets	?	No	•		
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness			Behavior	We do not measure
	Specific Neighborhoods Older Homes	LI NOOMedge			L All of These	
	c. If this is an on-going program, what year was it implemented? Otherwis	se, undecided				
	when might you implement this practice?		- -			
	. ▼					
Pleas	se continue to the next question.					
19.	Other than toilets, do you have an on-going indoor plumbing retrofit or exc	change program?	No	•		
	Entira Sanvica Araz				Behavior	We do not measure
	D:\Clients Active\St Johns\Survey Results\#Database.xls	age 3 of 7			I I Kohavior	St Johns Co May 5, 2004

Entire Service Area Specific Neighborhoods	Zip Code	Awareness Knowledge		Behavior	We do not measure
c. If this is an on-going progra when might you implement th	m, what year was it implemented? Otherwise, is practice?	undecided			
Please continue to the next question	1.				
20. Do you have a leak detection	program specific to residential customers?	No	•		
a. Are you considering implen	enting any rain sensor programs in the future?	No	▼		
Entire Service Area	Zip Code Older Homes	Awareness		Behavior	We do not measure
		▼ ▼			
	·				
					ontinue to SECTION 4.
The following sec	SECTION 4 - OUTDOOR CONSERVA				
21. Have you implemented any ou		ive to your residentia			
21. Have you implemented any ou retrofit programs?	tion concerns programs and/or incentives relati tdoor water conservation replacement/rebate, ir nenting any replacement/rebate, incentive and/or	ive to your residentia	l outdoor water		
21. Have you implemented any ou retrofit programs? a. Are you considering implem	tion concerns programs and/or incentives relati tdoor water conservation replacement/rebate, ir nenting any replacement/rebate, incentive and/or	ive to your residential	l outdoor water		
21. Have you implemented any ou retrofit programs? a. Are you considering implem	tion concerns programs and/or incentives relati tdoor water conservation replacement/rebate, ir nenting any replacement/rebate, incentive and/or	ive to your residential	l outdoor water		
21. Have you implemented any ou retrofit programs? a. Are you considering implem	tion concerns programs and/or incentives relati tdoor water conservation replacement/rebate, ir nenting any replacement/rebate, incentive and/or	ive to your residential	l outdoor water		
21. Have you implemented any ou retrofit programs?a. Are you considering implem water conservation programs	tion concerns programs and/or incentives relation tdoor water conservation replacement/rebate, in nenting any replacement/rebate, incentive and/or in the future?	ive to your residential	l outdoor water		
21. Have you implemented any ou retrofit programs? a. Are you considering implem	tion concerns programs and/or incentives relation tdoor water conservation replacement/rebate, in nenting any replacement/rebate, incentive and/or in the future?	ive to your residential	l outdoor water		
 21. Have you implemented any our retrofit programs? a. Are you considering implem water conservation programs Please continue to the next question 22. Have you implemented a rain service of the s	tion concerns programs and/or incentives relation tdoor water conservation replacement/rebate, in nenting any replacement/rebate, incentive and/or in the future?	ve to your residentia	l outdoor water		
 21. Have you implemented any our retrofit programs? a. Are you considering implem water conservation programs Please continue to the next question 22. Have you implemented a rain service of the s	tion concerns programs and/or incentives relatives to too water conservation replacement/rebate, in nenting any replacement/rebate, incentive and/or in the future?	ve to your residentia acentive and/or No retrofit indoor No	l outdoor water		
 21. Have you implemented any our retrofit programs? a. Are you considering implem water conservation programs Please continue to the next question 22. Have you implemented a rain service of the s	tion concerns programs and/or incentives relatives to too water conservation replacement/rebate, in nenting any replacement/rebate, incentive and/or in the future?	ve to your residentia acentive and/or No retrofit indoor No	l outdoor water		
 21. Have you implemented any our retrofit programs? a. Are you considering implem water conservation programs Please continue to the next question 22. Have you implemented a rain and any our considering implemented a rain and any our considering implemented area in the service Area 	tion concerns programs and/or incentives relatives relatives relatives relatives relatives relatives relatives and/or water conservation replacement/rebate, incentive and/or in the future?	ve to your residentia acentive and/or No retrofit indoor No No No No	l outdoor water	conservation effo	rts.
 21. Have you implemented any our retrofit programs? a. Are you considering implem water conservation programs Please continue to the next question 22. Have you implemented a rain and any our considering implemented a rain and any our considering implemented area in the service Area 	tion concerns programs and/or incentives relatives relatives relatives relatives relatives relatives relatives and/or water conservation replacement/rebate, incentive and/or in the future?	ve to your residentia acentive and/or No retrofit indoor No No No No	l outdoor water	conservation effo	rts.
 21. Have you implemented any our retrofit programs? a. Are you considering implem water conservation programs Please continue to the next question 22. Have you implemented a rain and any our considering implemented a rain and any our considering implemented area in the service Area 	tion concerns programs and/or incentives relatives relatives relatives relatives relatives relatives relatives and/or water conservation replacement/rebate, incentive and/or in the future?	ve to your residentia acentive and/or No retrofit indoor No No No No	l outdoor water	conservation effo	rts.

B. Do you provide individual consultations or evaluations for private residential customers w are interested in recommendations that will help them to conserve and/or reduce their outdoor water consumption?			No 🔻		
a. Are you considering imple		No 🔫			
Entire Service Area	Zip Code	Awareness		Behavior All of These	We do not meas
]		
			1		
ease continue to the next question					
1. Do you have an incentive pro	gram for irrigation system improvements?		No 🔻		
a. Are you considering imple	menting any rain sensor programs in the future?		No		
 Entire Service Area Specific Neighborhoods 	Zip Code	Awareness		Behavior All of These	UWe do not mea
]		
	•				
5. Do you have an incentive pro xeriscape/Florida-friendly lan	gram for residential customers to use drought-to dscaping on their property?	lerant or	No 🔻		
a. Are you considering imple	menting any rain sensor programs in the future?		No		
Entire Service Area	Zip Code	Awareness		Behavior All of These	We do not mea
]]		
	•				
ease continue to the next question				Please	continue to SECTI
ase continue to the next question					
· · · · · ·	SECTION 5 - LOCAL ORDINANCES, RESO	OLUTIONS <u>AI</u>	ND BUILDING	CODES	

		corresponding ordinance/code:	analyzed water savings:
Water Use Restrictions	Adoption Year:	_	
Native Plant Use	Adoption Year:		_
Drought Tolerant Plant Use	Adoption Year:	•	
Rain Sensors	Adoption Year:	▼.	~
Site Design Review	Adoption Year:	▼.	
Efficient Irrigation			

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	Efficient Irrigation	Adoption Year:]					•
	Turf Use Restrictions	Adaption Voor		' 		.			
		Adoption Year:		l		<u> </u>			. •
	Please select all that apply a	bove.							
27.	Do you require any permitting that promotes efficient water u		ted to indoor and outdoo	r plumbing	No 🔻				
Plea	se continue to the next questior	ı.							
28.	Are all governmental entities a	nd exempt users metere	ed?		Yes 🔻				
	a. Since what year have all use	ers been metered?		approx. 1995					
							Please continue	to SECT	
		SEC	TION 6 - WATER RA	TE STRUCT	URE		Flease continue		
20	The following Are your water rates structured		to single-family residentia	al customers	with a 5/8-ine	ch or 3/4-inch w	ater meter.		
29.	Are your water rates structured	a to promote water cons			Yes				
						b. Please	e provide your co structure belo	-	rate
	a. What year did you implemen	nt conservation-based ra	ates?	2001			Gallon Rang		\$ Rate
						Tier 1	0-4,000	\$	3.05
	c. How many tiers are structure	ed in your residential rat	tes?	4		Tier 2	4,001-8,000	\$	4.21
						Tier 2 Tier 4	8,001-15,000 > 15,000	\$	5.67 7.65
						Tier 5	> 13,000	ۍ ب	7.03
						Tier 6			
Plea	se continue to the next questior	ı.							
30.	How much is your monthly wa	ter service charge for a	typical SF customer?	\$ 9.52					
Plea	se continue to the next question	۱.							
	Do you bill monthly or bi-mont	-		monthly					
	se continue to the next questior Do you impose a surcharge for		vater use that is not		,				
52.	reflected in the inclined rate st				No 🔻				
					-				
	se continue to the next question	۱.			-				
33.	Do you have a drought rate?				No		Discourse (in		
	The following		N 7 - WASTEWATER			ch or 3/4-inch w	Please continu	ie to SEC	HON 7.
	How much is your monthly wa customer? se continue to the next questior	stewater service charge		\$ 9.13					
35.	Please describe your wastewar structure.		charge for each 1,000 gall 3.000 gallon cap for multi-		ere is a 10,000	0 gallon cap on s	sewer charges for	single fam	ily and
							Please continu	ue to SEC	TION 8.
	Since you did not		B - REUSE / RECLAIM tion that your utility has a				to SECTION 8.		
					Aggress	sive	Mildly Aggressive	Pa	assive
				•	-			0/ 1 -	- 6
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✓ Flat Rate + per 1,000 gal. rate ✓ Per 1,000 gal.	 ✓ Flat Rate ✓ Other 		
		•]	
The following sed	tion is provided if	SECTION 9 - COMMENTS	Please continue to SECTION 9.
ion 4 asks the same question over and o	over as the "a" part of	questions 22-25.	
		Water Management District, thank you for participating in this portio siled all the results, it would be our pleasure to provide you with a cop	
• YES, I would like a copy of the	survey results.	Please provide the email addresses of those in your organiz results.	zation who should receive a copy of the
<u>(''</u>		Recipient 1 Email Address: <u>fkenton@co.st-johns.fl.us</u> Recipient 2 Email Address:	Title: Administrative Manager
	E.	Recipient 3 Email Address:	

Prepared by PBS&J exclusively for the St. Johns River Water Management District, Department of Water Supply Management, May 2004

Utili	y Name:		Date Survey	Completed	:	
	nole County Environmental Services Department					
-	pondent's Name:		Area Code a	and Phone N		
Liz B Posi	tion/Title:		Email:		407-665-2121	
	r Conservation Coordinator		Linan.	lblock(@seminolecountyfl.gov	,
Depa	artment:		Fax:			-
	nole County Environmental Services Department				407-665-2019	
Tota	I Number of Single Family Water Customers:	Total Number		nily Water Cu	istomers:	
	Please complete all in					
	SECTION 1 - GENERA	AL INFORMA	TION			
1.	Do you have multiple service areas within your service boundaries?		Yes	,		
	a. How many service areas do you have?	11				
	b. Please provide the names of your service areas below:		D -1 L 1	** *		
	Northeast, Northwest, Southeast, Southwest, Apple Valley, Dol Ray Manor, Druid Hills/Bre	etton Woods, Lake	Brantley, Lake	e Harriet, Mer	edith Manor, Fern Park	
	Please continue to the next question.					
2.	Have you done extensive system upgrades and/or maintenance over the past	2-5 years?	Yes			
	a. Please provide a brief description of the upgrades/maintenance performed	-	105			
	Chemical system improvements at three WTPs; installed security systems at all plants; repla		wells and effluence	uent at all plar	ts: installed major water an	d reclaimed
	mains and improved system loops; inventoried, maintained, and accurately located all hydra					
	Please continue to the next question.					
3.	What percentage of your service area is comprised of homes built prior to 199	95?		71%	Actual 🗸	
	Please continue to the next question.			/1/0		
4.	Have you implemented any conservation practices that target areas with olde	r homes?	No			
	There you implemented any conservation practices that target areas with olde	i nomes i				
	Please continue to the next question.					
5.	Do you have a GIS layer showing graphical depiction of the areas where spec	ific	No 🔻			
	conservation practices have been implemented?		Name:			
	b. Who can we contact to identify the geographic extent of the areas w	here specific	Email:			
	conservation practices have been implemented?		Phone:			
				Please pr	ovide contact informati	on.
6.	Do you have a reuse/reclaimed water program to serve residential customers	with reclaimed	Yes 🔻			
•••	water for lawn irrigation? a. Who should we contact for additional information?			Liz Block		T
	a. Who should we contact for additional mormation?		Name: Email:		ninolecountyfl.gov	
			Phone:	407-665-21		
					Please continue to	SECTION 2
					T lease continue to	
	SECTION 2 - PUBLIC AWA	RENESS AC	IVIIIES			
7.	Do you have an on-going public awareness / education program?		Yes 🔻			
_	Please continue to the next question.					
8.	Does your program include on-going distribution of brochures and/or		Yes 🔻			
	pamphlets?					
	a. Conservation Topics Include:		geted Areas		_	_
	 ✓ Indoor Topics ✓ Outdoor Topics 		ti n e Service Are ecific Neighborl		Older Homes	Zip Code
		L] Sh	ecine weighbon	loous	✓ Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,	2001	1			
	when might you implement this practice?	2001	_			
	d. How are these distributed?	If other, how o	do you distril	oute your br	ochures and/or pamph	lets?
	Speaking Events Special Mailings Other	Billing Office	<u>,</u>	,	• •	
		0				
Plea	se continue to the next question.					
9.	Do you insert water conservation information in water bills on an on-going		Voc.			
	basis?		Yes 🔻			
	a. Conservation Topics Include:	b. Tar	geted Areas	Include:		
	✓ Indoor Topics	_	tire Service Are		Older Homes	Zip Code
	✓ Outdoor Topics	=	ecific Neighborl		Other Specific Area	Newer Homes
			_			
	c. If this is an on-going program, what year was it implemented? Otherwise,	2001]			
	when might you implement this practice?					
	d. At what frequency are inserts utilized?	If other, how o	often do you	insert conse	ervation information in	water bills?
	Every Billing Cycle Ouarterly Other D:\Clients Active\St Johns\Survey Results\#Database.xls					Seminole

Every Billing Cycle	No set schedule, but 4-6 times a year
Please continue to the next question.	
10. Do you send out special mailings on an on-going basis?	Yes 🔽
a. Typical subject matter includes:	
a1. What other subject matter is covered in your special mailings?	Offer of free irrigation evaluations to high water users, Alert that rain sensor is not working
b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2002
c. At what frequency are special mailings sent out?	If other, how often do you send special mailings? Periodically
Please continue to the next question.	
11. Do you issue news releases on an on-going basis?	No Please also answer question 11c.
Indoor Outdoor	Entire Service Area Zip Code Other All of These
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
12. Do you sponsor public conservation media messages on an on-going basis?	No
With the District	Drought Alerts Watering Restrictions Conservation Tips Other
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please enter the year.
Radio Broadcast TV Cable Billboards	
13. Do you utilize videos of any kind on an on-going basis?	Yes 🔻
a. Conservation Topics Include:	b. Under what circumstances are videos utilized? Schools Speaking Engagements Professional Groups Seminars/Workshops
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	Please select all that apply above.
d. Please list the titles of the videos below:	
Conservation easements, Florida's Aquifers the Treasure Below, Spring Waters Run Deep, Waterwise Landscape Irrigation, Water Saving Tips	This Old Pond, Water Pollution the Dirty Details, Watersheds Wetlands and Wildlife,
e. What are your target audiences?	If other, what are your target audiences?
Youth Adult Professional I Other	Videos are played on SGTV on a rotating basis, there is no designated target audience
f. What does your annual viewing audience total?	Please enter #.
14. Do you promote water conservation contests on an on-going basis?	No 🔻
Indoor Outdoor	Awareness Knowledge We do not measure
c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2004
Please continue to the next question.	

.

15.	Do you sponsor landscape workshops/seminars on an on-going basis?		Yes 🔻		
	a. Workshops/seminars are given by:	b. How have y	vou measured ef	fectiveness?	
	✓ Staff	Awareness		✓ Behavior	We do not measure
	✓ Non-Staff Outside Professionals	Knowledge		All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2001]		
	d. Do you track actual water use changes?				
	Tes •				
		By tracking wate	er use changes		
	e. How are you tracking behavior effectiveness?				
				Please of	ontinue to SECTION 3.
	SECTION 3 - INDOOR CONSERV	ATION INCEN	TIVE PROGR	AMS	
	The following section concerns programs and/or incentives rela	ative to your resi	dential indoor w	ater conservation eff	orts.
16.	Have you implemented any indoor water conservation replacement/rebate, in	centive and/or	Yes		
	retrofit programs?		Tes		
			· · · · · · · · · · · · · · · · · · ·		
	a. What year did you begin implementing these programs?		2002		
	b. Do you have written policies/procedures concerning implementation and r	maintenance of	No 🔻		
	the program(s)?				
	c. Do you follow-up with the customer in any manner after installation?		Yes 🔻		
Plas	so continue to the part question				
Plea	se continue to the next question.				
17.	Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help t conserve and/or reduce their indoor water consumption?	•	Yes 💌		
	a. How have you measured effectiveness?	odgo 🗸	Behavior		
		euge L		All of These	✓ We do not measure
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2001]		
	. ▼				
Plea	se continue to the next question.				
	Do you have an on-going replacement/rebate program for low-flush toilets?		·		
			No 🔻		
	Entire Service Area	Awareness		Behavior	We do not measure
	Specific Neighborhoods	Knowledge		All of These	
	a lifetia ia an ani ani ana ana ani ana ana ani ata ana ana iti ianalamanta da Oshamular	2005	7		
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?	2005]		
			1		
	_				
Dies	an continue to the part question				
	se continue to the next question.				
19.	Other then tailets, do you have an an action independent to make the		Yes 🔻		
	Other than toilets, do you have an on-going indoor plumbing retrofit or exchange				
	a. Service areas targeted include:		ou measured ef		(1) Wo do not
	Entire Service Area I Zip Code Specific Neighborhoods Older Homes	Awareness		Behavior	✓ We do not measure
	Specific Neighborhoods Older Homes			All of These	
	c. If this is an on-going program, what year was it implemented? Otherwise,	2002	1		
		2002	4		
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when might you implement this practice?	***
d. Approximately how many fixtures are replaced annually?	200
lease continue to the next question.	
20. Do you have a leak detection program specific to residential customers?	Yes 🔻
a. Service areas targeted include:	b. How have you measured effectiveness?
Entire Service Area Implement Zip Code Specific Neighborhoods Older Homes	Awareness Behavior We do not measure
c. What year did you begin this program?	1990
d. Approximately how many customers benefit annually?	don't know
e. Do you have written policies or procedures for the program?	No
f. Have you established a schedule for the program?	Yes 🔻
g. Do you utilize performance contracts for leak detection and/or retrofit inspections?	No <u> </u>
h. Do you perform irrigation audits?	Yes 💌
-	
	Please continue to SECTION
SECTION 4 - OUTDOOR CONSERV	ATION INCENTIVE PROGRAMS
The following section concerns programs and/or incentives rela	
21. Have you implemented any outdoor water conservation replacement/rebate, retrofit programs?	, incentive and/or
a. Are you considering implementing any replacement/rebate, incentive and water conservation programs in the future?	I/or retrofit indoor _{Yes}

	a. Are you considering implementing any replacement/rebat water conservation programs in the future?	e you considering implementing any replacement/rebate, incentive and/or retrofit inc r conservation programs in the future?			When? 2004	
				•		
			:	▼ ▼		
Plea	se continue to the next question.			•		
22.	Have you implemented a rain sensor program?		No	•		
	a. Are you considering implementing any rain sensor progra	ams in the future?	Yes	—	When? 2004	
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awaren			Behavior All of These	We do not measure
Plea	se continue to the next question.					
23.	Do you provide individual consultations or evaluations for p are interested in recommendations that will help them to co outdoor water consumption?		who Yes	▼.		
				▼		
	a. Service areas targeted include: Entire Service Area	b. How ha		asured e	ffectiveness?	We do not measure
	D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones, PBS	Page 4 of 7				Seminole May 5, 2004

Entire Service Area	Zip Code		Awareness	✓ Behavior All of Thes	We do not me	easure
Please select all that ap	ply above.		ů.			
c. What year did you begin the	se services?		2002			
d. Approximately how many re-	sidences benefit annua	ally?	300			
e. How are you tracking behavi	or effectiveness?		By water use changes			
f. Do you track actual water use	e changes?	Yes 🔻				
Please continue to the next question				_		
24. Do you have an incentive prog	ram for irrigation syste	m improvements?	No	• •		
a. Are you considering implem	enting any rain sensor	programs in the future?	No 🔻			
Entire Service Area	Zip Code		Awareness	Behavior	We do not me	easure
		~				
25. Do you have an incentive program xeriscape/Florida-friendly land			olerant or No			
a. Are you considering implement		-	No 🔻			
			110			
Entire Service Area Specific Neighborhoods	Zip Code		Awareness	Behavior	We do not me	easure
Please continue to the next question	L.			Plea	ase continue to SECT	TION 5.
SE	CTION 5 - LOCAL	ORDINANCES. RES	OLUTIONS AND BUIL	DING CODES		
Please do not consider	any State or Water Mai	nagement District polici	es, practices, or directives	when making your se		
26. Specifically related to residenti and/or Building Codes and the						
savings.			Please indicate if you	enforce the PI	ease indicate if you h	nave
✓ Water Use Restrictions	Adoption Year:	1981	Enforcement practiced	1	inalyzed water saving ter savings analyzed	gs: ▼
✓ Native Plant Use	Adoption Year:	1994	Enforcement not practic		Applicable	
✓ Drought Tolerant Plant Use	Adoption Year:	1994	Enforcement practiced		Applicable	
Rain Sensors	Adoption Year:		Enforcement practiced	▼ Not	Applicable	 ▼
Site Design Review	Er Adoption Year:	ter adoption year above 1994	Enforcement practiced	▼ Not	Applicable	 ▼
Efficient Irrigation	Adoption Year:	1994	Enforcement practiced	· · ·	Applicable	▼
✓ Turf Use Restrictions	Adoption Year:	1994	Enforcement practiced		Applicable	 ▼

27. Do you require any permitting actions specifically related to indoor and outdoor plumbing γ_{es}

▼.

Yes 🔻

that promotes efficient water use changes?

a. Please explain below what permitting actions specifically relate to water conservation.
Adopted Florida Building Code which requires low flow toilets, showerheads, etc. Inspections required as part of building permit to re-

	Adopted Florida Building Code which requires I	ow flow toilets, showerheads, etc. Inspect	ions required as par	t of building p	permit to receive C	20		
Pleas	se continue to the next question.							
28.	Are all governmental entities and exempt	users metered?		Yes 🔻				
	a. Since what year have all users been m	etered?	don't know]				
				1				
				3		Please continue to	SECTION	6.
		SECTION 6 - WATER R						
29.	Are your water rates structured to promo	relate ONLY to single-family resider te water conservation?	itial customers v		ch or 3/4-inch w	ater meter.		
				Yes				
					b. Please	e provide your comn	nodity rate	э
	a. What year did you implement conserva	ation-based rates?	2003	1		structure below. Gallon Range	\$ Ra	te
				-	Tier 1	0-10000	\$ (0.65
	c. How many tiers are structured in your	residential rates?	5	1	Tier 2	10001-20000		1.00
	,,.,.			4	Tier 2	20001-30000		2.50
					Tier 4	30001-50000		3.50
					Tier 5	50001 and over		4.75
					Tier 6			
Plase	se continue to the next question.							
		obarga for a tunical SE austamor?	\$ 6.60	1				_
	How much is your monthly water service se continue to the next question.	charge for a typical of customer?	\$ 0.00					
	Do you bill monthly or bi-monthly?		monthly	1				
	se continue to the next question.		monuny					
32.	Do you impose a surcharge for excessive	e residential water use that is not		·				
02.	reflected in the inclined rate structure?			No 🔻				
]				
Pleas	se continue to the next question.			1				
33.	Do you have a drought rate?			No 🔻				
					-	Please continue t	o SECTIO	N 7.
		SECTION 7 - WASTEWATE						
	The following questions	relate ONLY to single-family resider		-	ch or 3/4-inch w	ater meter.		
34.	How much is your monthly wastewater se customer?	ervice charge for a typical SF	\$ 11.50					
Pleas	se continue to the next question.							
35.	Please describe your wastewater residen	tial rate \$2.63 per 1000 gal up to 150	000					
	structure.							
						Please continue t	o SECTIO	N 8.
		SECTION 8 - REUSE / RECLAI t section that your utility has a reuse				ollowing section.		
36	When did you begin your reuse/reclaime		2004	1		, i i i i i i i i i i i i i i i i i i i		
37.				Aggress	ive 🗌	Mildly Aggressive	Passiv	/e
	use changes?within your service area to	residential customers?		00		,		
38.	What approximate percentage of your en has access to reclaimed water?	tire residential service area current	y <u>0%</u>	Please e	nter percentage	Э.		
39.	Do you have plans to expand your servic	e area?	Yes 💌	When?	2004]		
40.	What approximate percentage of your red metering device to measure demand?	claimed residential customers have	a <u>100%</u>]				
41.	Approximately how many residential custoreclaimed water service?	tomers do you provide with	0	Please e	nter the numbe	r of customers.		
42.	How are your rates structured?	If other, please describe ye	our rate structur	e below.				
	Flat Rate + per 1,000 gal. rate	Currently riat, but in the find	Idle of a rate stud	y to determin	e tiered structure	e		
	Per 1,000 gal.							

T

			•				
3. Please descri	ibe any methods you	employ to conserve	e reclaimed/reuse water be	elow.			
	Pleas	e provide descrip	tion of reuse conversati	ion methods abo	ove.		
			SECTION 9 - CON				
	The following section	n is provided if you h	nave any comments or add	ditional informatio	n you would like to sh	are at this time.	
			Management District, thank l the results, it would be our			urvey.	
O YES, I wo	ould like a copy of the sur	vey results.					
	-						
		5	-				
	St.	r					

Prepared by PBS&J exclusively for the St. Johns River Water Management District, Department of Water Supply Management, May 2004

Utility Name:			Date Sur	vey C	Completed:		
	sia County Water Resources and Utilites				·	28-Jun-04	
Res	pondent's Name:		Area Coo	le an	d Phone N	umber:	
	cca Adkins					386-943-7027	
	tion/Title:		Email:				
	inistrative Coordianator artment:		Fax:		badki	ns@co.volusia.fl.us	
	c Works		rax.			386-740-5162	
	I Number of Single Family Water Customers:	Total Number	of Multi F	amily	y Water Cu		
	Please complete all i	nformation abov	/e.				
	SECTION 1 - GENER	AL INFORMA	TION				
1.			Yes	▼			
	a. How many service areas do you have?	8					
	b. Please provide the names of your service areas below:		4				
	Southeast, Deltona North, Northease, Southwest, Spruce Creek, Pine Island, Stone Island, N	New Hope villas					
	Please continue to the next question.						
2.	Have you done extensive system upgrades and/or maintenance over the past	t 2-5 years?	Yes	▼			
	a. Please provide a brief description of the upgrades/maintenance performed	below:					
	Please provide description	1 above.					
3.				Γ			
э.	Please enter percentage and make a selection above.	957		L			
4.	Have you implemented any conservation practices that target areas with olde	ar homes?	Yes	•			
	a. Please list the specific areas targeted below.	i nomes i	163	-			
	Low flow toilets						
	Please continue to the next question.			_			
5.	Do you have a GIS layer showing graphical depiction of the areas where spec conservation practices have been implemented?	cific	No	▼ .			
	b. Who can we contact to identify the geographic extent of the areas w conservation practices have been implemented?	vhere specific	Name: Email: Phone:				
_					Please pro	vide contact informat	ion.
6.	Do you have a reuse/reclaimed water program to serve residential customers	with reclaimed	Yes	,			
0.	water for lawn irrigation?		•	•	~		
	a. Who should we contact for additional information?		Name: Email:		Scott Mays	o.volusia.fl.us	
			Phone:	-	386-943-207		
				L			
						Please continue to	D SECTION 2.
	SECTION 2 - PUBLIC AWA	RENESS ACT	TIVITIES				
7.	Do you have an on-going public awareness / education program? Please continue to the next question.		Yes	₹.			
8.	Does your program include on-going distribution of brochures and/or		Yes	-			
	pamphlets?		103	I			
	a. Conservation Topics Include:		geted Are		clude:		
	✓ Indoor Topics		tine Service			Older Homes	Zip Code
	✓ Outdoor Topics	L Sp	ecific Neighl	orno	DØS	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please	ente	r the year.		
	when might you implement this practice?		-				
	d. How are these distributed?	If other, how o	do you dis	tribu	te your bro	chures and/or pamph	lets?
	Speaking Events Special Mailings 🗸 Other	with utility bills	bi monthly				
9.	Do you insert water conservation information in water bills on an on-going basis?		Yes	-			
	a. Conservation Topics Include:	_	geted Are		clude:	Older Homes	
	✓ Indoor Topics	=	tire Service		ode		Zip Code
		L Sp	ecific Neighl	JOLUO	JUUS	Other Specific Area	Newer Homes
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please	ento	r the year.		
	when might you implement this practice?		_ rease	ente	, une year.		
	d. At what frequency are inserts utilized?	If other, how o	often do ve	ou in	sert conse	rvation information in	water bills?
	Every Billing Cycle Ouarterly Other						
	D:\Clients Active\St Johns\Survey Results\#Database.xls Prepared by: Chrisell Jones. PBS Page 1	of 7					Volusia
	Prepared by: Chrisell Jones, PBS Page 1					IVI	ay 5, 2004

Every Billing Cycle	Quarterly	✓ Other		see previous response		
10. Do you send out spe	cial mailings on an or	n-going basis?			No 🔻	Please also answer question 10b.
Drought Alerts	Other Wa	atering Restrictions	All of These			
b. If this is an on-goir when might you impl		r was it implemente	ed? Otherwise,		Please enter	r the year.
Monthly	Quarterly	Other				
11. Do you issue news re	eleases on an on-goir	ng basis?			No 🔻	Please also answer question 11c.
Indoor Outdoor				Entire Serv	rice Area	Zip Code
c. If this is an on-goir when might you impl		r was it implemente	ed? Otherwise,		Please enter	r the year.
12. Do you sponsor publ	ic conservation medi	a messages on an c	on-going basis?		No 🔻	Please also answer question 12c.
With the District				Drough Conserv	t Alerts vation Tips	Watering Restrictions
c. If this is an on-goir when might you impl		r was it implemente	ed? Otherwise,		Please enter	r the year.
Radio	Broadcast TV	Cable 🗌 Billboar	ds			
13. Do you utilize videos	of any kind on an on	-going basis?			•	Please make your selection.
Indoor Topics				Schools	al Groups	Speaking Engagements
]	
Vouth	Adult	Professional C	Dther			
]	
14. Do you promote wate	er conservation conte	ests on an on-going	basis?		No 🔻	Please also answer question 14c.
Indoor 0	Dutdoor			Awareness		Knowledge We do not measure
c. If this is an on-goir when might you impl		r was it implemente	ed? Otherwise,		Please enter	r the year.

,

15.	Do you sponsor landscape workshops/seminars on an on-going basis?		No 🔻	Please also answer	question 15c.
	Staff Non-Staff Outside Professionals	Awareness		Behavior All of These	We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please enter	the year.	
	SECTION 3 - INDOOR CONSERV The following section concerns programs and/or incentives rela				orts.
16.	Have you implemented any indoor water conservation replacement/rebate, in retrofit programs?	centive and/or	Yes 💌		
	a. What year did you begin implementing these programs?		2002		
	 b. Do you have written policies/procedures concerning implementation and r the program(s)? c. Do you follow-up with the customer in any manner after installation? 	naintenance of	Yes Yes		
Plea	se continue to the next question.				
17.	Do you provide individual consultations or evaluations on an on-going basis residential customers who are interested in recommendations that will help t conserve and/or reduce their indoor water consumption?	•	No	Please also answer	question 15c.
	Awareness Knowl	edge [Behavior	All of These	We do not measure
	b. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please enter	the year.	
18.	Do you have an on-going replacement/rebate program for low-flush toilets?		Yes 🔻		
	a. Service areas targeted include: ✓ Entire Service Area Zip Code Specific Neighborhoods Older Homes	b. How have Awareness Knowledge	you measured ei <i>Please se</i>	ffectiveness? Behavior All of These elect all that apply abo	We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise, when might you implement this practice?		Please fill in		
	d. Approximately how many toilets are replaced annually?	100			
19.	Other than toilets, do you have an on-going indoor plumbing retrofit or excha	ange program?	No 🔻	Please also answer	question 19c.
	Entire Service Area Zip Code Specific Neighborhoods Older Homes	Awareness Knowledge		Behavior All of These	We do not measure
	c. If this is an on-going program, what year was it implemented? Otherwise,		Please enter	the year.	
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	when might you implement this practice?				
	▼				
_					
20.	Do you have a leak detection program specific to residential customers?	No) 🔻		
	a. Are you considering implementing any rain sensor programs in the future?	No	· · ·		
			•		_
	Entire Service Area I Zip Code Specific Neighborhoods Older Homes	Awareness		Behavior	We do not measure
	Specific Neighborhoods Older Homes			All of These	
		-			
		—			
		-			
		held workshops, gav	e away rain snsors		
	[]				
				Please co	ontinue to SECTION 4.
	SECTION 4 - OUTDOOR CONSERVA	TION INCENTIV	E PROGRAMS		
	The following section concerns programs and/or incentives relati		tial outdoor water o	conservation effo	orts.
21.	Have you implemented any outdoor water conservation replacement/rebate, in retrofit programs?	centive and/or γ_{ϵ}	es 🔻		
	····· p···g·····		-		
			\		-
	a. What year did you begin implementing these programs?		2002		
	b. Do you have written policies/procedures concerning implementation and m the program(s)?	aintenance of	Please	e make your sel	ection.
	c. Do you follow-up with the customer in any manner after installation?		Pleas	e make your sele	ection.
	d. Do you have a mobile irrigation lab program?			e make your sele	ection.
22	Have you implemented a rain sensor program?	· · · · · · · · · · · · · · · · · · ·	Diaco	e make your sele	
22.	nave you implemented a rain sensor program?		▼ Pleas	e make your seit	ection.
			—		
	Entire Service Area Zip Code	Awareness	E	Behavior	We do not measure
	Specific Neighborhoods	Knowledge		All of These	
		see previous answers			
		see previous answers	5		
	. ▼				
23.	Do you provide individual consultations or evaluations for private residential of	ustomers who No			
	are interested in recommendations that will help them to conserve and/or redu		Pleas	e also answer qu	uestion 23a.
	outdoor water consumption? a. Are you considering implementing any rain sensor programs in the future?		—		
	a. The you considering implementing any rain sensor programs in the future?	Please ma	ke your selection.		
	Entire Service Area Zip Code	Awareness	[Behavior	We do not measure
	D:\Clients Active\St Johns\Survey Results\#Database.xls		_		Volusia
	Prepared by: Chrisell Jones, PBS Page 4 c) T			May 5, 2004

Entire Service Area	Zip Code	Awareness Knowledge	Behavior We do not measure All of These
24. Do you have an incentive progr	am for irrigation system improvements?	Yes 🔻	
		ι,	
a. Service areas targeted includ	E:	b. How have you measured effectiv Awareness	veness?
Specific Neighborhoods	Older Homes	Knowledge	All of These all that apply above.
c. What year did you begin this	program?	Please fill in the y	
	provements are recorded annually?	Please complete	
		inconjunction with WAV and the Distric	t
	Please make your selection	ı.	
25. Do you have an incentive progr xeriscape/Florida-friendly lands	am for residential customers to use drought-te caping on their property?	No	ase also answer question 25a.
a. Are you considering impleme	enting any rain sensor programs in the future?		·
		Please make your selection).
Entire Service Area	Zip Code Older Homes	Awareness	Behavior We do not measure
			Please continue to SECTION 5.
	CTION 5 - LOCAL ORDINANCES, RES		
26. Specifically related to residentia	al landscaping, please select which of the follo	owing components are contained in	your adopted Ordinances, Resolutions,
savings.	year adopted; or what year you plan adopt. Als		-
		Please indicate if you enforce t corresponding ordinance/cod	
✓ Water Use Restrictions	Adoption Year:	- · · · · · · · · · · · · · · · · · · ·	·
Native Plant Use	Enter adoption year above Adoption Year:	e. Make selection above.	Make selection above.
Drought Tolerant Plant Use	Adoption Year:		
Rain Sensors	Adoption Year:	_ _	· [•]
Site Design Review	Adoption Year:	- · · · · · · · · · · · · · · · · · · ·	· ~
Efficient Irrigation	Adoption Year:		
Turf Use Restrictions	Adoption Year:		·] ▼

27. Do you require any permitting actions specifically related to indoor and outdoor plumbing

Please continue to the next question. 28. Are all governmental entities and exempt users metered? vor a. Since what year have all users been metered? Please enter the year. SECTION 6 - WATCE RATE STRUCTURE The following questions relate OUL Y to single-family residential customers with a 54-hinch or 34-hinch water meter. 29. Are your water rates structured to promote water conservation? You a. What year did you implement conservation-based rates? 2002 c. How many tiers are structured in your residential rates? 4 20. How much is your monthly water service charge for a typical SF customer? Please enter service charge for one EDU 31. Do you bill monthly or bi-monthly? monthly 32. Do you impose a surcharge for accessive residential water use that is not reflected in the inclined rate structure? No 33. Do you bill monthly or bi-monthly Rese continue to the next question. No 33. Do you wave a drought rate? No Please continue to the next question. 34. How much is your monthly water service charge for a typical SF Please enter service charge for one EDU customer? Please continue to the next question. Rese continue to the next question. Sectrion r- WASTEWATER RATE STRUCTURE <t< th=""><th></th></t<>	
a. Since what year have all users been metered? Please enter the year. SECTION 6 - VATER RATE STRUCTURE The following questions relate CVL'Y to single-family residential customers with a S&-Inch or 34-inch water meter. A re your water rates structured to promote water conservation? yea a. What year did you implement conservation-based rates? a. What year did you implement conservation-based rates? a. What year did you implement conservation-based rates? b. Please provide your constructure between the second structure of a second structure between the second structure second structure between the second structure between the second structure between the second structure second	
SECTION 0 - UNITER RATE STRUCTURE The following questions relate ONLY to single-family residential automers with a 55-inch or 34-inch water meter. 8. Are your water rates structured to promote water conservation? vis a. What year did you implement conservation-based rates? 2002 b. Plesse provide your cost Galion Rang Ter 1 0.7 c. How many tiers are structured in your residential rates? 4 How much is your monthly water service charge for a typical SF customer? Please enter service charge for one EDU 10. How much is your monthly or bi-monthly? monthly 11. Do you bill monthly or bi-monthly? monthly 12. Do you bill monthly or bi-monthly? monthly 13. Do you have a drought rate? No 14. How much is your monthy watewater service charge for a typical SF No 15. Please continue to the next question. No 16. How much is your monthy watewater service charge for a typical SF Please center service charge for one EDU No Please continue to the next question. 13. Do you have a drought rate? No Please conter service charge for a typical SF Please conter service charge for one EDU	
The following questions relate OUL 'to single-tamily residential customers with a 58-inch or 34-inch water meter. 9. Are your water rates structured to promote water conservation? Viso yes • a. What year did you implement conservation-based rates? 2002 a. What year did you implement conservation-based rates? 2002 c. How many tiers are structured in your residential rates? 4 dese continue to the next question. 4 10. How much is your monthly water service charge for a typical SF customer? Please enter service charge for one EDU 11. Do you bill monthly or bi-monthly? monthly lease continue to the next question. No 12. Do you bill monthly or bi-monthly? monthly lease continue to the next question. No 13. Do you bill monthly or bi-monthly water service charge for a typical SF Please enter service charge for one EDU No Please enter service charge for one EDU SECTION 7 - WASTEWATER RATE STRUCTURE The following questions relate ONL Y to single-family residential customers with a 58-inch or 34-inch water meter. 14. How much is your monthly wastewater residential rate Base rate & gallons up to 14,000 SECTION 7 - WASTEWATER RATE S	
The following questions relate OUL 'to single-family residential customers with a 58-inch or 34-inch water meter. 9. Are your water rates structured to promote water conservation? Ves 9. Are your water rates structured to promote water conservation? Ves 9. Away our water rates structured to promote water conservation? Image: Conservation-based rates? 9. How many tiers are structured in your residential rates? 4 9. How many tiers are structured in your residential rates? 4 9. How mach is your monthly water service charge for a typical SF customer? Please enter service charge for one EDU 1. Do you bill monthly or bi-monthly? monthly ease continue to the next question. No 2. Do you impose a surcharge for excessive residential water use that is not reflected in the inclined rate structure? No 9. Do you have a drought rate? No Please enter service charge for one EDU customer? Researchine water residential water use that is not reflected in the inclined rate structure? Please enter service charge for a typical SF Please enter service charge for one EDU customer? Section 7 - WASTEWATER RATE STRUCTURE The following questions relate ONL Y to single-family residential customers with a 58-inch or 34-inch water meter. 4. How much is your	
The following questions relate OUL 'to single-tamily residential customers with a 58-inch or 34-inch water meter. 9. Are your water rates structured to promote water conservation? Viso yes • a. What year did you implement conservation-based rates? 2002 a. What year did you implement conservation-based rates? 2002 c. How many tiers are structured in your residential rates? 4 dese continue to the next question. 4 10. How much is your monthly water service charge for a typical SF customer? Please enter service charge for one EDU 11. Do you bill monthly or bi-monthly? monthly lease continue to the next question. No 12. Do you bill monthly or bi-monthly? monthly lease continue to the next question. No 13. Do you bill monthly or bi-monthly water service charge for a typical SF Please enter service charge for one EDU No Please enter service charge for one EDU SECTION 7 - WASTEWATER RATE STRUCTURE The following questions relate ONL Y to single-family residential customers with a 58-inch or 34-inch water meter. 14. How much is your monthly wastewater residential rate Base rate & gallons up to 14,000 SECTION 7 - WASTEWATER RATE S	
a. What year did you implement conservation-based rates? b. Please provide your costructure belover the structure below of the structure	
a. What year did you implement conservation-based rates? a. What year did you implement conservation-based rates? c. How many tiers are structured in your residential rates? 4	
a. What year did you implement conservation-based rates? 2002 Tue 1 0-7 Tue 2 14.21 Tue 2 14.21 Tue 2 14.21 Tue 4 0.7 Tue 5 Tue 6 Tue 6 Tue 6 Tue 6 Tue 6 Tue 6 Tue 7 <p< th=""><th>-</th></p<>	-
c. How many tiers are structured in your residential rates? 4 Tier 2 7.14 Tier 2 14.21 Tier 4 over 21 Tier 5 Tier 6 ease continue to the next question. 0. How much is your monthly water service charge for a typical SF customer? Please enter service charge for one EDU 1. Do you bill monthly or bi-monthly? monthly ease continue to the next question. No 2. Do you impose a surcharge for excessive residential water use that is not reflected in the inclined rate structure? No ease continue to the next question. No 3. Do you have a drought rate? No Please continue Please enter service charge for one EDU Inter 6 ease continue to the next question. 3. Do you have a drought rate? No Please continue ECTION 7 - WASTEWATER RATE STRUCTURE The following questions rolate ONLY to single-family residential customers with a S8-inch or 34-inch water mater. 4. How much is your monthly wastewater service charge for a typical SF Please continue charge for one EDU customer? Spectron 8 - REUSE/ RECLAIMED WATER PROGRAM Sectron 8 - REUSE/ RECLAIMED WATER PROGRAM Since your wastewater residential rate Base rate & gallons up to 14,000 structure. Please continue Since you indicated in the first section that your utility has a reuse/reclaimed program, please complete the following section. 6. When did you begin your recent efforts to promote reuse/reclaimed water Inter you on ave precentage of you	\$ Rate
Tier 2 14-21 Tier 4 over 21 Tier 5 Tier 6 assec continue to the next question. Please enter service charge for one EDU 1. Do you bill monthly or bi-monthly? monthly assec continue to the next question. No 2. Do you impose a surcharge for excessive residential water use that is not reflected in the inclined rate structure? No assec continue to the next question. No 3. Do you have a drought rate? No Please enter service charge for one EDU SECTION 7 - WASTEWATER RATE STRUCTURE The following questions relate ONLY to single-family residential customers with a 58-inch or 34-inch water meter. 4. How much is your monthly wastewater service charge for a typical SF Please enter service charge for one EDU customer? 5. Please describe your wastewater residential rate Base rate & gallons up to 14,000 structure. Please enter service charge for one EDU customer? Structure for undicated in the first section that your utility has a reuse/reclaimed program, please complete the following section: Structure. Please complete the following section: Structure or conselforcialimed water program? 1986 <td>1.54/2.91</td>	1.54/2.91
Tier 4 over 21 Tier 5 Tier 6 ease continue to the next question. Please enter service charge for a typical SF customer? 1. Do you bill monthly or bi-monthly? monthly ease continue to the next question. monthly 2. Do you impose a surcharge for excessive residential water use that is not reflected in the inclined rate structure? No ease continue to the next question. No 3. Do you have a drought rate? No Ease continue to the next question. No 3. Do you have a drought rate? No Ease continue to the next question. No 3. Do you have a drought rate? Please continue ECTION 7 - WASTEWATER RATE STRUCTURE The following questions relate ONLY to single-family residential customers with a 5%-inch or 3/4-inch water meter. 4. How much is your monthly wastewater residential rate Base rate & gallons up to 14,000 structure. Image rate & gallons up to 14,000 Since you indicated in the first section that your utility has a reuse/reclaimed program, please complete the following section	1.76/3.14
Titer 5 Titer 5 Titer 6 Bease continue to the next question. 1. Do you bill monthly or bi-monthly? monthly ease continue to the next question. 2. Do you impose a surcharge for excessive residential water use that is not reflected in the inclined rate structure? most fill asse continue to the next question. 3. Do you have a drought rate? No SECTION 7 - WASTEWATER RATE STRUCTURE The following questions relate ONLY to single-family residential customers with a 5t8-inch or 344-inch water meter. 4. How much is your monthly wastewater service charge for a typical SF Please enter service charge for one EDU customer? 5. Please describe your wastewater residential rate Base rate & gallons up to 14,000 structure. Please combine Since you indicated in the first section that your utility has a reuse/reclaimed water 6. When did you begin your reuse/reclaimed water program? 1986 7. How would you describe your recent efforts to promote reuse/reclaimed water? 8. What approximate percentage of your entire residential service area currently structure? 9. Do you have plans to expand your service area? <	2023/3.6
	4.62/6.01
ease continue to the next question.	
 How much is your monthly water service charge for a typical SF customer? Please enter service charge for one EDU Do you bill monthly or bi-monthly? monthly asse continue to the next question. No Po you impose a surcharge for excessive residential water use that is not reflected in the inclined rate structure? No Please continue to the next question. No Bo you have a drought rate? Please continue to the next question. Bo you have a drought rate? Please continue Section 7 - WASTEWATER RATE STRUCTURE The following questions relate ONLY to single-family residential customers with a 5/8-inch or 3/4-inch water meter. How much is your monthly wastewater service charge for a typical SF Please enter service charge for one EDU customer? Please describe your wastewater residential rate Base rate & gallons up to 14,000 Since you indicated in the first section that your utility has a rouse/reclaimed program, please complete the following section. When did you begin your recent efforts to promote reuse/reclaimed water use changes?within your service area to residential customers? What approximate percentage of your entire residential service area currently 5% has access to reclaimed water? Mou you have plans to expand your service area? Yes 	
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has access to reclaimed water? 9. Do you have plans to expand your service area? Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V	✓ Passive
s. Do you have plans to explain your service area?	
	e year.
0. What approximate percentage of your reclaimed residential customers have a <u>100%</u> metering device to measure demand?	
Approximately how many residential customers do you provide with <u>577</u> reclaimed water service?	
2. How are your rates structured? I Flat Rate + per 1,000 gal. rate Flat R	
Per 1,000 gal. Other	

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		-	▼		
3. Please descri	ibe any methods you emplo	by to conserve reclai	med/reuse water below.		
	Please pro	vide description of	reuse conversation r	nethods above.	
			ECTION 9 - COMME		
	The following section is pro	ovided if you have an	y comments or addition	al information you would like to sha	are at this time.
				or participating in this portion of our su ure to provide you with a copy.	ırvey.
O YES, I wo	ould like a copy of the survey res	ults.			
	(!'EÎ				

Prepared by PBS&J exclusively for the St. Johns River Water Management District, Department of Water Supply Management, May 2004

APPENDIX C – ECONOMETRIC MODELING

A. Using Regression Models

A common purpose or use for the estimation of regression models is for the development of inferences or estimates of changes in demand, or the dependent variable, from changes in explanatory or independent variables. This implies the presumption of 'causality' which regression does not prove or disprove; however, a model developed from accepted economic theory that meets the standards of hypothesis testing does indicate a likely change in demand from one or a number of explanatory variables. Thus, for this analysis, we developed a series of spreadsheet models using the results of each regression model to simulate the expected change in water use from a change in an explanatory variable. A sample of this model is illustrated in Table Appendix C-1 on the second following page.

There are four basic components of these models. First, the area indicated as Section A in Table 1 is simply the standard output of the statistical program used to estimate each regression model. Most importantly, this output provides the estimated coefficients for each independent or explanatory variable. In addition, the output includes several standard statistics of the model. Next, the area labeled Section B is a summary of *actual* average water use in gallons (also shown in logarithmic form) and *estimated* average water use using the model data in its proper form multiplied by the coefficients from Section A. This simply shows that the model is properly estimating water use using the resulting coefficients and the model data.

The next area, Section C, is a slight modification of the calculation of estimated water use. The box labeled "CURRENT" simply provides the average value of each explanatory variable from the model data used to estimate the regression model. Most importantly, the area labeled "NEW VALUE" is designed to allow the user to change the value of any one or more explanatory variables, thereby resulting in a different level of estimated water use. If no value is entered into the "NEW VALUE" box, the model uses the default value from the model data and will also calculate at the model estimate as shown in Section B. The change in water use is expressed as a new estimate of total

average water use, the change in use from actual, and as a percentage of actual water use prior to the change.

Finally, Section D converts estimated water use into total annual demand using the total number of customers in the model data set. If a change is made to an explanatory variable, the change in average monthly demand is also converted to an annual basis as well as a change in terms of million gallons per day (mgd).

TABLE APPENDIX C-1. SAMPLE UTILITY MODEL

Regression	Output	t-Statistic Prob.	15 3.059 0.002 20 4.058 0.000 31 1.340 0.181 31 6.638 0.000 32 0.000 0.181	-4.129	1.787 0.336 0.059 0.102 102.128	distic) 0.000 3,181 mgal		5,969 5,969 1.787	ACURRENTNEW VALUEA0.20-1.6161.6867.4301.8868.61.8868.6
		Coefficient Std. Error t-S	1.361 0.445 0.083 0.020 0.081 0.061 0.004 0.001		Mean S.D. c Akaiki Schwic	1.187 Prob(F-statistic)	ACTUAL MODEL CCT	<u>8</u> 8	1.616 1.361 CU 7.430 0.603 32 0.141 66 -0.172 6 -0.013
UTILITY MODEL SAMPLE	Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints	Variable Coeff	C LOG(AC-(ADJ_SF/43660)) LOG(HTD_SF) POOL_PCT SWAR_PCT	REUSE PCT	uared sion resid	Durbin-Watson stat Actual and Estimated	B	Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	Constant Yard area (acres), total lot size less developed area Average living area (square feet) Percent of homes with pool (%) Percent of accounts with sewer (%) Percent of accounts using reclaimed (%).

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B. <u>Utility Data Sets</u>

Billing history from eight (8) different utilities was received as a result of the survey and subsequent data request. Only five (5) of these samples were usable for the econometric modeling process. Errors occurred during the data extraction process that required that three (3) of the billing history data sets be not used. The following table provides a summary of the included data sets;

Utility	Average Customers	Average Monthly Water Use (gal)	Subdivisions	Census Tracts
Utility A	44,415	5,969	993	41
Utility B	31,202	5,276	441	38
Utility C	35,767	15,760	91	38
Utility D	38,450	11,293	473	33
Utility E	7,826	6,559	144	15
Combined Utilities	157,660	9,381	2,142	165

These data sets were appended with property and census data based on subdivision and census tract identifiers linked with each individual property location. Additional information regarding targeted conservation programs was also to be appended to the data at the subdivision and census tract levels in order to estimate the impact of these programs. However, only one utility, Utility D, provided data regarding a targeted irrigation program that was used in model specification. As a result, the individual and combined utility models were predominately specified using price, demographic characteristics, property characteristic, and the availability of irrigation substitutes in order to explain water use.

Initially, an individual model for each utility based on subdivisions was specified and estimated before a combined utility model was developed based on census tracts. The results of the individual models are described in the following section.

C. <u>Individual Utility Models</u>

UTILITY A

The billing history provided by this utility covered roughly 44,000 residential customers from several municipal jurisdictions³. This utility was able to provide account data that included types of service by account (i.e. water, sewer, and reclaimed water), as well as identifiers for service areas or whether accounts are located within City limits, and the total water and sewer charge for each account bill. As a result, several variations of this data, including different municipal subsets, were specified and estimated.

The property data appended to this billing history included a good range of physical characteristics of properties by subdivision. This data included total lot size, land, building, and total property values, both total and heated square footage, and data regarding pools.

The following models were specified and estimated using this utility data set:

- 1. <u>Model A.1</u> this model included all jurisdictions and estimated the natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of the rate of a combined water and sewer bill per 1,000 gallons of water use [LOG(TOT_COST)], average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], average heated square footage of the household [LOG(HTD_SF)], and the percentage of homes with a pool [(POOL_PCT)] and percentage of accounts using reclaimed water [(REUSE_PCT)].
- 2. <u>Model A.2</u> this model included all jurisdictions and estimated the natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], average heated square footage of the household

³ This utility provides water service and water billing services to several municipal jurisdictions in addition to serving and billing its own retail customers.

[LOG(HTD_SF)], and the percentage of homes with a pool [(POOL_PCT)], percentage of accounts with sewer [(SWR_PCT)], and percentage of accounts using reclaimed water [(REUSE_PCT)].

- 3. <u>Model A.3</u> this model included a subset of the primary utility municipal customers and estimated the natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], average heated square footage of the household [LOG(HTD_SF)], and the percentage of homes with a pool [(POOL_PCT)], percentage of accounts with sewer [(SWR_PCT)], and percentage of accounts using reclaimed water [(REUSE_PCT)].
- 4. <u>Model A.4</u> this model included a subset of a secondary municipal jurisdiction and estimated the natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], average heated square footage of the household [LOG(HTD_SF)], and the percentage of homes with a pool [(POOL_PCT)], percentage of accounts with sewer [(SWR_PCT)], and percentage of accounts using reclaimed water [(REUSE_PCT)].

Overall, each model has an acceptable level of explanatory power and individual estimators have the correct sign and acceptable t-scores (see Regression Outputs). Table Appendix C-2 below provides a summary of the results of the models described above.

Table Appendix C-2 shows, for each model, the Adjusted R^2 value, the *F*-statistic, the number of observations for each model, and the coefficients for each independent variable.

MODEL	A.1	A.2	A.3	A.4
Adjusted R ²	57%	45%	63%	71%
F-statistic	164.54	102.13	39.71	98.63
Observations (n=)	609	609	117	205
Independent variables:				
Constant	1.7728	1.3612	1.5590	-1.1010
Average cost (W&S) per 1,000 gallons of water use	-0.3913			
Yard area (acres), total lot size less developed area	0.0142	0.0828	0.0618	
Average living area (square feet)	0.0864	0.0812	0.0360	0.4663
Age of housing unit				-0.1275
Percent of homes with pool (%)	0.0038	0.0044	0.0066	0.0041
Percent of accounts with sewer (%)		-0.0026	-0.0008	-0.0021
Percent of accounts using reclaimed (%)	-0.0016	-0.0021	-0.0028	-0.0075

Table Appendix C-2. Summary of Utility A Models

These models allow two distinct inferences to be made regarding average water use within this utility which are discussed below.

Indoor versus Outdoor Water Use

First, both the variables for the size of yard and the use of reclaimed water, an irrigation substitute, allow for the estimate of the proportion of indoor versus outdoor water use. Based on the modeling results, if the size of yard variable is taken to zero, thus eliminating demand for outdoor watering, the result is a reasonable estimate for indoor water use, holding all other variables constant. In addition, if the percentage of accounts using reclaimed water as a substitute for irrigation is increased to 100%, the result is also a reasonable estimate of indoor water use, holding all else constant. Table Appendix C-3 below provides a summary of the estimate between indoor and outdoor water use using this technique for each model for Utility A (see also Table A.1-A.9). This table shows that the estimate of indoor water use is consistent across the model runs and is also consistent with the results of the American Water Works Association (AWWA) publication "Residential End Uses of Water, 1999", which determined that indoor water use ranged from **45** to **69** gallons per day for conserving and non conserving households respectively.

MODEL	A.1	A.2	A.3	A.4
Total per capita use (gal per day)	79	79	76	99
Indoor estimate:				
Elimination of yard area	67	51	54	
100% reclaimed water use	68	65	59	48
Average	68	58	57	48
Outdoor Estimate	12	21	20	51

Table Appendix C-3. Summary of Indoor-Outdoor Estimated Water Use (gpcd)

Based on actual per capita water use, it is therefore reasonable to assume that the difference between total water use and these indoor estimates results in the outdoor portion of water use. The subset used in the model A.4 potentially has double the average outdoor water use compared with the subset from model A.3, and potentially more opportunity for conservation, holding all else constant.

Price Elasticity

The second inference we are able to draw involves the price elasticity of water. Since the variable for the average cost of the total bill per 1,000 gallons of water was significant and exhibited the correct response (as price goes up, demand declines) we are able to calculate the average price elasticity of demand using Model A.1. In addition, Model A.2 was specified with the share of combined water and sewer customers to substitute for the impact of price. This allows us to estimate a second price elasticity and test the validity of using the share of sewer customers in lieu of not having total charge data, which was the case for all other utilities⁴. Using Model A.1, the regression coefficient for average cost of water generates an average price elasticity of approximately -0.3. Similarly, using Model A.2, a shift in the share of accounts with sewer results in an implied price elasticity of between -0.2 and -0.3.

⁴ Total monthly amount billed was requested from all utilities as a part of the billing data requested; however, only Utility A provided the monthly billed amount in the billing data received. Therefore, it was important to test the validity of using the presence of sewer service, which was provided by all utilities, in lieu of the total charge data prior to modeling the other utilities.

Model Results

The modeling results for Utility A are presented on the following pages and are described below.

Model A.1

A Model Summary for Model A.1, including the regression output, is presented on the second following page.

Several scenarios changing the value of an explanatory variable were developed using Model A.1, the results of which are presented in Tables A1 through A3 and are presented following the above referenced Model Summary and are described below.

<u>Table A1 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table A1 presents the results of Model A.1 in which Yard Area is set at zero, thus eliminating all outdoor water use. The "New Value" box shows the yard area set to zero and the bottom line of the table shows that use per capita is reduced from 79 gallons per day to 67 gallons per day. The conclusion drawn from this model is that 67 gallons per capita per day is indoor water use and 13 gallons per capita per day $(79 - 67)^5$ is attributed to outdoor water use.

<u>Table A2 – Indoor/Outdoor Water Use Estimate with 100% Reclaimed Water Use</u> – Table A2 presents the results of Model A.1 in which reclaimed water use is set at 100%, thus eliminating all outdoor water use. The "New Value" box shows the percent of accounts using reclaimed water set to 100% and the bottom line of the table shows that use per capita is reduced from 79 gallons per day to 68 gallons per day. The conclusion drawn from this model is that 68 gallons per capita per day is indoor water use and 11 gallons per capita per day (79 – 68) is attributed to outdoor water use⁶.

⁵ The difference between 13 and (79-67) is attributable to rounding.

⁶ It should be noted that if reclaimed water is available at a lower price than potable water (which is typically the case), outdoor reclaimed water use will likely be higher than the amount attributed to outdoor potable water use due to the effect of elasticity of demand upon reclaimed water use (lower price than

<u>Table A3 – Price Elasticity Estimate from Change in Average Cost</u> – Table A3 presents the results of Model A.1 in which average cost of water and sewer service is increased by approximately 17%, thus causing a reduction in water use. The "New Value" box shows the combined average cost per 1,000 gallons of water and sewer service set at \$7.25, compared to the current cost of \$6.22 (a 17% increase) and the bottom line of the table shows that use per capita is reduced from 79 gallons per day to 75 gallons per day, or a 5% reduction. This represents an elasticity coefficient of -0.35^7 .

potable water). This is applicable to all model analyses involving substitution of reclaimed water for potable water.

⁷ An additional analysis of the estimate of elasticity is presented in Model A.2, Table A6, by increasing the percent of accounts with both water and sewer service (thus increasing the average cost), resulting in an elasticity coefficient of -0.20.

Utility Model A.1

Estimation Command:

Estimation Equation:

Substituted Coefficients:

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	1.772774	0.394583	4.492779	0.0000
LOG(TOT_COST)	-0.391330	0.023332	-16.77237	0.0000
LOG(AC-	0.014227	0.018363	0.774720	0.4388
(ADJ_SF/43560))				
LOG(HTD_SF)	0.086428	0.053489	1.615791	0.1067
POOL_PCT	0.003757	0.000587	6.403858	0.0000
REUSE_PCT	-0.001636	0.000440	-3.715466	0.0002
R-squared	0.577054	Mean deper	ndent var	1.786573
Adjusted R-squared	0.573547	S.D. depend	dent var	0.335562
S.E. of regression	0.219133	Akaike info	criterion	-0.188473
Sum squared resid	28.95562	Schwarz crit	terion	-0.145006
Log likelihood	63.38989	F-statistic		164.5430
Durbin-Watson stat	1.226625	Prob(F-stati	stic)	0.000000

TABLE A1. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

UTILITY MODEL A.1						
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints						
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
C LOG(TOT_COST) LOG(ADJ_SF/43560)) LOG(HTD_SF) POOL_PCT REUSE_PCT	1.773 0.391 0.014 0.086 0.0086 0.002	0.395 0.018 0.0018 0.001 0.001	4.493 -16.772 0.775 1.616 6.404 -3.715	0.000 0.000 0.439 0.107 0.000 0.000		
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.577 0.574 0.574 28.956 63.390 63.390	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ent var nt var terion ion c)	1.787 0.336 -0.188 -0.145 164.543 0.000		ANNUAL 3,181 mg
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 5,969 1.787	MODEL EST 5,969 1.787		ADJ EST 5,018 1.613	VAR (951) -16%	Total Conse Customers 44,415
Constant Average cost (VV&S) per 1,000 gallons of water use Y ard area (acres), total lot size less developed area Average living area (square feet) Percent of homes with pool (%) Percent of accounts using reclaimed (%)	1.827 -1.616 7.430 32 6	1.773 -0.715 -0.023 0.642 0.120 0.120	CURRENT 6.22 0.20 1,685 32 6	1.827 -13.8155 7.4298 32 6	0.00	% Chg in Price 0%
Average Household Size (US Census) Per Capita Use per Day	2.47 79			2.47 67	Chg in per cap (13) gpd	Chg in per capita use (13) gpd

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(507) -16%

Total Conservation Opportunity stomers mgal mgd

ANNUAL USE 3,181 mgal

TABLE A2. INDOOR/OUTDOOR WATER USE ESTIMATE WITH 100% RECLAIMED WATER USE

UTILITY MODEL A.1								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints								
Variable	Coefficient	Std. Error	t-Statistic	Prob.				
C LOG(TOT_COST) LOG(AC-(ADJ_SF/43560)) LOG(HTD_SF) POOL_PCT REUSE_PCT	1.773 -0.391 0.014 0.086 0.008	0.395 0.023 0.018 0.001 0.001 0.000	4.493 -16.772 0.775 1.616 6.404 -3.715	0.000 0.000 0.439 0.107 0.000 0.000				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.577 0.574 0.219 28.966 63.390 63.390	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ent var nt var iterion rion ic)	1.787 0.336 -0.188 -0.145 164.543 0.000		ANNUAL USE 3,181 mgal	AL USE mgal	
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 5,969 1.787	MODEL EST 5,969 1.787		ADJ EST 5,122 1.634	VAR (847) -14%	Total Con Customers 44,415	Total Conservation Opportunity tomers mgal mgr 44,415 (451) -14%	rtunity mgd (1.2)
Constant Average cost (NV&S) per 1,000 gallons of water use Yard area (acres), total lot size less developed area Average living area (square feet) Percent of homes with pool (%) Percent of accounts using reclaimed (%)	1.827 -1.616 7.430 32 6	1.773 -0.715 -0.715 -0.023 0.642 0.120 -0.011	CURRENT \$ 6.22 0.20 1,685 32 6	1.827 -1.6155 7.4298 32	NEW VALUE	% Chg in Price 0%	ll w	0.0
Average Household Size (US Census) Per Capita Use per Day	2.47 79			2.47 68	Chg in per (11)	Chg in per capita use (11) gpd		
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TABLE A3. PRICE ELASTICITY ESTIMATE FROM CHANGE IN AVERAGE COST

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Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints									
Variable	Coefficient	Std. Error	t-Statistic	Prob.					
C LOG(TOT_COST) LOG(AC-(ADJ_SF/43660)) LOG(HTD_SF) POOL_PCT REUSE_PCT	1.773 -0.391 0.014 0.086 0.008	0.395 0.023 0.018 0.005 0.000	4.493 -16.772 0.775 0.775 1.616 6.404 6.404	0.000 0.000 0.439 0.107 0.000					
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.577 0.574 0.219 28.956 63.390 1.227	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	lent var ant var riterion arion tic)	1.787 0.336 -0.188 -0.145 164,543 0.000		ANNUAL USE 3,181 mgal	JSE al		
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 5,969 1.787	MODEL EST 5,969 1.787		ADJ EST 5,620 1.726	VAR (349) -6%	Total Conse Customers 44,415	Total Conservation Opportunity tomers mgal mgr 44,415 (186) -6%	tunity mgd (0.5)	
Constant Average cost (NV&S) per 1,000 gallons of water use Yard area (acres), total lot size less developed area Average living area (square feet) Percent of homes with pool (%) Percent of accounts using reclaimed (%)	1.827 -1.616 7.430 32 6	1.773 -0.715 -0.023 -0.023 0.642 -0.011	CURRENT \$ 6.22 0.20 1,685 32 6	1.981 -1.6155 7.4298 32 6	NEW VALUE \$ 7.25	% Chg in Price 17%	li D	-0- 38:	
Average Household Size (US Census) Per Capita Use per Day	2.47 79			2.47 75	Chg in per 5	Chg in per capita use (5) gpd			

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Model A.2

The difference in this model and Model A.1 is that in Model A.1, the cost of water is represented by the average cost of water and sewer service, whereas, in this model the cost of water is represented by the percentage of accounts with sewer service (higher cost than water only accounts).

A Model Summary for Model A.2, including the regression output, is presented on the second following page.

Similar scenarios were developed using Model A.2 as were made with Model A.1, the results of which are presented in Tables A4 through A6, which are presented following the above referenced Model Summary and are described below.

<u>Table A4 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table A4 presents the results of Model A.2 in which Yard Area is set at zero, thus eliminating all outdoor water use. The "New Value" box shows the yard area set to zero and the bottom line of the table shows that use per capita is reduced from 79 gallons per day to 51 gallons per day. The conclusion drawn from this model is that 51 gallons per day per capita is indoor water use and 28 gallons per day per capita (79 – 51) is attributed to outdoor water use.

<u>Table A5 – Indoor/Outdoor Water Use Estimate with 100% Reclaimed Water Use</u> – Table A5 presents the results of Model A.2 in which reclaimed water use is set at 100%, thus eliminating all outdoor water use. The "New Value" box shows the percent of accounts using reclaimed water set to 100% and the bottom line of the table shows that use per capita is reduced from 79 gallons per day to 65 gallons per day. The conclusion drawn from this model is that 65 gallons per capita per day is indoor water use and 14 gallons per capita per day (79 – 65) is attributed to outdoor water use.

<u>Table A6 – Price Elasticity Estimate from Change in Average Cost</u> – Table A6 presents the results of Model A.2 in which percent of accounts with sewer service is increased from 66% to 100%, thus causing a reduction in water use. The "New

Value" box shows the percent of accounts with sewer is set at 100%, compared to the current percentage of 66%, and the bottom line of the table shows that use per capita is reduced from 79 gallons per day to 73 gallons per day. This represents an elasticity coefficient of -0.20^8 .

⁸ An additional analysis of the estimate of elasticity is presented in Model A.1, TableA3, by increasing the average cost of water and sewer service, resulting in an elasticity coefficient of -0.35.

Utility Model A.2

Estimation Command:

LS LOG(CONS_AVG) C LOG(AC-(ADJ_SF/43560)) LOG(HTD_SF) POOL_PCT SWR_PCT REUSE_PCT

Estimation Equation:

Substituted Coefficients:

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	1.361235	0.445038	3.058695	0.0023
LOG(AC-	0.082784	0.020402	4.057667	0.0001
(ADJ_SF/43560))				
LOG(HTD_SF)	0.081206	0.060583	1.340421	0.1806
POOL_PCT	0.004400	0.000663	6.637868	0.0000
SWR_PCT	-0.002584	0.000276	-9.367269	0.0000
REUSE_PCT	-0.002053	0.000497	-4.129360	0.0000
R-squared	0.458533	Mean dependent var		1.786573
Adjusted R-squared	0.454043	S.D. dependent var		0.335562
S.E. of regression	0.247943	Akaike info criterion		0.058566
Sum squared resid	37.06981	Schwarz criterion		0.102032
Log likelihood	-11.83337	F-statistic		102.1282
Durbin-Watson stat	1.187321	Prob(F-stati	stic)	0.000000

TABLE A4. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

			ANNUAL USE 3,181 mgal	Total Conservation Opportunity tomers mgal mgd 44,415 (1,129) (3. -35%	rice 0% e= 0.C		Burton & Assoc
			AN 3,1	VAR (2,117) -35% Total Co Customers 44,415	NEW VALUE % Chg in Price 0.00	Chg in per capita use (28) gpd	
	Prob.	0.002 0.181 0.181 0.000 0.000 0.000	1.787 0.336 0.059 0.102 0.000	ADJ EST V 3,852 1.348	-6.908 7.430 32 66 66	2.47	
	t-Statistic	3.069 4.068 1.340 6.638 6.638 6.638	dent var lent var criterion terion stic)		CURRENT 0.20 1,685 32 66 6		301
	Std. Error	0.445 0.020 0.061 0.000 0.000	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	MODEL EST 5,969 1.787	1.361 -0.134 0.603 0.141 -0.172		
	Coefficient	1.361 0.083 0.003 0.003 0.003	0.459 0.454 0.248 37.070 -11.1833 1.187	ACTUAL 5,969 1.787	-1.616 7.430 32 66 6	2.47 79	
UTILITY MODEL A.2 Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints	Variable	C LOG(AC-(ADJ_SF/43560)) LOG(HTD_SF) POOL_PCT SWR_PCT REUSE_PCT	R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	Constant Yard area (acres), total lot size less developed area Average living area (square feet) Percent of hornes with pool (%) Percent of accounts with sewer (%) Percent of accounts using reclaimed (%)	Average Household Size (US Census) Per Capita Use per Day	JRWMD

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TABLE A5. INDOOR/OUTDOOR WATER USE ESTIMATE WITH 100% RECLAIMED WATER USE

UTILITY MODEL A.2								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints								
Variable	Coefficient	Std. Error	t-Statistic	Prob.				
C LOG(AC.(ADJ_SF/43560)) LOG(HTD_SF) POOL_PCT SWR_PCT REUSE_PCT	1.361 0.083 0.081 0.004 0.003	0.445 0.020 0.001 0.000 0.000 0.000	3.059 4.058 1.340 6.638 6.638 -9.367	0.000 0.181 0.000 0.000 0.000 0.000				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.459 0.454 0.248 37.070 -11.833 1.187	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ent var ent var riterion riton tic)	1.787 0.336 0.059 0.102 0.102 0.000		ANNUAL USE 3,181 mgal	AL USE mgal	
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 5,969 1.787	MODEL EST 5,969 1.787		ADJ EST 4,926 1.595	VAR (1,043) -17%	Total Cons Customers 44,415	Total Conservation Opportunity tomers mgal mgc 44,415 (556) -17%	rtunity mgd (1.5)
Constant Y ard area (acres), total lot size less developed area Average living area (square feet) Percent of homes with pool (%) Percent of accounts with sewer (%) Percent of accounts using reclaimed (%)	-1.616 7.430 32 66 66	1.361 -0.134 0.603 0.141 -0.172	CURRENT 0.20 1,685 32 66 66	-1.616 7.430 32 66 100	NEW VALUE	% Chg in Price 0%	li D	0.0
Average Household Size (US Census) Per Capita Use per Day	2.47 79			2.47 65	Chg in per (14)	Chg in per capita use (14) gpd		
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TABLE A6. PRICE ELASTICITY ESTIMATE FROM CHANGE IN AVERAGE COST

UTILITY MODEL A.2								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 17:00 Sample(adjusted): 2 991 IF AVG_LOC >19 Included observations: 609 after adjusting endpoints								
Variable	Coefficient	Std. Error	t-Statistic	Prob.				
C LOG(AC-(ADJ_SF/4360)) LOG(HTD_SF) POOL_PCT SWR_PCT REUSE_PCT	1.361 0.083 0.081 0.004 -0.003	0.445 0.020 0.061 0.001 0.000 0.000	3.059 4.058 1.340 6.538 6.538 -9.367 -4.129	0.002 0.181 0.181 0.000 0.000 0.000				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.459 0.454 0.248 37.070 -11.833 1.187	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ent var nt var iterion rrion ic)	1.787 0.336 0.059 0.102 102.128 0.000		ANNUAL USE 3,181 mgal	USE Igal	
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 5,969 1.787	MODEL EST 5,969 1.787		ADJ EST 5,474 1.700	VAR (495) -8%	Total Cons Customers 44,415	Total Conservation Opportunity tomers mgal mgc 44,415 (264) -8%	rtunity mgd (0.7)
Constant Yard area (acres), total lot size less developed area Average living area (square feet) Percent of homes with pool (%) Percent of accounts with sewer (%) Percent of accounts using reclaimed (%)	-1.616 7.430 32 66	1.361 -0.134 0.603 0.141 -0.172	CURRENT 0.20 1,685 32 66 66	-1.616 7.430 32 100	NEW VALUE 100	% Chg in Price 42%	ll w	-0.20
Average Household Size (US Census) Per Capita Use per Day	2.47 79			2.47 73	Chg in per cap (7) gpd	Chg in per capita use (7) gpd		

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Model A.3

Models A.1 and A.2 were run on the total data set received from Utility A (which included customers in other municipal jurisdictions to whom Utility A provided water and/or sewer service), whereas, this model was run on only a subset of the primary utility municipal customers of Utility A. Also, in this model the cost of water is represented by the percentage of accounts with sewer service (higher cost than water only accounts).

A Model Summary for Model A.3, including the regression output, is presented on the following page.

Similar scenarios were developed using Model A.3 as were made with Model A.1 (except that price elasticity was not run in Model A.3), the results of which are presented in Tables A7 and A8, which are presented following the above referenced Model Summary and are described below.

<u>Table A7 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table A4 presents the results of Model A.3 in which Yard Area is set at zero, thus eliminating all outdoor water use. The "New Value" box shows the yard area set to zero and the bottom line of the table shows that use per capita is reduced from 76 gallons per day to 54 gallons per day. The conclusion drawn from this model is that 54 gallons per capita per day is indoor water use and 23 gallons per capita per day $(76 - 54)^9$ is attributed to outdoor water use.

⁹ The difference between 23 and (76-54) is attributable to rounding

Table A8 – Indoor/Outdoor Water Use Estimate with 100% Reclaimed Water Use

– Table A8 presents the results of Model A.3 in which reclaimed water use is set at 100%, thus eliminating all outdoor water use. The "New Value" box shows the percent of accounts using reclaimed water set to 100% and the bottom line of the table shows that use per capita is reduced from 76 gallons per day to 59 gallons per day. The conclusion drawn from this model is that 59 gallons per capita per day is indoor water use and 17 gallons per capita per day (76 – 17) is attributed to outdoor water use.

Utility Model A.3

Estimation Command:

Estimation Equation:

Substituted Coefficients:

LOG(CONS_AVG) = 1.558990358 + 0.06175770473*LOG(AC-(ADJ_SF/43560)) + 0.03598714446*LOG(HTD_SF) + 0.006608687609*POOL_PCT - 0.0008243399716*SWR_PCT -0.002805536843*REUSE_PCT

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/25/04 Time: 13:24 Sample(adjusted): 4 955 IF SUB_UTILA = 1 AND AVG_LOC >19 Included observations: 117 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	1.558990	0.632051	2.466559	0.0152
LOG(AC-	0.061758	0.020811	2.967489	0.0037
(ADJ_SF/43560))				
LOG(HTD_SF)	0.035987	0.087100	0.413168	0.6803
POOL_PCT	0.006609	0.001413	4.677902	0.0000
SWR_PCT	-0.000824	0.000363	-2.272988	0.0250
REUSE_PCT	-0.002806	0.000710	-3.954115	0.0001
R-squared	0.641399	Mean dependent var		1.782035
Adjusted R-squared	0.625246	S.D. depend	dent var	0.225243
S.E. of regression	0.137888	Akaike info	criterion	-1.074836
Sum squared resid	2.110440	Schwarz crit	terion	-0.933186
Log likelihood	68.87793	F-statistic		39.70729
Durbin-Watson stat	1.329227	Prob(F-stati	stic)	0.000000

TABLE A7. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

UTILITY MODEL A.3						
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/25/04 Time: 13:15 Sample(adjusted): 4 955 IF SUBUTILA = 1 AND AVG_LOC >19 Included observations: 117 after adjusting endpoints	_LOC >19					
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
C LOG(AC-(ADJ_SF/43660)) LOG(HTD_SF) POOL_PCT SWR_PCT REUSE_PCT	1.559 0.062 0.007 0.007 0.007	0.632 0.021 0.001 0.001 0.000 0.000	2.467 2.967 4.678 -2.273 -3.954	0.015 0.680 0.680 0.000 0.000 0.000		
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.641 0.625 0.138 2.110 68.878 1.329	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ent var nt var titerion rion ic)	1.782 0.225 -1.075 -0.933 39.707 0.000		ANNUAL USE 594 mgal
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 5,942 1.782	MODEL EST 5,942 1.782		ADJ EST 4,188 1.432	VAR (1.754) -30%	Total Conservation OpportunityCustomersmgalmgd8,327(175)(0.5)-30%-30%(0.5)
Constant Yard area (acres), total lot size less developed area Average living area (square feet) Percent of homes with pool (%) Percent of accounts with sewer (%) Percent of accounts using reclaimed (%)	-1.244 7.270 16 52	1.559 -0.077 0.252 0.108 -0.043	CURRENT 0.29 1,437 16 52 52	-6.908 7.270 16 52	NEW VALUE 0.00	
Average Household Size (US Census) Per Capita Use per Day	2.55 76			2.55 54	Chg in per capita use (23) gpd	apita use spd

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TABLE A8. INDOOR/OUTDOOR WATER USE ESTIMATE WITH 100% RECLAIMED WATER USE

UTILITY MODEL A.3						
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/25/04 Time: 13:15 Sample(adjusted): 4 955 IF SUBUTILA = 1 AND AVG_LOC Included observations: 117 after adjusting endpoints	LOC >19					
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
C LOG(AC.(ADJ_SF/43560)) LOG(HTD_SF) POOL_PCT SWR_PCT REUSE_PCT	1.559 0.062 0.036 0.036 0.007 0.007	0.632 0.021 0.001 0.001 0.001 0.001	2.467 2.967 0.413 4.678 -2.273 -3.954	0.015 0.004 0.680 0.000 0.000 0.025 0.000		
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.641 0.625 0.138 0.138 2.110 68.278 68.278	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	dent var ent var riterion erion tic)	1.782 0.225 -0.975 -0.933 39.707 0.000		ANNUAL USE 594 mgal
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 5,942 1.782	MODEL EST 5,942 1.782		ADJ EST 4,612 1.529	VAR (1,330) -22%	Total Conservation OpportunityCustomersmgalmgd8,327(133)(0.4)-22%-22%(0.4)
Constant Yard area (acres), total lot size less developed area Average living area (square feet) Percent of homes with pool (%) Percent of accounts with sewer (%) Percent of accounts using reclaimed (%)	-1.244 7.270 16 52	1.569 -0.077 0.262 -0.043 -0.023	CURRENT 0.29 1,437 16 52 10	-1.244 7.270 16 52 100	NEW VALUE 100	
Average Household Size (US Census) Per Capita Use per Day	2.55 76			2.55 59	Chg in per capita use (17) gpd	capita use gpd

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Model A.4

Models A.1 and A.2 were run on the total data set received from Utility A (which included customers in other municipal jurisdictions to whom Utility A provided water and/or sewer service) and Model A.3 was run on a subset of the primary utility municipal customers of Utility A; whereas, this model was run on only a subset of customers in a secondary municipal jurisdiction served by Utility A. As in Model A.3, in this model the cost of water is represented by the percentage of accounts with sewer service (higher cost than water only accounts).

A Model Summary for Model A.4, including the regression output, is presented on the following page.

The only scenario developed using Model A.4 was to test the elimination of outdoor water use by setting the percentage of accounts with reclaimed water to 100% since the size of yard variable was not found to be significant in this model. The results are presented in Table A9, which is presented following the above referenced Model Summary and is described below.

<u>Table A9 – Indoor/Outdoor Water Use Estimate with 100% Reclaimed Water Use</u> – Table A9 presents the results of Model A.4 in which reclaimed water use is set at 100%, thus eliminating all outdoor water use. The "New Value" box shows the percent of accounts using reclaimed water set to 100% and the bottom line of the table shows that use per capita is reduced from 99 gallons per day to 48 gallons per day. The conclusion drawn from this model is that 48 gallons per capita per day is indoor water use and 51 gallons per capita per day (99 – 48) is attributed to outdoor water use.

Utility Model A.4

Estimation Command:

LS LOG(CONS_AVG) C LOG(HTD_SF) LOG(AGE) POOL_PCT SWR_PCT REUSE_PCT

Estimation Equation:

 $LOG(CONS_AVG) = C(1) + C(2)*LOG(HTD_SF) + C(3)*LOG(AGE) + C(4)*POOL_PCT + C(5)*SWR_PCT + C(6)*REUSE_PCT$

Substituted Coefficients:

LOG(CONS_AVG) = -1.101014973 + 0.4662684389*LOG(HTD_SF) - 0.1275383556*LOG(AGE) + 0.004051538026*POOL_PCT - 0.002109416099*SWR_PCT - 0.007481539979*REUSE_PCT

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/26/04 Time: 20:07 Sample(adjusted): 2 991 IF SUB_UTILB =1 AND AVG_LOC >19 Included observations: 205 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
valiable	Coemcient	SIG. EITOI	t-Statistic	P100.
С	-1.101015	0.850315	-1.294832	0.1969
LOG(HTD_SF)	0.466268	0.108880	4.282411	0.0000
LOG(AGE)	-0.127538	0.032719	-3.897983	0.0001
POOL_PCT	0.004052	0.001057	3.831744	0.0002
SWR_PCT	-0.002109	0.000404	-5.225148	0.0000
REUSE_PCT	-0.007482	0.001071	-6.984391	0.0000
R-squared	0.712489	Mean deper	ndent var	1.972886
Adjusted R-squared	0.705266	S.D. depend	dent var	0.400243
S.E. of regression	0.217290	Akaike info	criterion	-0.186337
Sum squared resid	9.395769	Schwarz cri	terion	-0.089078
Log likelihood	25.09953	F-statistic		98.62972
Durbin-Watson stat	1.252190	Prob(F-stati	stic)	0.000000

TABLE A9. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

UTILITY MODEL A.4						
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/26/04 Time: 20:07 Sample(adjusted): 2 991 IF MERITT =1 AND AVG_LOC >19 Included observations: 205 after adjusting endpoints	>19					
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
C LOG(HTD_SF) LOG(AGE) POOL_PCT SWR_PCT REUSE_PCT	-1.101 0.466 -0.128 0.004 -0.002	0.850 0.109 0.033 0.001 0.001 0.001	-1.295 4.282 -3.898 3.832 3.832 -5.225 -5.225	0.197 0.000 0.000 0.000 0.000 0.000		
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.712 0.705 0.217 9.396 25,100 1.252	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	dent var ent var riterion erion tic)	1.973 0.400 -0.186 -0.089 9.630 0.000		ANNUAL USE 1,063 mgal
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 7,191 1.973	MODEL EST 7,191 1.973		ADJ EST 3,471 1.245	VAR (3.720) -52%	Total Conservation Opportunity Customers mgd 12,316 (1.5) -52%
Constant Average living area (square feet) Age of housing unit (years) Percent of homes with hool (%) Percent of accounts with sewer (%) Percent of accounts using reclaimed (%)	7.449 3.219 40 62 3	-1.101 3.473 0.411 0.162 -0.131	CURRENT 1,717 25 40 62 62 33	7.449 3.219 40 62 100	NEW VALUE 100	
Average Household Size (US Census) Per Capita Use per Day	2.38 99			2.38 48	Chg in per capita use (51) gpd	capita use gpd

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UTILITY B

The billing history provided by this utility covered roughly 31,000 residential customers. This utility was able to provide account data that included types of service by account (i.e. water, sewer, and reclaimed), as well as identifiers for service areas or whether accounts are located within City limits. No data was provided for the total charge by account bill.

The property data appended to this billing history included a good range of physical characteristics of properties by subdivision and census tract. This data included total lot size, land, building, and total property values, heated square footage, and data regarding pools.

The following model was specified and estimated using this utility data set: (Model B.1) – natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], average heated square footage of the household [LOG(SF)], and the percentage of homes with a pool [(POOL_PCT)], percentage of accounts with sewer [(SWR_PCT)], and percentage of accounts using reclaimed water [(REUSE_PCT)].

This model also provided a reasonable fit with an R^2 of 47%. In addition, the estimated coefficients were consistent with the previous model in terms of expected sign and relative impact on water use. Using the same method of altering the size of the yard and percentage of accounts using reclaimed generated consistent estimates of indoor water use in a range between **57** and **62** gallon per capita per day (see Table B1 and B2).

Model Results

The modeling results for Utility B are presented on the following pages and are described below.

Model B.1

A Model Summary for Model B.1, including the regression output, is presented on the following page.

Two scenarios were developed using Model B.1, the results of which are presented in Tables B1 and B.2, which are presented following the above referenced Model Summary and are described below.

<u>Table B1 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table B1 presents the results of Model B.1 in which Yard Area is set at zero, thus eliminating all outdoor water use. The "New Value" box shows the yard area set to zero and the bottom line of the table shows that use per capita is reduced from 78 gallons per day to 57 gallons per day. The conclusion drawn from this model is that 57 gallons per capita per day is indoor water use and 21 gallons per capita per day (78 – 57) is attributed to outdoor water use.

<u>Table B2 – Indoor/Outdoor Water Use Estimate with 100% Reclaimed Water Use</u> – Table B2 presents the results of Model B.1 in which reclaimed water use is set at 100%, thus eliminating all outdoor water use. The "New Value" box shows the percent of accounts using reclaimed water set to 100% and the bottom line of the table shows that use per capita is reduced from 78 gallons per day to 62 gallons per day. The conclusion drawn from this model is that 62 gallons per capita per day is indoor water use and 16 gallons per capita per day (78 – 62) is attributed to outdoor water use.

Utility Model B.1

Estimation Command:

Estimation Equation:

Substituted Coefficients:

LOG(CONS_AVG) = 7.546806041 + 0.0620034969*LOG(AC-(ADJ_SF/43560)) + 0.1373772839*LOG(SF) + 0.01195204429*LOG(AGE) + 0.003407126604*POOL -0.0008207762348*SWR_PCT - 0.002292338443*RUSE_PCT

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/10/04 Time: 11:22 Sample(adjusted): 1 441 IF AC<.5 Included observations: 405 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	7.546806	0.513446	14.69835	0.0000
LOG(AC-	0.062003	0.033992	1.824064	0.0689
(ADJ_SF/43560))				
LOG(SF)	0.137377	0.060768	2.260677	0.0243
LOG(AGE)	0.011952	0.014666	0.814970	0.4156
POOL	0.003407	0.000542	6.284126	0.0000
SWR_PCT	-0.000821	0.000407	-2.014369	0.0446
RUSE_PCT	-0.002292	0.000718	-3.191403	0.0015
R-squared	0.482082	Mean dependent var		8.571013
Adjusted R-squared	0.474274	S.D. depend	dent var	0.196507
S.E. of regression	0.142481	Akaike info	criterion	-1.042081
Sum squared resid	8.079751	Schwarz cri	terion	-0.972878
Log likelihood	218.0214	F-statistic		61.74362
Durbin-Watson stat	1.585549	Prob(F-stati	stic)	0.000000

TABLE B1. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

UTILITY MODEL B

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/10/04 Time: 11:22 Sample(adjusted): 1 441 IF AC<.5 Included observations: 405 after adjusting endpoints								
Variable	Coefficient	Std. Error	t-Statistic	Prob.				
C LOG(AC.(ADJ_SF/43560)) LOG(SF) LOG(AGE) POOL SWR_PCT RUSE_PCT	7.5468 0.1374 0.1374 0.0120 0.0034 -0.0008	0.5134 0.0340 0.0608 0.0147 0.0005 0.0005 0.0005	14.6984 1.8241 2.2607 0.8150 6.2841 -2.0144	0.0000 0.0689 0.0243 0.01456 0.14156 0.0415 0.0000 0.0000				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.4821 0.4743 0.1425 8.0798 218.0279 1.5855 1.5855	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	dent var ent var riterion erion tic)	8.5710 0.1965 -1.0421 -0.9729 61.7436 0.0000		ANNUAL USE 1,976 mgal	USE Igal	
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 5,276 8.571	MODEL EST 5,276 8.571		EST 3,856 8.2575	VAR (1,420) -27%	Total Cons Customers 31,202	Total Conservation Opportunity tomers mgal mgc 31,202 (532) -27%	rtunity mgd (1.5)
Constant Yard area (acres), total lot size less developed area Living area (square feet) Average age of housing unit (years) Percent of homes with Pool (%) Percent of customers with sewer (%) Percent of accounts using reclaimed (%)	-1.8526 7.7573 3.2427 3.4 96	7.5468 -0.1149 1.0657 1.0657 0.10388 0.10388 -0.0786	CURRENT 0.16 2,338 26 34 96 1	-6.9078 -6.9078 7.7573 3.2427 3.427 3.427 3.427 3.427 3.427 3.427 3.427 3.427 3.427 3.427 1	NEW VALUE 0.00			
Average Household Size Per Capita Use per Day	2.22 78			2.22 57	Chg in per capita use (21) gpd	capita use gpd		

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TABLE B2. INDOOR/OUTDOOR WATER USE ESTIMATE WITH 100% RECLAIMED WATER USE

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				ANNJAL USE 1,976 mgal	Total Conservation Opportunity Customers mgal mgd 31,202 (400) (1.1)		Chg in per capita use (15) gpd	ſ
					VAR (1,069) -20%	NEW VALUE	Chg in per (16)	
		Prob.	0.0000 0.0689 0.0243 0.0156 0.0156 0.0000 0.0446 0.0015	8.5710 0.1965 -1.0421 -0.9729 61.7436 0.0000	EST 4,207 8.3446	-1.8526 7.7573 3.2427 3.427 9.6 9.6	2.22 62	
		t-Statistic	14.6984 1.8241 2.2607 0.28150 0.28150 6.2841 6.2841 -3.1914	dent var ent var riterion erion tic)		CURRENT 0.16 2,338 26 34 96 1		210
		Std. Error	0.5134 0.0340 0.0608 0.0147 0.0005 0.0005 0.00004 0.00004	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	MODEL EST 5,276 8.571	7.5468 -0.1149 1.0657 1.0657 0.0388 0.1161 -0.0786 -0.0786		
		Coefficient	7.5468 0.0620 0.1374 0.1374 0.0120 0.0034 -0.0008	0.4821 0.4743 0.1425 8.0798 218.0219 1.5855	ACTUAL 5,276 8.571	-1.8526 7.7573 3.2427 3.4 96	2.22 78	
UTILITY MODEL B	Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/10/04 Time: 11:22 Sample(adjusted): 1 441 IF AC<.5 Included observations: 405 after adjusting endpoints	Variable	C LOG(AC.(ADJ_SF/43660)) LOG(SF) LOG(AGE) POOL SWR_PCT RUSE_PCT	R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	Constant Yard area (acres), total lot size less developed area Living area (square feet) Average age of housing unit (years) Percent of homes with Pool (%) Percent of customers with sewer (%) Percent of accounts using reclaimed (%)	Average Household Size Per Capita Use per Day	

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UTILITY C

The billing history provided by this utility covered roughly 36,000 residential customers. This utility was able to provide account data that included types of service by account (i.e. water, sewer, and reclaimed), as well as identifiers for service areas or whether accounts are located within City limits. No data was provided for the total charge by account bill.

The property data appended to this billing history included a good range of physical characteristics of properties by subdivision and census tract. This data included total lot size, land, building, and total property values, heated square footage. No data regarding the presence of pools was available.

The following model was specified and estimated using this utility data set: (Model C.1) – natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], total building value per square foot [LOG(BLDG/SF)], the age of the dwelling LOG[(AGE)], and percentage of accounts with sewer [(SWR_PCT)], and percentage of accounts using reclaimed water [(REUSE_PCT)].

This model also provided a very high fit with an R^2 of 75%. However, the variable for the size of yard is not significant and the square footage of the dwelling was not included due to a very insignificant t-score. Using the same method of altering the size of the yard and percentage of accounts using reclaimed generated estimates of indoor water use in a range between **39** and **43** gallon per capita per day (see Table C1 and C2). Given the weak individual significance of some of the explanatory variables and prior measures of indoor water use, these estimates should be considered as less significant as well. This utility clearly has a higher level of outdoor water use compared with prior utility models. However, more analysis is required in order to develop a more acceptable model of the demand for water use.

<u>Model Results</u>

The modeling results for Utility C are presented on the following pages and are described below.

Model C.1

A Model Summary for Model C.1, including the regression output, is presented on the following page.

Two runs were made of Model C.1, the results of which are presented in Tables C.1 and C.2, which are presented following the above referenced Model Summary and are described below.

<u>Table C1 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table C1 presents the results of Model C.1 in which Yard Area is set at zero, thus eliminating all outdoor water use. The "New Value" box shows the yard area set to zero and the bottom line of the table shows that use per capita is reduced from 173 gallons per day to 39 gallons per day. The conclusion drawn from this model is that 39 gallons per capita per day is indoor water use and 133 gallons per capita per day $(173 - 39)^{10}$ is attributed to outdoor water use.

<u>Table C2 – Indoor/Outdoor Water Use Estimate with 100% Reclaimed Water Use</u> – Table C2 presents the results of Model C.1 in which reclaimed water use is set at 100%, thus eliminating all outdoor water use. The "New Value" box shows the percent of accounts using reclaimed water set to 100% and the bottom line of the table shows that use per capita is reduced from 173 gallons per day to 43 gallons per day. The conclusion drawn from this model is that 43 gallons per capita per day is indoor water use and 130 gallons per capita per day (173 – 43) is attributed to outdoor water use.

¹⁰ The difference between 133 and (173-39) is attributable to rounding

Utility Model C.1

Estimation Command:

LS LOG(CONS_AVG/SF) C LOG(AC-(SF/43560)) LOG(BLDG/SF) LOG(AGE) SWR_PCT RUSE_PCT

Estimation Equation:

$$\label{eq:log} \begin{split} & = C(1) + C(2)^* LOG(AC - (SF/43560)) + C(3)^* LOG(BLDG/SF) + \\ & C(4)^* LOG(AGE) + C(5)^* SWR_PCT + C(6)^* RUSE_PCT \end{split}$$

Substituted Coefficients:

LOG(CONS_AVG/SF) = -4.734968302 - 0.09943028733*LOG(AC-(SF/43560)) + 0.05859643595*LOG(BLDG/SF) - 0.09912130643*LOG(AGE) - 0.001770632973*SWR_PCT - 0.01628172866*RUSE_PCT

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/10/04 Time: 08:53 Sample(adjusted): 1 91 Included observations: 91 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-4.734968	1.474058	-3.212199	0.0019
LOG(AC-(SF/43560))	-0.099430	0.092071	-1.079929	0.2832
LOG(BLDG/SF)	0.058596	0.335211	0.174804	0.8616
LOG(AGE)	-0.099121	0.056859	-1.743298	0.0849
SWR_PCT	-0.001771	0.000590	-3.002548	0.0035
RUSE_PCT	-0.016282	0.001049	-15.52649	0.0000
R-squared	0.762533	Mean deper	ndent var	-4.824107
Adjusted R-squared	0.748564	S.D. depend	dent var	0.457679
S.E. of regression	0.229496	Akaike info	criterion	-0.042204
Sum squared resid	4.476807	Schwarz crit	terion	0.123347
Log likelihood	7.920291	F-statistic		54.58875
Durbin-Watson stat	2.034434	Prob(F-stati	stic)	0.000000

TABLE C1. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

UTILITY MODEL C						
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/09/04 Time: 17:20 Sample(adjusted): 1 90 IF AGE<15 Included observations: 48 after adjusting endpoints						
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
c LOG(AC-(SF/43660)) LOG(BLDG/SF) LOG(SF) SWR_PCT RUSE_PCT	-5.9637 0.2843 0.2843 0.0660 0.340 0.340	3.1249 0.2109 0.2101 0.2106 0.2106 0.0011	-1.9053 1.3482 1.3482 1.3482 4.4352 4.4352 -1.7318 -13.6525	0.0636 0.1848 0.3191 0.0001 0.0006 0.0006		
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.8469 0.8287 0.2236 2.0988 7.0073 1.9666	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	art var 1t var terion ion c)	2.7575 0.5401 -0.0420 0.1919 46.4741 0.0000		ANNUAL USE 6.764 mgal
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 15,760 2.757	MODEL EST 15,761 2.758		ADJ EST 3,599 1.281	VAR (12,161) -77%	Total Conservation Opportunity Res Cust mgal mgd 35,767 (5,220) (14.3)
Constant Yard area (acres), total lot size less developed area Building value per square foot (\$) Living area (square feet) Percent of water customers with sewer (%) Percent of accounts using reclaimed (%)	-1.714 4.019 7.612 79	-5.9537 -0.4874 2.4350 7.1091 7.1091 7.1091	CURRENT 0.18 \$ 55.67 79 13	-6.908 4.019 7.612 79	NEW VALUE 0.00	
Average Household Size Per Capita Use per Day	2.99 173			2.99 39	Chg in per capita use (133) gpd	r capita use gpd

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TABLE C2. INDOOR/OUTDOOR WATER USE ESTIMATE WITH 100% RECLAIMED WATER USE

UTILITY MODEL C

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 08/09/04 Time: 17:20 Sample(adjusted): 1 90 IF AGE<15 Included observations: 48 after adjusting endpoints						
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
C LOG(AC.(SF/43660)) LOG(BLDG/SF) LOG(SF) SWR_PCT RUSE_PCT	-5.9537 0.2843 0.6060 0.9340 -0.0018	3.1249 0.2109 0.6010 0.2106 0.2106 0.0011	-1.9063 1.3482 1.0083 4.4362 -1.7318 -13.6625	0.0636 0.1848 0.3191 0.0001 0.0006 0.0006		
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.8469 0.8287 0.2235 2.0988 7.0073 1.9566	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ent var nt var titerion rion ic)	2.7575 0.5401 0.6420 0.1919 46.4741 0.0000		ANNUAL USE 6.764 mgal
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 15,760 2.757	MODEL EST 15,761 2,758		ADJ EST 3,885 1.357	VAR (11,875) -75%	Total Conservation Opportunity Res Cust mgal mgd 35,767 (5,097) (14.0) -75%
Constant Yard area (acres), total lot size less developed area Building value per square foot (\$) Living area (square feet) Percent of water customers with sewer (%) Percent of accounts using reclaimed (%)	-1.714 4.019 7.612 79	-5.9537 -0.4874 2.4360 7.1091 7.1091 -0.1457	CURRENT 0.18 \$ 55.67 79 13	-1.714 4.019 7.612 79 100	NEW VALUE	
Average Household Size Per Capita Use per Day	2.99 173			2.99 43	Chg in per capita use (130) gpd	r capita use gpd

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UTILITY D

The billing history provided by this utility covered roughly 36,000 residential customers. This utility was able to provide account data that included water service by account as well as identifiers for service areas or whether accounts are located within City limits. No data was provided regarding sewer and reclaimed services. Estimates of reuse were appended to subdivision and census tracts using SJRWMD data. No data was provided for the total charge by account bill.

The property data appended to this billing history included a good range of physical characteristics of properties by subdivision and census tract. This data included total lot size, land, building, and total property values, heated square footage, and data regarding the presence of pools.

The following model was specified and estimated using this utility data set: (Model C.1) – natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], total heated square footage [LOG(HTD_SF)], the age of the dwelling [LOG(AGE)], and percentage of homes with a pool [(POOL_PCT)], the percentage of accounts with sewer [(SWR_PCT)], and percentage of accounts using reclaimed water [(REUSE_PCT)].

This model also provided a high fit with an R^2 of 65%. All explanatory variables met significance test with the exception of the reclaimed water use. Since actual reclaimed water accounts were not identified by this utility¹¹ this variable provides a very suspect estimate when increased to 100%, inferences using the calculated coefficient should be avoided. Using the same method of altering the size of the yard generated a consistent estimate of indoor water use of **62** gallon per capita per day (see Table D1).

Model Results

The modeling results for Utility D are presented on the following pages and are described below.

¹¹ This is the only utility that did not identify reclaimed water availability by account. Reclaimed water availability for this utility was determined by overlay of a GIS layer of reclaimed water that was obtained from another SJRWMD source.

Model D.1

A Model Summary for Model D.1, including the regression output, is presented on the following page.

Two scenarios were developed using Model D.1, the results of which are presented in Tables D.1 and D.2, which are presented following the above referenced Model Summary and are described below.

<u>Table D1 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table D1 presents the results of Model D.1 in which Yard Area is set at zero, thus eliminating all outdoor water use. This model was unique in that this utility did provide data regarding a targeted conservation program aimed at outdoor water use. Thus, in order to fully estimate the impact of going to a 'zero' yard, the targeted conservation program is also required to be 'turned-off'. The "New Value" box shows the yard area set to zero and 0% for the targeted conservation program and the bottom line of the table shows that use per capita is reduced from 138 gallons per day to 63 gallons per day. The conclusion drawn from this model is that 63 gallons per capita per day is indoor water use and 75 gallons per capita per day (138 – 65) is attributed to outdoor water use.

<u>Table D2 – Percent of Customers in Targeted Conservation Area</u> – Table D2 presents the results of Model D.1 in which the percent of customers in the targeted conservation area is set at 0%. The "New Value" box shows the percent of customers in the targeted conservation area set to 0% and the bottom line of the table shows that use per capita is increased from 138 gallons per day to 140 gallons per day. Therefore, by deduction, the conclusion that can be drawn from this model is that this conservation initiative, as implemented in this utility, has resulted in a reduction in water use of 0.2 mgd for the entire utility, or 2 gpcd. Conversely, if the program were implemented to 100% of utility customers, the impact is estimated to be an 0.8 mgd reduction in total, or 8 gpcd (see Table D3).

Utility Model D.1

Estimation Command:

LS LOG(CONS_AVG) C LOG(AC-(TOT_SF/43560)) LOG(HTD_SF) LOG(AGE) POOL_PCT CONSV_PCT REUSE_PCT

Estimation Equation:

 $LOG(CONS_AVG) = C(1) + C(2)*LOG(AC-(TOT_SF/43560)) + C(3)*LOG(HTD_SF) + C(4)*LOG(AGE) + C(5)*POOL_PCT + C(6)*CONSV_PCT + C(7)*REUSE_PCT$

Substituted Coefficients:

LOG(CONS_AVG) = 6.5765321 + 0.1074753106*LOG(AC-(TOT_SF/43560)) + 0.4387322021*LOG(HTD_SF) - 0.2209144483*LOG(AGE) + 0.003862920582*POOL_PCT -0.0007247627773*CONSV_PCT - 0.0005386675998*REUSE_PCT

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 11:13 Sample(adjusted): 1 473 IF AVG_LOC >30 Included observations: 361 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	6.576532	0.925869	7.103091	0.0000
LOG(AC-	0.107475	0.023961	4.485465	0.0000
(TOT_SF/43560))				
LOG(HTD_SF)	0.438732	0.118588	3.699629	0.0003
LOG(AGE)	-0.220914	0.029283	-7.544204	0.0000
POOL_PCT	0.003863	0.001118	3.454524	0.0006
CONSV_PCT	-0.000725	0.000451	-1.606411	0.1091
REUSE_PCT	-0.000539	0.000852	-0.632274	0.5276
R-squared	0.651796	Mean deper	ndent var	9.331923
Adjusted R-squared	0.645894	S.D. depend	dent var	0.458383
S.E. of regression	0.272769	Akaike info	criterion	0.258819
Sum squared resid	26.33868	Schwarz cri	terion	0.334226
Log likelihood	-39.71678	F-statistic		110.4409
Durbin-Watson stat	1.453130	Prob(F-stati	stic)	0.000000

TABLE D1. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

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Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 11:13 Sample(adjusted): 1 473 IF AVG_LOC >30 Included observations: 361 after adjusting endpoints							
Variable	Coefficient S	Std. Error t-St	t-Statistic	Prob.			
C LOG(AC-(TOT_SF/43560)) LOG(HTD_SF) LOG(AGE) POOL_PCT CONSV_PCT REUSE_PCT	6.577 0.107 0.439 0.221 0.004 -0.001	0.926 0.024 0.119 0.001 0.000 0.000	7.103 4.485 3.700 -7.544 3.455 -1.606 -0.632	0.000 0.000 0.000 0.000 0.100 0.100 0.528			
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.662 M 0.646 S 0.273 A 26.339 S 26.339 S 26.339 F 1.453 F	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ы Б ц	9.332 0.458 0.269 0.334 110.441 0.000		ANNUAL USE 5,211 mgal	
Awerage monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	ACTUAL MC 11,293 9.332	MODEL EST 11,296 9.332		ADJ EST 5,148 8.546	VAR (5,148) -54%	Total Conservation Opportunity Res Cust mgal mgd 38,450 (2,837) (7.8) -54%	
Constant Yard area (acres), total lot size less developed area Living area (square feet) Age (years) Percent of customers with a pool (%) Percent of customers in targetd conservation (%) Percent of accounts with reclaimed available (%)	-1.781 7.602 2.423 42 17 3	6.577 CUI -0.191 -0.191 -0.161 -0.013 -0.013	CURRENT 0.168 2,002 11 42 17 33	-9.210 7.602 42 42 3	NEW VALUE 0.00		
Average Household Size Per Capita Use per Day	2.68 138			2.68 63	Chg in per capita use (75) gpd	:capita use gpd	

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TABLE D2. PERCENT OF CUSTOMERS IN TARGETED CONSERVATION AREA

UTILITY MODEL D

UTILITY MODEL D							
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 11:13 Sample(adjusted): 1 473 IF AVG_LOC >30 Included observations: 361 after adjusting endpoints							
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
C LOG(AC-(TOT_SF/43560)) LOG(HTD_SF) LOG(AGE) POOL_PCT CONSV_PCT REUSE_PCT	6.577 0.107 0.439 -0.221 0.004 -0.001	0.926 0.024 0.119 0.029 0.001 0.000	7.103 4.485 3.700 -7.544 3.455 -1.606 -0.632	0.000 0.000 0.000 0.000 0.000 0.109 0.528			
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.652 0.646 0.273 2.6.339 -39.717 1.453	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ent var nt var terion ion c)	9.332 0.458 0.259 0.334 110.441 0.000		ANNUAL USE 5,211 mgal	
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 11,293 9.332	MODEL EST 11,296 9.332		ADJ EST 11,440 9.345	VAR 143 1%	Total Conservation Opportunity Res Cust mgal mgd 38,450 66	0.2
Constant Y ard area (acres), total lot size less developed area Living area (square feet) Age (years) Percent of customers with a pool (%) Percent of customers in targetd conservation (%) Percent of accounts with reclaimed available (%)	-1.781 7.602 2.423 42 17	6.577 -0.191 3.335 -0.535 0.161 -0.013	CURRENT 0.168 2,002 11 12 17 33	-1.781 7.602 2.423 42 0	NEW VALUE		
Average Household Size Per Capita Use per Day	2.68 138			2.68 140	Chg in per capita use 2 gpd	capita use gpd	

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TABLE D3. PERCENT OF CUSTOMERS IN TARGETED CONSERVATION AREA

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UTILITY MODEL D								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 11:13 Sample(adjusted): 1 473 IF AVG_LOC >30 Included observations: 361 after adjusting endpoints								
Variable	Coefficient	Std. Error	t-Statistic	Prob.				
C LOG(AC-(TOT_SF/43560)) LOG(HTD_SF) LOG(AGE) POOL_PCT CONSV_PCT REUSE_PCT	6.577 0.107 0.439 0.221 0.004 -0.001	0.926 0.024 0.0119 0.001 0.000 0.001	7.103 4.485 3.700 -7.544 -1.606 -0.632	0.000 0.000 0.000 0.000 0.100 0.100				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.662 0.646 0.273 26.339 -39.717 -39.717 -1.453	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	ent var tt var terion ion c)	9.332 0.458 0.259 0.334 110.441 0.000		ANNUAL USE 5,211 mgal	al ISE	
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 11,293 9,332	MODEL EST 11,296 9.332		ADJ EST 10,640 9.272	VAR (657) -6%	Total Conse Res Cust 38,450	Total Conservation Opportunity s Cust mgal mgd 38,450 (303) ((0.8)
Constant Yard area (acres), total lot size less developed area Living area (square feet) Age (years) Percent of customers with a pool (%) Percent of customers in targetd conservation (%) Percent of accounts with reclaimed available (%)	-1.781 7.602 2.423 42 42 17	6.577 0.191 0.1536 0.015 0.013 0.013	CURRENT 0.168 2,002 11 12 17 17 33	-1.781 7.602 2.423 42 100	NEW VALUE 100			
Average Household Size Per Capita Use per Day	2.68 138			2.68 130	Chg in per capita use (8) gpd	capita use 3pd		

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UTILITY E

The billing history provided by this utility covered roughly 7,800 residential customers. This utility was able to provide account data that included water service by account as well as identifiers for service areas or whether accounts are located within City limits. No data was provided regarding sewer and reclaimed water services. Estimates of reuse were appended to subdivision and census tracts using SJRWMD data. No data was provided for the total charge by account bill.

The property data appended to this billing history included a good range of physical characteristics of properties by subdivision and census tract. This data included total lot size, land, building, and total property values, heated square footage, and data regarding the presence of pools.

The following model was specified and estimated using this utility data set: (Model E.1) – natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], total heated square footage [LOG(HTD_SF)], the age of the dwelling [LOG(AGE)], and percentage of homes with a pool [(POOL_PCT)] and percentage of accounts using reclaimed water [(REUSE_PCT)].

This model also provided a high fit with an R^2 of 63%. All explanatory variables reasonably met significance tests. Based on the prior models, when information regarding sewer accounts is not provided, the resulting estimates of indoor water use can have significant variance. Again, since reclaimed water data for this utility is not actual account data and it provides a very suspect estimated when increased to 100%, inferences using the calculated coefficient should be avoided. Using the same method of altering the size of the yard generated a consistent estimate of indoor water use of **54** gallon per capita per day (see Table E1).

<u>Model Results</u>

The modeling results for Utility E are presented on the following pages and are described below.

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Model E.1

A Model Summary for Model E.1, including the regression output, is presented on the following page.

One scenario was develop using E.1, the results of which are presented in Table E.1, which is presented following the above referenced Model Summary and are described below.

<u>Table E1 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table E1 presents the results of Model E.1 in which Yard Area is set at zero, thus eliminating all outdoor water use. The "New Value" box shows the yard area set to zero and the bottom line of the table shows that use per capita is reduced from 89 gallons per day to 54 gallons per day. The conclusion drawn from this model is that 54 gallons per capita per day is indoor water use and 36 gallons per capita per day $(89 - 54)^{12}$ is attributed to outdoor water use.

¹² The difference between 54 and (89-54) is attributable to rounding

Utility Model E.1

Estimation Command:

LS LOG(CONS_AVG) C LOG(AC-(TOT_SF/43560)) LOG(HTD_SF) LOG(AGE) POOL_PCT REUSE_PCT

Estimation Equation:

 $\label{eq:log(cons_AVG) = C(1) + C(2)*LOG(AC-(TOT_SF/43560)) + C(3)*LOG(HTD_SF) + C(4)*LOG(AGE) + C(5)*POOL_PCT + C(6)*REUSE_PCT$

Substituted Coefficients:

LOG(CONS_AVG) = 0.02481364302 + 0.09758316677*LOG(AC-(TOT_SF/43560)) + 0.2493101323*LOG(HTD_SF) + 0.06268385082*LOG(AGE) + 0.002587372837*POOL_PCT - 0.002296276749*REUSE_PCT

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 10:12 Sample(adjusted): 1 144 IF AVG_LOC >10 Included observations: 129 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	0.024814	1.111453	0.022325	0.9822
LOG(AC-	0.097583	0.033749	2.891444	0.0045
(TOT_SF/43560))				
LOG(HTD_SF)	0.249310	0.128155	1.945382	0.0540
LOG(AGE)	0.062684	0.065030	0.963925	0.3370
POOL_PCT	0.002587	0.001247	2.074689	0.0401
REUSE_PCT	-0.002296	0.000381	-6.032808	0.0000
R-squared	0.642905	Mean deper	ndent var	1.880762
Adjusted R-squared	0.628389	S.D. depend	dent var	0.306404
S.E. of regression	0.186783	Akaike info	criterion	-0.472338
Sum squared resid	4.291233	Schwarz crit	terion	-0.339324
Log likelihood	36.46581	F-statistic		44.28923
Durbin-Watson stat	2.037473	Prob(F-stati	stic)	0.000000

TABLE E1. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA UTILITY MODEL E

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/24/04 Time: 10:12 Sample(adjusted): 1 144 IF AVG_LOC >10 Sample(adjusted): 1 129 after adjusting endpoints							
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
C LOG(AC.(TOT_SF/43560)) LOG(HTD_SF) LOG(AGE) POOL_PCT REUSE_PCT	0.025 0.098 0.249 0.249 0.063 0.003	1.111 0.034 0.128 0.065 0.001 0.000	0.022 2.891 1.945 0.964 2.075 -6.033	0.982 0.005 0.054 0.337 0.040 0.040			
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.643 0.628 0.187 4.291 36.466 2.037	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	dent var ent var riterion erion ttic)	1.881 0.306 -0.472 -0.339 44.289 0.000		ANNUAL USE 616 mgal	
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 6,559 1 881	MODEL EST 6,557 1.881		ADJ EST 3,941 1.371	VAR (2,617) -40%	Total Conservation Opportunity Res Cust mgal mgg 7,826 (246) -40%	pportunity mgd 0.7)
Constant Yard area (acres), total lot size less developed area Living area (square feet) Age (years) Percent of customers with a pool (%)	-1.689 7.453 3.260 3.4	0.025 0.165 1.858 0.204 0.204	CURRENT 0.186 1.725 26 28	-6.908 7.453 3.260	NEW VALUE 0.00		2
Percent of accounts with reclaimed available (%) Average Household Size (US Census Bureau) Per Capita Use per Day	5, 5, 2,41 89	no: n-	6	2.41 54	Chg in per capita use (35) gpd	capita use gpd	

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COMBINED UTILITIES

The combined billing history of all utilities modeled results in data for roughly 158,000 residential customers (see table).

Utility	Average Customers	Average Monthly Water Use (gal)	Subdivisions	Census Tracts
Utility A	44,415	5,969	993	41
Utility B	31,202	5,276	441	38
Utility C	35,767	15,760	91	38
Utility D	38,450	11,293	473	33
Utility E	7,826	6,559	144	15
Combined Utilities	157,660	9,381	2,142	165

The models run for the combined utilities were based upon census tract aggregation, providing 165 total observations. The following models were specified and estimated using this utility data set:

- <u>Model F.1</u> this included all utilities except for Utility C (Utility C did not provide an indicator for the presence of a pool) and estimated the natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of the effective rate of a water 1,000 gallons of water use at 10,000 gallons of consumption [LOG(EFF_RATE_10)], average persons per household [LOG(PPH)], average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], average property value per square foot [LOG(TOTAL/HTD_SF)], and the percentage of homes with a pool [POOL_PCT] and percentage of accounts using reclaimed water [REUSE_PCT].
- 2. Model F.2 this included all utilities, excluded the percentage of homes with a pool and estimated the natural log of average water use [LOG(CONS_AVG)] as a function of the natural logs of the average yard area excluding developed areas [LOG(AC-(ADJ_SF/43560))], average water rate per 1,000 gallons @ 10,000 gallons [LOG(EFF_RATE_10)], average household size [LOG(PPH)], average total property value per square feet [LOG(TOTAL/HTD_SF)], and percentage of accounts using reclaimed water [REUSE_PCT].

Model Results

The modeling results for Models F.1 and F.2 for Combined Utilities are presented on the following pages and are described below.

Model F.1

A Model Summary for Model F.1, including the regression output, is presented on the second following page.

Four scenarios were developed using Model F.1, the results of which are presented in Tables F1 through F4, which are presented following the above referenced Model Summary and are described below.

<u>Table F1 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table F1 presents the results of Model F.1 in which Yard Area is set at zero, thus eliminating all outdoor water use. The "New Value" box shows the yard area set to zero and the bottom line of the table shows that use per capita is reduced from 99 gallons per day to 59 gallons per day. The conclusion drawn from this model is that 59 gallons per capita per day is indoor water use and 40 gallons per capita per day (99 – 59) is attributed to outdoor water use.

<u>Table F2 – Indoor/Outdoor Water Use Estimate with 100% Reclaimed Water Use</u> – Table F2 presents the results of Model F.1 in which reclaimed water use is set at 100%, thus eliminating all outdoor water use. The "New Value" box shows the percent of accounts using reclaimed water set to 100% and the bottom line of the table shows that use per capita is reduced from 99 gallons per day to 86 gallons per day. The conclusion drawn from this model is that 86 gallons per capita per day is indoor water use and 13 gallons per capita per day (99 – 86) is attributed to outdoor water use.

<u>Table F3 – Price Elasticity Estimate from Change in Average Cost</u> – Table F3 presents the results of Model F.1 in which average water rate per 1,000 gallons at 10,000 gallons is increased, thus causing a reduction in water use. The "New Value" box shows the average water rate per 1,000 gallons at 10,000 gallons is increased from \$2.37 to \$4.00, an increase of 68%, and the

bottom line of the table shows that use per capita is reduced from 99 gallons per day to 74 gallons per day. This represents an elasticity coefficient of -0.4.

<u>Table F4 – Impact of Household Size on Water Use</u> – Table F4 presents the results of Model F.1 in which average household size is set at 0 persons per household. The "New Value" box shows the household size set to 0 persons per household, and the bottom line of the table shows that use per capita is reduced from 99 gallons per day to 0 gallons per day. The conclusion drawn from this model is that the model is properly assigning water use relative to household size because a "vacant" household is predicted to have no water use, assuming that there is no irrigation system continuing to run and no leaks.

Utility Model F.1

Estimation Command:

Estimation Equation:

Substituted Coefficients:

LOG(CONS_AVG) = 1.201847781 - 0.5544453583*LOG(EFF_RATE_10) + 0.7230171465*LOG(PPH) + 0.09066719188*LOG(AC-(ADJ_SF/43560)) + 0.1355730687*LOG(TOTAL/HTD_SF) + 0.005524022964*POOL_PCT - 0.001577285125*REUSE_PCT

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:36 Sample(adjusted): 3 164 IF AVG_LOC >19 Included observations: 116 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	1.201848	0.590038	2.036900	0.0441
LOG(EFF_RATE_10)	-0.554445	0.059533	-9.313314	0.0000
LOG(PPH)	0.723017	0.160726	4.498434	0.0000
LOG(AC-	0.090667	0.032736	2.769611	0.0066
(ADJ_SF/43560))				
LOG(TOTAL/HTD_SF	0.135573	0.122294	1.108580	0.2701
)				
POOL_PCT	0.005524	0.001521	3.632828	0.0004
REUSE_PCT	-0.001577	0.000838	-1.882025	0.0625
R-squared	0.736510	Mean deper	ndent var	1.958379
Adjusted R-squared	0.722006	S.D. depend	dent var	0.401715
S.E. of regression	0.211805	Akaike info	criterion	-0.207859
Sum squared resid	4.889865	Schwarz crit	terion	-0.041694
Log likelihood	19.05581	F-statistic		50.77970
Durbin-Watson stat	1.585698	Prob(F-stati	stic)	0.000000

TABLE F1. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

COMBINED UTILITY MODEL F.1								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:36 Sample(adjusted): 3 164 IF AVG_LOC >19 Included observations: 116 after adjusting endpoints								
Variable	Coefficient Std.	Std. Error t-St	t-Statistic Prob.	.dc				
C LOG(EFF_RATE_10) LOG(PPH) LOG(AC-(ADU_SF/43580)) LOG(TOTAL/HTD_SF) POOL_PCT REUSE_PCT	1.2018 -0.5544 0.7230 0.0907 0.1356 0.0055	0.5900 0.0596 0.1607 0.1607 0.0327 0.1223 0.0015 0.0008	2.0369 -9.3133 4.4984 2.7696 1.1086 3.6328 -1.8820	0.0441 0.0000 0.0000 0.0066 0.2701 0.2701 0.004				
R-squared Adjusted R-squared S.E. of regression	0.7365 N 0.7220 S 0.2118 A	Mean dependent var S.D. dependent var Akaike info criterion	t var var rion	1.9584 0.4017 -0.2079				
Sum squared resid Log likelihood Durhin-Watson stat		Schwarz criterion F-statistic Proh/F-statistic)	c	-0.0417 50.7797 0.0000		ANNUAL USE 11,746 mgal		
			l			onser	n Opportunity	_
-		MODEL EST		ADJ EST	VAR	Ĕ	mg	
Average montrity use (gal) Dependent Variable: LOG(CONS_AVG)	/ ,200 1.958	/ , ²⁶⁸ 1.986		4,300 1.474	(2,922) -40%	4) 218,481 -	(4,/1U) (12.9) -40%	
Constant Average water rate per 1,000 gallons @10,000 gallons		69	CURRENT 2.37	0.8646	NEW VALUE	% Chg in Price 0%	e = 0.0	_
Average household size (pph) Yard area (acres), total lot size less developed area Average total property value per square feet (\$) Percent of homes with pool (%) Percent of accounts using reclaimed (%)	0.8809 -1.2559 4.3324 31 11	0.637 0.587 0.587 0.170 0.170	2.41 0.28 76.12 31 11	6.9078 -6.9078 4.3324 31 11	0.0			
Average Household Size (US Census) Per Capita Use per Day	2.41 99			2.41 59	Chg in per capita use (40) gpd	capita use 3pd		

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TABLE F2. INDOOR/OUTDOOR WATER USE ESTIMATE WITH 100% RECLAIMED WATER USE

COMBINED UTILITY MODEL F.1							
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:36 Sample(adjusted): 3 164 IF AVG_LOC >19 Included observations: 116 after adjusting endpoints							
Variable	Coefficient	Std. Error t-St	t-Statistic Prob.	þ.			
C LOG(EFF_RATE_10) LOG(PPH) LOG(AC-(ADJ_SF/43560)) LOG(TOTAL/HTD_SF) POOL_PCT REUSE_PCT	1.2018 -0.5544 0.7230 0.0907 0.1356 0.1356	0.5900 0.0595 0.1607 0.1607 0.0327 0.1223 0.0015 0.0008	2.0369 -9.3133 4.4984 2.7696 1.1086 3.6328 -1.8820	0.0441 0.0000 0.0000 0.0066 0.0066 0.0066 0.0004 0.0625			
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.7365 0.7220 0.2118 4.8899 19.0558 1.5857	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	t var var rion n	1.9584 0.4017 -0.2079 -0.0417 50.7797 0.0000		ANNUAL USE 11,746 mgal	
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 7,288 1.958	MODEL EST 7,288 1.986		ADJ EST 6,330 1.845	VAR (957) -13%	Lotal Conservation Upportunity Customers mgal mgr 134,312 (1,543) -13%	unity mgd (4.2)
Constant Average water rate per 1,000 gallons @10,000 gallons Average household size (pph) Yard area (acres), total lot size less developed area Average total property value per square feet (\$) Percent of homes with pool (%) Percent of accounts using reclaimed (%)	0.8646 0.8809 -1.2559 4.3324 31	1.202 C -0.479 \$ 0.637 -0.114 0.587 \$ 0.170 -0.170	CURRENT 2.37 2.37 2.41 0.28 76.12 31 11	0.8646 0.8809 -1.2559 4.3324 31 100	NEW VALUE	% Chg in Price 0% e =	0.0
Average Household Size (US Census) Per Capita Use per Day	2.41 99			2.41 86	Chg in per capita use (13) gpd	capita use gpd	

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TABLE F3. PRICE ELASTICITY ESTIMATE FROM CHANGE IN AVERAGE COST

COMBINED UTILITY MODEL F.1								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:36 Sample(adjusted): 3 164 IF AVG_LOC >19 Included observations: 116 after adjusting endpoints								
Variable	Coefficient S	Std. Error t-S	t-Statistic P	Prob.				
C LOG(EFF_RATE_10) LOG(PPH) LOG(AC-(ADJ_SF/43560)) LOG(TOTAL/HTD_SF) POOL_PCT REUSE_PCT	1.2018 -0.5544 0.7230 0.0207 0.1356 0.0055 -0.0016	0.5900 0.0595 0.1607 0.1607 0.1223 0.1223 0.1223 0.0015 0.0008	2.0369 -9.3133 4.4984 2.7696 1.1086 3.6328 3.6328	0.0441 0.0000 0.0000 0.0066 0.2701 0.2701 0.0004 0.0025				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.7365 0.7220 0.2118 4.8899 19.0558 1.5857	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	nt var t var erion on	1.9684 0.4017 -0.2079 -0.0417 50.7797 0.0000		ANNUAL USE 11,746 mgal	.USE Igal	
	ACTUAL	MODEL EST		AD.J EST	VAR	Total Con Customers	Total Conservation Opportunity tomers moal mo	rtunity mad
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	88	7,288 1.986		5,457 1.697	(1,830) -25%	134,312	(2,950) -25%	(8.1)
Constant Average water rate per 1,000 gallons @10,000 gallons Average household size (pph) Yard area (acres), total lot size less developed area Average total property value per square feet (\$) Percent of homes with pool (%) Percent of accounts using reclaimed (%)	0.8846 0.8809 -1.2569 4.3324 31	1.202 -0.479 5.637 -0.114 5.017 0.1587 5.017 0.170	CURRENT 2.37 2.41 2.41 0.28 76.12 31	1.3863 0.8809 -1.2559 4.3324 31 31	\$ 4.00	% Chg in Price 68%	li w	-0.4
Average Household Size (US Census) Per Capita Use per Day	2.41 99			2.41 74	Chg in per capita use (25) gpd	r capita use gpd		

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TABLE F4. IMPACT OF HOUSEHOLD SIZE ON TOTAL WATER USE

COMBINED UTILITY MODEL F.1								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:36 Sample(adjusted): 3.164 IF AVG_LOC >19 Included observations: 116 after adjusting endpoints								
Variable	Coefficient S	Std. Error t-S	t-Statistic Pr	Prob.				
C LOG(EFF_RATE_10) LOG(PPH) LOG(AC.(ADJ_SF/43560)) LOG(TOTAL/HTD_SF) POOL_PCT REUSE_PCT	1.2018 -0.5544 0.7230 0.0230 0.1366 0.1366 0.0065	0.5900 0.0695 0.1607 0.1607 0.1223 0.1223 0.1223 0.0015 0.0008	2.0369 -9.3133 4.4984 2.7696 1.1086 3.6328 3.6328 -1.8820	0.0441 0.0000 0.0000 0.0066 0.2701 0.0024 0.0025				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.7365 0.7220 0.2118 4.8899 19.0658 1.5857	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	nt var t var erion on	1.9684 0.4017 -0.2079 -0.0417 50.7797 0.0000		ANNUAL USE 11,746 mgal		
Average monthly use (gal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 7,288 1.958	MODEL EST 7,288 1.986		ADJ EST 0 -8.640	VAR (7,287) -100%	Customers mgal mgr 134,312 (11,745) -100%	mgal (11,745) -100%	mgd (32.2)
Constant Average water rate per 1,000 gallons @10,000 gallons Average household size (pph) Yard area (acres), total lot size less developed area Average total property value per square feet (\$) Percent of homes with pool (%) Percent of accounts using reclaimed (%)	s 0.8646 0.8809 -1.2559 4.3324 31	1.202 -0.479 0.637 -0.114 0.587 0.587 5 0.170 0.170	CURRENT 2.37 2.41 2.41 0.28 76.12 31 11	0.8646 -13.81555 -1.2559 4.3324 11	NEW VALUE 0.00	% Chg in Price 0%	ll w	0.0
Average Household Size (US Census) Per Capita Use per Day	2.41 99			2.41	Chg in per cap (99) gpd	Chg in per capita use (99) gpd		

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Model F.2

This model differs from Model F.1 in that it includes all utilities and excludes percentage of properties with a pool, whereas Model F.1 includes percentage of properties with a pool and excludes Utility C, for which there was no data regarding percentage of properties with a pool.

A Model Summary for Model F.2, including the regression output, is presented on the second following page.

Four runs were made of Model F.2, the results of which are presented in Tables F5 through F8, which are presented following the above referenced Model Summary and are described below.

<u>Table F5 – Indoor/Outdoor Water Use Estimate by Eliminating Yard Area</u> – Table F5 presents the results of Model F.2 in which Yard Area is set at zero, thus eliminating all outdoor water use. The "New Value" box shows the yard area set to zero and the bottom line of the table shows that use per capita is reduced from 101 gallons per day to 55 gallons per day. The conclusion drawn from this model is that 55 gallons per capita per day is indoor water use and 46 gallons per capita per day (101 - 55) is attributed to outdoor water use.

<u>Table F6 – Indoor/Outdoor Water Use Estimate with 100% Reclaimed Water Use</u> – Table F6 presents the results of Model F.2 in which reclaimed water use is set at 100%, thus eliminating all outdoor water use. The "New Value" box shows the percent of accounts using reclaimed water set to 100% and the bottom line of the table shows that use per capita is reduced from 101 gallons per day to 75 gallons per day. The conclusion drawn from this model is that 75 gallons per capita per day is indoor water use and 26 gallons per capita per day (101 – 75) is attributed to outdoor water use.

<u>Table F7 – Price Elasticity Estimate from Change in Average Cost</u> – Table F7 presents the results of Model F.2 in which average water rate per 1,000 gallons at 10,000 gallons is increased, thus causing a reduction in water use. The "New

Value" box shows the average water rate per 1,000 gallons at 10,000 gallons is increased from \$2.22 to \$4.00, an increase of 192%, and the bottom line of the table shows that use per capita is reduced from 101 gallons per day to 58 gallons per day. This represents an elasticity coefficient of -0.2.

<u>Table F8 – Impact of Household Size on Water Use</u> – Table F8 presents the results of Model F.2 in which average household size is set at 0 persons per household. The "New Value" box shows the household size set to 0 persons per household, and the bottom line of the table shows that use per capita is reduced from 101 gallons per day to 0 gallons per day. The conclusion drawn from this model is that the model is properly assigning water use relative to household size because a "vacant" household is predicted to have no water use, assuming that there is no irrigation system continuing to run and no leaks.

Utility Model F.2

Estimation Command:

LS LOG(CONS_AVG) C LOG(EFF_RATE_10) LOG(PPH) LOG(AC-(ADJ_SF/43560)) LOG(TOTAL/HTD_SF) REUSE_PCT

Estimation Equation:

 $LOG(CONS_AVG) = C(1) + C(2)*LOG(EFF_RATE_10) + C(3)*LOG(PPH) + C(4)*LOG(AC-(ADJ_SF/43560)) + C(5)*LOG(TOTAL/HTD_SF) + C(6)*REUSE_PCT$

Substituted Coefficients:

LOG(CONS_AVG) = 0.01636101655 - 0.5203361223*LOG(EFF_RATE_10) + 0.8220004024*LOG(PPH) + 0.1082853045*LOG(AC-(ADJ_SF/43560)) + 0.4321077287*LOG(TOTAL/HTD_SF) - 0.003325006728*REUSE_PCT

Regression Output

Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:53 Sample(adjusted): 3 164 IF AVG_LOC >19 Included observations: 142 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	0.016361	0.511771	0.031969	0.9745
LOG(EFF_RATE_10)	-0.520336	0.066011	-7.882585	0.0000
LOG(PPH)	0.822000	0.156706	5.245504	0.0000
LOG(AC-	0.108285	0.037551	2.883702	0.0046
(ADJ_SF/43560))				
LOG(TOTAL/HTD_SF	0.432108	0.098354	4.393396	0.0000
)				
REUSE_PCT	-0.003325	0.000854	-3.895540	0.0002
R-squared	0.636331	Mean deper	ndent var	2.007449
Adjusted R-squared	0.622961	S.D. depend	dent var	0.416272
S.E. of regression	0.255606	Akaike info		0.150973
Sum squared resid	8.885461	Schwarz cri	terion	0.275867
Log likelihood	-4.719110	F-statistic		47.59323
Durbin-Watson stat	1.677748	Prob(F-stati	stic)	0.000000

TABLE F5. INDOOR/OUTDOOR WATER USE ESTIMATE BY ELIMINATING YARD AREA

COMBINED UTILITY MODEL F.2								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:53 Sample(adjusted): 3164 IF AVG_LOC >19 Included observations: 142 after adjusting endpoints								
Variable	Coefficient 5	Std. Error t-St	t-Statistic Pro	Prob.				
C LOG(EFF_RATE_10) LOG(PPH) LOG(AC-(ADJ_SF/43660)) LOG(TOTAL/HTD_SF) REUSE_PCT	0.0164 -0.5203 0.8220 0.1083 0.4321 -0.0033	0.5118 0.0660 0.1567 0.1567 0.0376 0.0384 0.0009	0.0320 -7.8826 5.2455 2.8837 4.3934 -3.8955	0.9745 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.6363 0.6230 0.2556 8.8865 4.7191 1.6777	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	t var var rion	2.0074 0.4163 0.1510 0.2759 47.5932 0.0000		ANNUAL USE 12,385 mgal	щ	
	ACTUAL	MODEL EST		ADJ EST	VAR	Total Conserv Customers	Total Conservation Opportunity tomers mgal mg	mity mad
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	7,684 2.007	7,683 2.039		4,186 1.432	(3,497) -46%		537) 16%	(15.4)
Constant Average water rate per 1,000 gallons @10,000 gallons Average household size (pph) Yard area (acres), total lot size less developed area Average total property value per square feet (\$) Percent of accounts using reclaimed (%)	0.7994 0.9121 -1.2989 4.3201	0.0164 C -0.4159 \$ -0.1406 1.8668 \$ -0.0373	CURRENT 2.22 2.49 2.49 0.27 75.20 11	0.7994 0.9121 -6.9078 4.3201	NEW VALUE 0.00	% Chg in Price 0%	ll Q	0.0
Average Household Size (US Census) Per Capita Use per Day	2.49 101			2.49 55	Chg in per capita use (46) gpd	capita use gpd		

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TABLE F6. INDOOR/OUTDOOR WATER USE ESTIMATE WITH 100% RECLAIMED WATER USE

COMBINED UTILITY MODEL F.2								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:53 Sample(adjusted): 3 164 IF AVG_LOC >19 Included observations: 142 after adjusting endpoints								
Variable	Coefficient	Std. Error t-St	t-Statistic Pn	Prob.				
C LOG(EFF_RATE_10) LOG(PPH) LOG(AC.(ADJ_SF/43560)) LOG(TOTAL/HTD_SF) REUSE_PCT	0.0164 -0.5203 0.5220 0.1083 0.4321 0.4321	0.5118 0.0660 0.1567 0.0376 0.0984 0.009	0.0320 -7.8826 5.2455 2.8837 4.3934 -3.8955	0.9745 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.6363 0.6230 0.2556 8.8855 4.7191 1.6777	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	t var var rion	2.0074 0.4163 0.1510 0.2759 47.5932 0.0000		ANNUAL USE 12,385 mgal		
	ACTIAL	MODEL ECT		ADLECT	VAD	Total Conser Customore	i Opportu	unity mad
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	7,684 2.007	7,683 2.039		5,719 1.744	(1,964) -26%	134,312	3 (3,165) -26%	(8.7)
Constant Average water rate per 1,000 gallons @10,000 gallons Average household size (pph) Yard area (acres), total lot size less developed area	0.7994 0.9121 -1.2989	69 6	CURRENT 2.22 2.49 0.27	0.7994 0.9121 -1.2989	NEW VALUE	% Chg in Price 0%	ll Q	0.0
Average total property value per square teet (\$) Percent of accounts using reclaimed (%)	4.3201	1.8668 \$ -0.0373	/5.2U 11	4.3201	100			
Average Household Size (US Census) Per Capita Use per Day	2.49 101			2.49 75	Chg in per capita use (26) gpd	r capita use gpd		

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TABLE F7. PRICE ELASTICITY ESTIMATE FROM CHANGE IN AVERAGE COST

COMBINED UTILITY MODEL F.2								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:53 Sample(adjusted): 3 164 IF AVG_LOC >19 Included observations: 142 after adjusting endpoints								
Variable	Coefficient S	Std. Error t-St	t-Statistic Pn	Prob.				
C LOG(EFF_RATE_10) LOG(PPH) LOG(AC.(ADJ_SF/43560)) LOG(TOTAL/HTD_SF) REUSE_PCT	0.0164 -0.5203 0.8220 0.1083 0.4321 -0.0033	0.5118 0.0660 0.1567 0.0376 0.0984 0.0009	0.0320 -7.8826 5.2455 2.8837 4.3934 -3.8955	0.9745 0.0000 0.0000 0.0046 0.0004 0.0000				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.6363 0.6230 0.2556 8.8865 4.7191 1.6777	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	t var var rion n	2.0074 0.4163 0.1510 0.2759 47.5932 0.0000		ANNUAL USE 12,385 mgal		
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	ACTUAL 7,684 2.007	MODEL EST 7,683 2.039		ADJ EST 5,661 1.734	VAR (2,022) -26%	Total Conse Customers 134,312	Total Conservation Opportunity tomers mgal mgc 134,312 (3,259) -26%	unity mgd (8.9)
Constant Average water rate per 1,000 gallons @10,000 gallons Average household size (pph) Yard area (acres), total lot size less developed area Average total property value per square feet (\$) Percent of accounts using reclaimed (%)	0.7994 0.9121 -1.2989 4.3201 11	0.0164 C -0.4159 \$ 0.7497 -0.1406 1.8668 \$ -0.0373	CURRENT 2.22 2.49 0.27 75.20 11	1.3863 0.9121 -1.2989 4.3201	NEW VALUE \$ 4.00	% Chg in Price 80%	ll QJ	С. С.
Average Household Size (US Census) Per Capita Use per Day	2.49 101			2.49 75	Chg in per capita use (27) gpd	er capita use gpd		

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TABLE F8. IMPACT OF HOUSEHOLD SIZE ON TOTAL WATER USE

COMBINED UTILITY MODEL F.2								
Dependent Variable: LOG(CONS_AVG) Method: Least Squares Date: 09/27/04 Time: 11:53 Sample(adjusted): 3 164 IF AVG_LOC >19 Included observations: 142 after adjusting endpoints								
Variable	Coefficient S	Std. Error t-St	t-Statistic Pn	Prob.				
C LOG(EFF_RATE_10) LOG(PPH) LOG(AC.(ADJ_SF/43660)) LOG(TOTAL/HTD_SF) REUSE_PCT	0.0164 -0.5203 0.8220 0.1083 0.4321 -0.0033	0.5118 0.0660 0.1567 0.0376 0.0984 0.009	0.0320 -7.8826 5.2455 2.8837 4.3934 -3.8955	0.9745 0.0000 0.0000 0.0000 0.0046 0.0000 0.0000				
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood Durbin-Watson stat	0.6363 0.6230 0.2556 8.8855 4.7191 1.6777	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion F-statistic Prob(F-statistic)	t var var rion n	2.0074 0.4163 0.1510 0.2759 47.5932 0.0000		ANNUAL USE 12,385 mgal	SE al	, e
	ACTUAL	MODEL EST		ADJ EST	VAR	Lotal Conse Customers	Lotal Conservation Upportunity tomers mgal mg	unity mad
Average monthly use (kgal) Dependent Variable: LOG(CONS_AVG)	7,684 2.007	7,683 2.039		0 -8.174	(7,683) -100%	134,312	(12,382) -100%	(33.9)
Constant Average water rate per 1,000 gallons @10,000 gallons Average household size (pph) Y ard area (acres), total lot size less developed area Average total property value per square feet (\$) Percent of accounts using reclaimed (%)	0.7994 0.9121 -1.2989 4.3201	0.0164 C 0.4169 \$ 0.7497 0.1406 1.8668 \$ -0.0373	CURRENT 2.22 2.49 0.27 75.20 11	0.7994 -11.5129 -1.2989 4.3201	0.00	% Chg in Price 0%	ll ω	0.0
Average Household Size (US Census) Per Capita Use per Day	2.49 101			2.49	Chg in per capita use (101) gpd	capita use gpd		

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