

2002 Annual Reuse Report

Prepared by
Conservation Project section
Resource Conservation and Development

Southwest Florida
Water Management District



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Executive Summary

Florida Statutes, Section 373.250(6), required the five water management districts to submit annual reuse reports to the legislature from 1995 to 1997. This requirement was eliminated during the 1999 legislative session. Producing this reuse report provides an opportunity for the Southwest Florida Water Management District to assess the overall effectiveness of its reuse program. This report contains a summary of the reuse and wastewater treatment capacities and flows for the District's sixteen county area. The District plans to continue to produce an annual reuse report to continually evaluate the beneficial use of reclaimed water sources.

The District has developed an effective reuse program which includes reuse goals, regulatory policies, and three funding assistance programs. Reuse goals, set forth in the District Water Management Plan (DWMP) and Regional Water Supply Plan (RWSP), state that the District will encourage, assist in and, where appropriate, require the development and efficient use of alternative water sources such as reclaimed water. The District's regulatory policies require all water use permittees to utilize the lowest quality of water available for the proposed use. Reclaimed water may be considered a lower quality water and must be used if the water is available and is technically and economically feasible. Reclaimed water users with a water use permit are provided with a backup source through the issuance of a standby permit.

The District's regulatory reuse policies are complemented by three funding assistance programs which have allocated approximately \$ 182 million dollars for reclaimed water projects since 1990. The Cooperative Funding Initiative (CFI) through the District's eight basin boards, will typically fund up to 50 percent of the cost of design and construction; pumping, storage, distribution, and transmission facilities; and reuse master plans of selected projects. A total of 193 CFI reuse projects have been budgeted from fiscal year (FY) 1990 through FY2002. The New Water Sources Initiative (NWSI) Program provides funding for regional alternative water supply projects. Fourteen of the 30 NWSI projects result in the use of reclaimed wastewater or stormwater to offset demands on traditional sources. The Water Supply and Resource Development Program (WSRD), initiated in 2001, provides another funding opportunity to address large-scale water supply and resource development projects with multiple cooperators and regional benefits. In 2002, five new projects were started from this program that will utilize reclaimed water to offset demands on traditional sources. Together, the CFI, NWSI, and WSRD projects may provide up to 189 million gallons per day (mgd) of additional reclaimed water supplies when completed. To date, 38 of the District's 50 local governments with wastewater facilities have developed or are designing reclaimed water systems.

Sixty percent of the wastewater treatment plants in the District supply reclaimed water for beneficial reuse. In 2002, these plants supplied 130.3 mgd of reclaimed water to various customers, utilizing 42 percent of the total volume of wastewater generated in the District. Since 1992, the volume of reused water increased by 68.3 mgd. In some areas of the District, the current demand for reclaimed water exceeds the available supply. As a result of the proactive efforts of the District and local governments to develop reclaimed water supplies, reuse in the District is expected to increase from 130.3 mgd to more than 200 mgd within the next decade.

I. Introduction

Purpose

This reuse report provides an opportunity to review the activities of the Southwest Florida Water Management District to encourage and promote reuse and to assess the overall effectiveness of the District's reuse program. Further, it serves to clarify the quantity of reclaimed water used beneficially within the District for the purposes described below, versus the more broadly defined "beneficial" purposes reported in annual Department of Environmental Protection publications. The beneficial uses defined below are consistent with the water supply and resource development goals of the District, as described in the agency's planning documents.

Definitions

The following terms are used in this report:

Reclaimed water, or flow, means treated water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic wastewater treatment facility.

Reuse means the deliberate application of reclaimed water, in compliance with Florida Department of Environmental Protection (FDEP) and water management district rules, for a beneficial purpose.

Reuse Capacity is the maximum amount of reclaimed water that could be distributed and used in a reuse system.

Reclaimed water can be used for a wide range of beneficial purposes, including the following:

- Landscape irrigation (irrigation of golf courses, parks, highway medians, playgrounds, residential properties, etc.)
- Agricultural irrigation (including irrigation of edible crops)
- Aesthetic uses (decorative ponds, pools, and fountains)
- Groundwater recharge
- Industrial uses (for cooling, process, or wash waters)
- Natural systems creation, restoration, or enhancement
- Toilet flushing in certain circumstances
- Fire protection (use in hydrants or sprinklers)
- Other purposes consistent with water supply and resource development

Reuse Program

Sections 373.250(1) and 403.064(1), F.S., establish the following state reuse objectives:

The encouragement and promotion of water conservation and reuse of reclaimed water, as defined by the FDEP, are state objectives and are considered to be in the public interest.

In response to these objectives, the FDEP, the water management districts, the Department of Health (DOH), the Public Service Commission (PSC), the Department of Agriculture and Consumer Services (DACS), and the Department of Community Affairs (DCA) have implemented a comprehensive reuse program designed to encourage and promote reuse of reclaimed water (York and Potts, 1996). The key components of the reuse program include:

- Provisions in the state's Water Policy, Chapter 62-40, Florida Administrative Code (F.A.C.), which encourage, promote, and require reuse and water conservation (FDEP, 1995).
- Water management district rules which encourage and promote reuse.
- Comprehensive rules governing reuse in Chapter 62-610, F.A.C. (FDEP, 1996).
- The antidegradation policy in Chapter 62-4 and 62-302, F.A.C., which encourages reuse over new or expanded surface water discharges.
- Provisions in Subsections 403-064(13) and (14), F.S., which limit effluent disposal by deep well injection and surface water discharges within water resource caution areas to wells and discharges serving as back-ups to reuse systems, when reuse has been determined to be feasible.
- Provisions in the Indian River Lagoon and Basin Act (Chapter 90-262, Laws of Florida), which encourage the elimination of surface water discharges and encourage reuse in the Indian River Lagoon Basin.
- Statutory and rule requirements for preparation of reuse feasibility studies and associated Guidelines for Preparation of Reuse Feasibility Studies (DER, 1991; Reuse Coordinating Committee, 1997).
- Provisions in the Florida APRICOT Act, which facilitated back-up discharges for reuse projects [Section 403.086(7), F.S.] and eliminated previous statutory barriers to reuse projects involving ground water recharge [Section 403.859(7), F.S.].

The Reuse Coordinating Committee, which currently consists of representatives of the water management districts, the FDEP, the DOH, the PSC, the DACS, and the DCA, completed a comprehensive review of the reuse program and published their findings in Reuse Conventions (1993). The Reuse Conventions report contains a summary of Florida's reuse program.

Reuse in Florida

As shown in Figure 1, reuse popularity has grown rapidly in Florida. The FDEP's 2002 Reuse Inventory identified 467 wastewater facilities with 436 reuse systems using about 584 mgd of reclaimed water for beneficial purposes (FDEP, 2002). The total wastewater flow from these facilities was approximately 1,327 mgd, which is about 69 percent of Florida's total permitted wastewater treatment plant capacity for facilities with permitted capacities of 0.1 mgd or greater.* The types of reuse activities practiced in Florida are depicted in Figure 2. In the last 15 years, Florida has rapidly become a national leader in water reuse.

As testimony to the success of Florida's reuse program, the U.S. Environmental Protection Agency honored Florida's program with the Municipal Water Use Efficiency Award in the Most Effective and Innovative Legislative Review and Proposal category in 1993, 1996 and 1999. Reflecting their excellence, Florida's reuse rules figured prominently in the development of the national reuse guidelines (EPA, 1992).

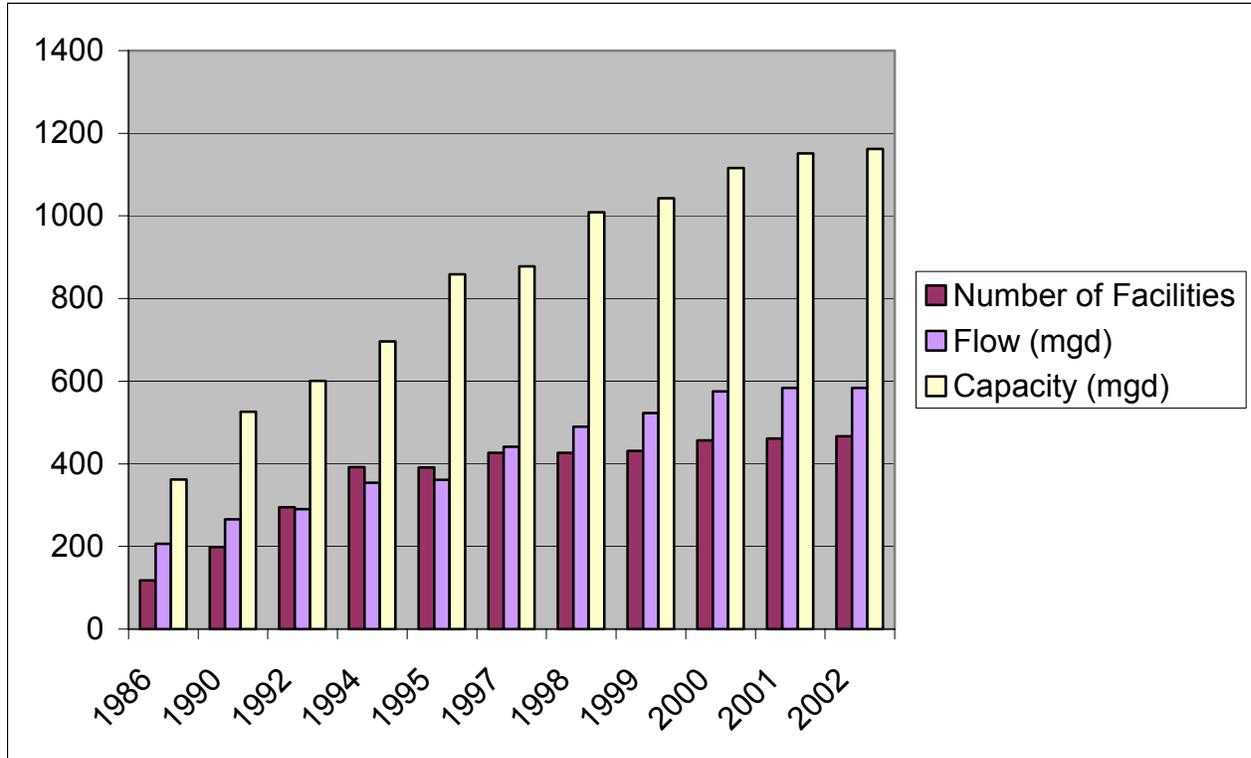
*Domestic wastewater treatment plants with permitted capacities of 0.1 mgd or greater represent 97 percent of the total domestic wastewater treatment flows in Florida.

Water Resource Implementation Rule

The Water Resource Implementation Rule (Rule), Chapter (62-40), dated 1997, contains significant guidance and requirements related to water conservation and reuse. These provisions serve to guide the activities and programs of the water management districts. The following general policies are established for water management programs:

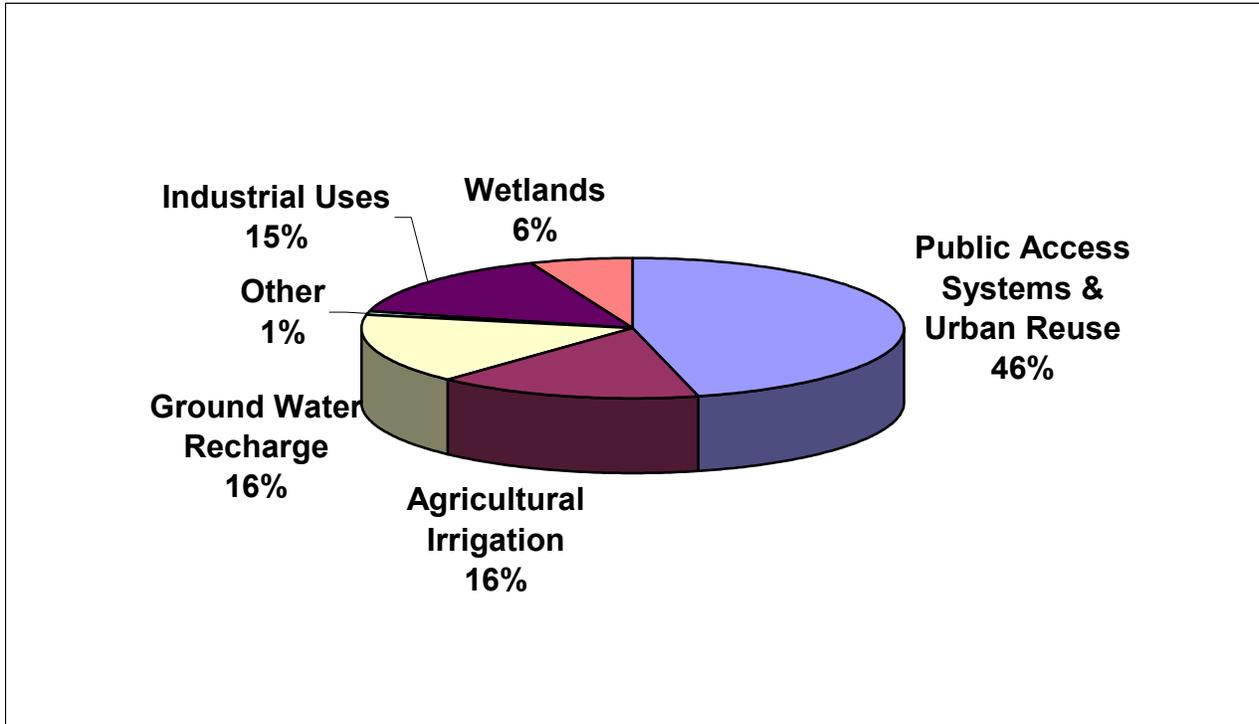
- To champion and develop sound water conservation practices and public information programs.
- To advocate and direct the use of reclaimed water as an integral part of water management programs, rules, and plans consistent with protection of the public health and surface and ground water quality.
- To encourage the use of the lowest acceptable quality for the purposes intended.
- To protect aquifers from depletion, through water conservation and preservation of high recharge areas.

The Rule includes water conservation and use of reclaimed water as part of the consideration of whether or not a proposed use of water is a reasonable-beneficial use. The Rule specifically requires that water conservation measures be implemented statewide. In addition, a reasonable amount of reuse is required within Water Resource Caution Areas. Water Resource Caution Areas were designated by the water management districts as part of their district water management planning program, based on an assessment of needs and sources of water over a 20-year planning period. The water management districts designated Water Resource Caution Areas in 1991.



Source: DER, 1986, 1990; DEP, 1994 through 2002

Figure 1. Reuse Growth in Florida



Source: DEP, 2002

Figure 2. Reuse in Florida

Annual Reuse Reports

In 1994, the Florida Legislature established requirements for annual reuse reports in Subsection 373.250(6), F.S. Each water management district was directed to submit an annual report to the Legislature. These reuse reports were first submitted by the districts in January of 1995 and continued through 1998. This requirement was eliminated during the 1999 legislative session as part of the "Florida Forever Act." The Southwest Florida Water Management District has decided to continue producing its Annual Reuse Report.

The District's Annual Reuse Report includes the following:

- A statistical comparison of reuse used between the current and preceding years.
- A comparison of the volume of reclaimed water available in the District to the volume of reclaimed water utilized.
- A comparison of the volume of reuse of reclaimed water required in Water Resource Caution Areas to the volume used in other areas of the District.
- An explanation of the factors that the District considered when determining how much, if any, reuse of reclaimed water to require through consumptive use permitting.
- A description of the District's efforts to work in cooperation with local government and private domestic wastewater treatment facilities to increase the use of reclaimed water.

The District's Annual Reuse Report uses a more stringent definition of beneficial reuse than that of FDEP and the other water management districts. The District does not include the quantities of reuse used in Rapid Infiltration Basins (RIBs), most At Treatment Plant (ATP), most Other Crops (OC), and Absorption Fields (AF) as beneficial reuse in its 2002 data, as most of these types of uses are considered disposal options. This is a change from previous years when the report was legislatively required and the District was following FDEP's definitions. In the District's *1999 Annual Reuse Report*, the quantities used in RIBs were eliminated from the report's data. In the *2000 Annual Reuse Report*, most ATP, OC, and AF uses were removed from the District's reported beneficial reuse quantities. The data showed decreases in Districtwide beneficial reuse from 140.3 mgd in 1998, 135.1 mgd in 1999, and 115.5 in 2000 due to this refinement in definitions.

II. District Reuse Program

Objectives, Goals and Policies

The District contains all or part of sixteen counties on the west-central coast of Florida, encompassing 98 local governments distributed over approximately 10,000 square miles (Figure 3). The District was created in 1961 to manage and protect water and related natural resources. The four primary areas of District responsibility are water supply, water quality management, flood protection, and natural systems management.

To ensure a sustainable water supply, the District strongly advocates conservation and reuse. Reuse provides numerous benefits, most notably by providing an alternate source of water which conserves ground and surface water supplies by offsetting the demand for these resources. Reductions in water demands reduce stress on environmental systems, and provide economic benefits by delaying costly expansions of water supply systems and associated water treatment plants. By conserving existing water supplies, the development of reuse systems enables governments and utilities to maximize their use of local resources.

The District Water Management Plan, most recently updated in July 2000, provides a road map for managing and protecting water and related natural resources within the District. The Plan is an "umbrella," referencing all the water management activities and plans of the District. It also contains overall goals and policies for the four major areas of responsibility of the District. Guidance for reuse and conservation programs is found under the water supply area of responsibility. The District's overall water supply goal is to ensure an adequate supply of the water resource for all existing and future reasonable and beneficial uses, while protecting and maintaining water resources and related natural systems. Key policies in the Plan pertaining to conservation and reuse include the following:

- Periodically evaluate available water supplies and existing and future water needs, and conduct sound water supply planning that recognizes environmental and socioeconomic constraints on development of the resource.
- Encourage the development of local sources, demand management measures, and alternative sources to the greatest extent practicable, considering the environmental, economic and technical feasibility of such alternatives.
- Encourage the use of water of the lowest acceptable quality for the purpose intended.
- Encourage, assist in, and, where appropriate, require the development and efficient use of alternative sources of water including the reuse of reclaimed water, harvesting of high flows, desalination, stormwater reuse and other appropriate alternative sources.

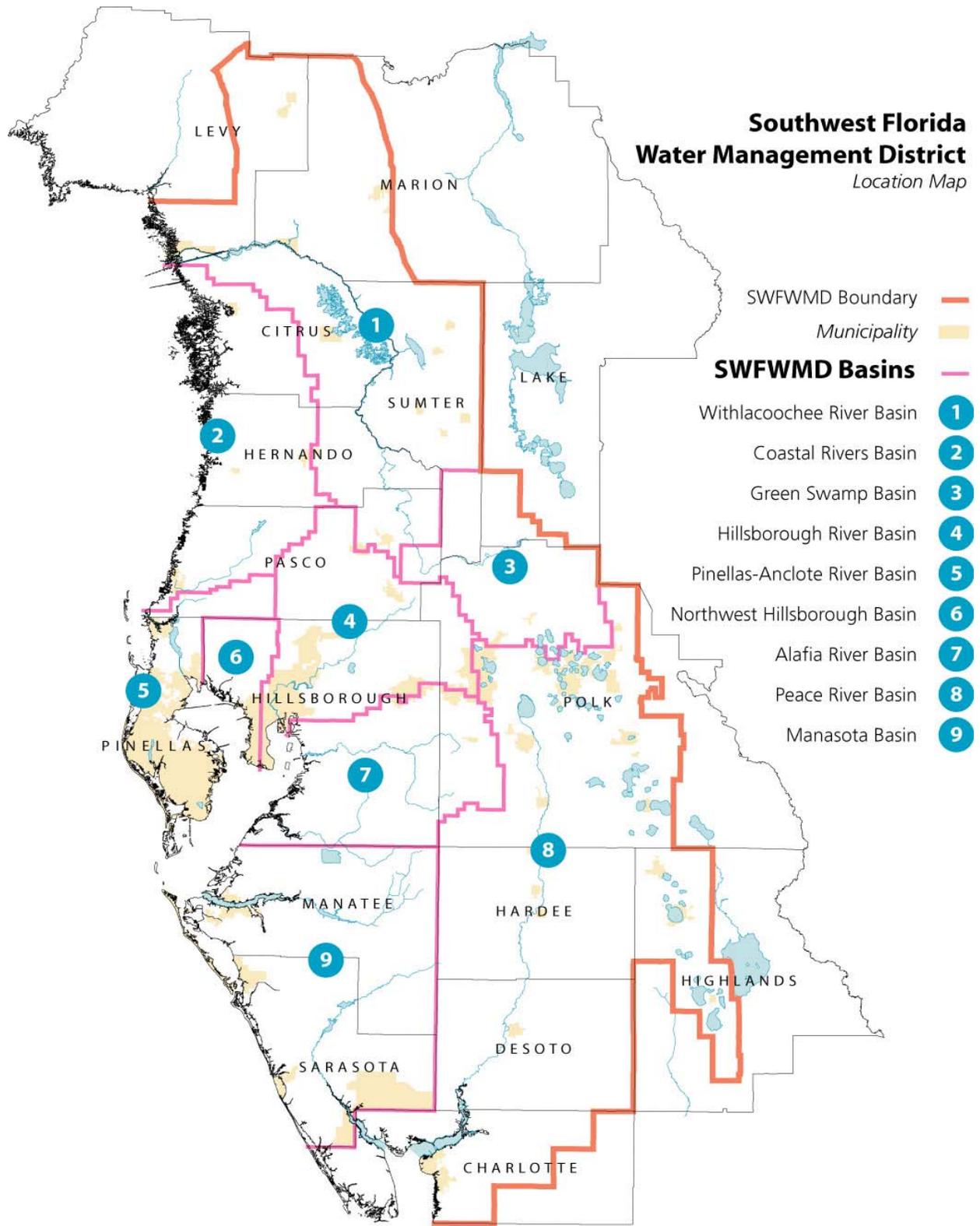


Figure 3

- Evaluate water conservation technologies for all user types and sources. Promote and, where necessary, require water conservation policies and practices in all use sectors to ensure efficient use of the water resource.

The District has developed an aggressive reuse program to achieve the goals and policies set forth in the District Water Management Plan. The District's reuse program encompasses planning, regulation, coordination, and funding assistance as discussed in the following sections. The 2001 Regional Water Supply Plan (RWSP) provides further evidence of the opportunity for reclaimed water to help meet the growing water demands in the District.

Water Supply Planning

Water supply planning is essential to developing and implementing an effective reuse program. In response to recurring water supply problems in some areas of the state, the 1997 Legislature amended Chapter 373, Florida Statutes, to clarify agency responsibilities for water supply planning. The amendments, (Chapter 97-160, Laws of Florida) directed the five water management districts to establish water supply planning regions, conduct Districtwide assessments of the adequacy of existing and reasonably anticipated water supply sources, and to initiate regional water supply planning for those planning regions where existing or reasonably anticipated water supply sources are determined to be inadequate to meet 20-year projected needs.

The District completed its Water Supply Assessment (Assessment) in 1998. The assessment projected a 459 mgd average increase in total water use by 2020 compared to 1995. Most significantly, the results of the Assessment indicated that existing sources of water would not be sufficient to meet projected demand in three of the District's four planning regions (the West-Central, East-Central, and Southern Planning Regions).

Based on the results of the Assessment, the District has prepared a RWSP for its Central and Southern Planning Regions, an area encompassing the three regions where water supply shortfalls were projected. The RWSP, approved by the District Governing Board in June 2001, projects an increase in total water demand of about 364 mgd, or 23 percent, between 1995 and 2020. In addition to these projected new demands, an additional 68 mgd must be developed to offset reductions in ground water withdrawals in the Northern Tampa Bay area. Combined, an estimated 432 mgd of new water sources must be developed by 2020. To address this need, the RWSP identifies 678 mgd potentially available from various alternative sources, including 168 mgd of offset derived from reclaimed water.

The RWSP is not prescriptive, but offers a wide variety of options for future water supply development, from which local governments and utilities may choose, including surface water, desalination of brackish groundwater and seawater, reuse of reclaimed water, and conservation by all use sectors. The District has already committed significant funding assistance through the Tampa Bay Partnership Agreement, the NWSI, the basin boards' Cooperative Funding Initiative, and a recently implemented Water Supply and Resource Development Reserve Fund. Specific funding assistance opportunities for reuse projects are described later in this document.

Regulation

The District adopted rules for the consumptive use of water which are set forth in Chapter 40D-2, F.A.C. The rules in Chapter 40D-2, F.A.C., also provide the foundation for the Southwest Florida Water Management District's regulatory reuse policies.

General Reuse Requirements

Under the provisions of Rule 40D-2.301, F.A.C., in order to obtain a water use permit, all water use permit applicants in the District must demonstrate that their proposed water use is reasonable and beneficial, in the public interest, and will not interfere with any existing legal use of water. To provide reasonable assurance that the proposed water use meets the three criteria listed above, among other conditions for issuance of a water use permit, the water use applicant must show that the intended water use:

- Will utilize the lowest water quality the applicant has the ability to use.
- Will utilize the local water resources to the greatest extent practicable.
- Will incorporate water conservation measures.
- Will incorporate reuse measures to the greatest extent practicable.
- Will not cause water to go to waste.

These five conditions for issuance of a water use permit promote the preferential use of reuse water to the use of ground water or surface water sources. Reclaimed water is water that has received at least secondary treatment and is reused after flowing out of a wastewater treatment facility, and "reuse" is the deliberate application of reclaimed water for a beneficial purpose. Reclaimed water is considered a lower quality of usable water, and the lower quality water must be used if it is available and if it is technically and economically feasible to use it.

Reuse Requirements and Incentives Inside Water Use Caution Areas

The Governing Board of the District declared three areas as Water Use Caution Areas (WUCAs) in 1989 to 1991 to address declining lake levels, saline water intrusion, and reduced aquifer levels. Two of these areas (the Eastern Tampa Bay and Highlands Ridge Water Use Caution Areas) were incorporated into the Southern Water Use Caution Area (SWUCA) to address declines in the Floridan aquifer potentiometric level which results in lowered lake levels at the eastern end and saline water intrusion in the west. New rules regarding reuse water were implemented on January 1, 2003. Rules regarding the use of reuse water were implemented in the Northern Tampa Bay

(NTBWUCA) in 1991. Now all or portions of ten of the 16 counties under SWFWMD jurisdiction are included in water use caution areas. The SWUCA encompasses 5,100 square miles of the Southern West-Central Ground Water Basin. The observed adverse impacts of declining aquifer levels, saline water intrusion, and declining lake levels found in these two WUCAs were determined to be groundwater-basin-wide phenomena.

The SWUCA rules that went into effect in January 1, 2003 center on water conservation which includes the use of reuse as an alternative source. Phase II of rule-making in the SWUCA is focused on the recovery plan for the Floridan aquifer. The rules regarding the use of reuse in the NTB WUCA remain intact and are similar to those listed for the SWUCA.

Reuse Goal: The District established a reuse goal which states that by September 2004, generators of treated domestic wastewater are encouraged to demonstrate that 50 percent of the total annual amount of reuse generated is beneficially reused. Beneficial reuse will be defined specifically as reuse water that is used for:

1. Lawn and landscape irrigation
2. Agricultural irrigation
3. Ground water recharge for environmental or water supply benefit
4. Wetlands restoration
5. Industrial cooling, process, and wash water
6. Fire protection
7. Environmental enhancement
8. Toilet flushing
9. Others as approved by the District or allowed under a FDEP permit

Reuse Feasibility: Other rules that address the use of reuse water require water users who do not have 100 percent use of reuse or an existing reuse plan to submit a reuse feasibility analysis with an application for new use or modification of an existing use. The analysis will test the feasibility to use reuse water in lieu of stressed source water and to use it where economically, environmentally, and technically feasible. The District will determine the final feasibility based on the following information submitted:

1. Relative location of reuse source to water use site
2. Quantity and timing of availability
3. Costs
4. Suitability for intended use
5. Implementation schedule
6. Detailed explanation of infeasibility

Golf Courses: Water use permit applicants for new golf courses, that are associated with a development with its own wastewater treatment plant, are required to phase conversion of their irrigation water to 100 percent use of reuse water.

Water Use Permits with Use of an Alternative Source: New or existing permittees who replace the natural resource with an alternative source (commercial reuse water or captured excess stormwater) are required to modify their permit to reflect the alternative source use. Permittees who replace at least 50 percent of the natural resource will be issued a permit for a term of twenty years. These permits contain a guarantee of reinstatement of their right to use the discontinued stressed source withdrawals if and when they lose the alternative source through no fault of their own. Those permits with a twenty-year term will only be shortened if the replaced source is reactivated so that more than 50 percent of the need is supplied by the natural resource.

Supplier/Receiver Reports: Other rules that went into effect in the SWUCA regarding alternative sources are:

1. Alternative Source Supplier Report, which is required annually by a special condition of a water use permit for all permittees having the potential to generate reuse water or other alternative source water. They will have to identify location and quantities of available supply, quantities disposed, quantities beneficially used, the number of individual customer reuse connections, and describe their progress toward the Reuse Goal.
2. Reuse Receiver Report is required to be submitted monthly by all permittees who receive reclaimed water or utilize captured stormwater. They are required to meter the incoming alternative source, provide information about the supplier, and record and report quantities.

Irrigation: Agriculturalists and recreation/aesthetic irrigators are incorporating reuse water into their irrigation needs more frequently as reserves of ground water become more scarce. In the SWUCA, the supplemental irrigation quantities for crops or plants that rely on rainfall for part of their water needs were reduced to those needed during an average rainfall year rather than during a 2-in-10 statistical drought as they were prior to rule implementation. In addition, all irrigators are required to apply irrigation water at an efficiency of 75 percent. Water-conserving credits are available to those who irrigate plants or crops which utilize effective rainfall when less than this reduced quantity of irrigation is applied to the crops. The credits build up and allow the irrigators to use them whenever they need quantities in excess of what is permitted for average rainfall conditions.

Changing Economics: The importance of incorporating reuse water into the conservation plan by water users is illustrated by the fact that reuse water, once free, is now a valuable economic commodity to those who supply it. There is competition for its availability and, within the District, some users will lose their supply because providers are finding a more lucrative market in the cities.

Summary of Factors Considered in Requiring Reuse

In summary, water use permittees in Water Use Caution Areas (WUCAs) will not be allocated water quantities if reclaimed water is available, provided that the quantity and quality are acceptable for the intended use as determined by the District. All water users in the District must consider the lowest quality of water available for the proposed use, and this lowest quality water must be used if the water is available and technically and economically feasible.

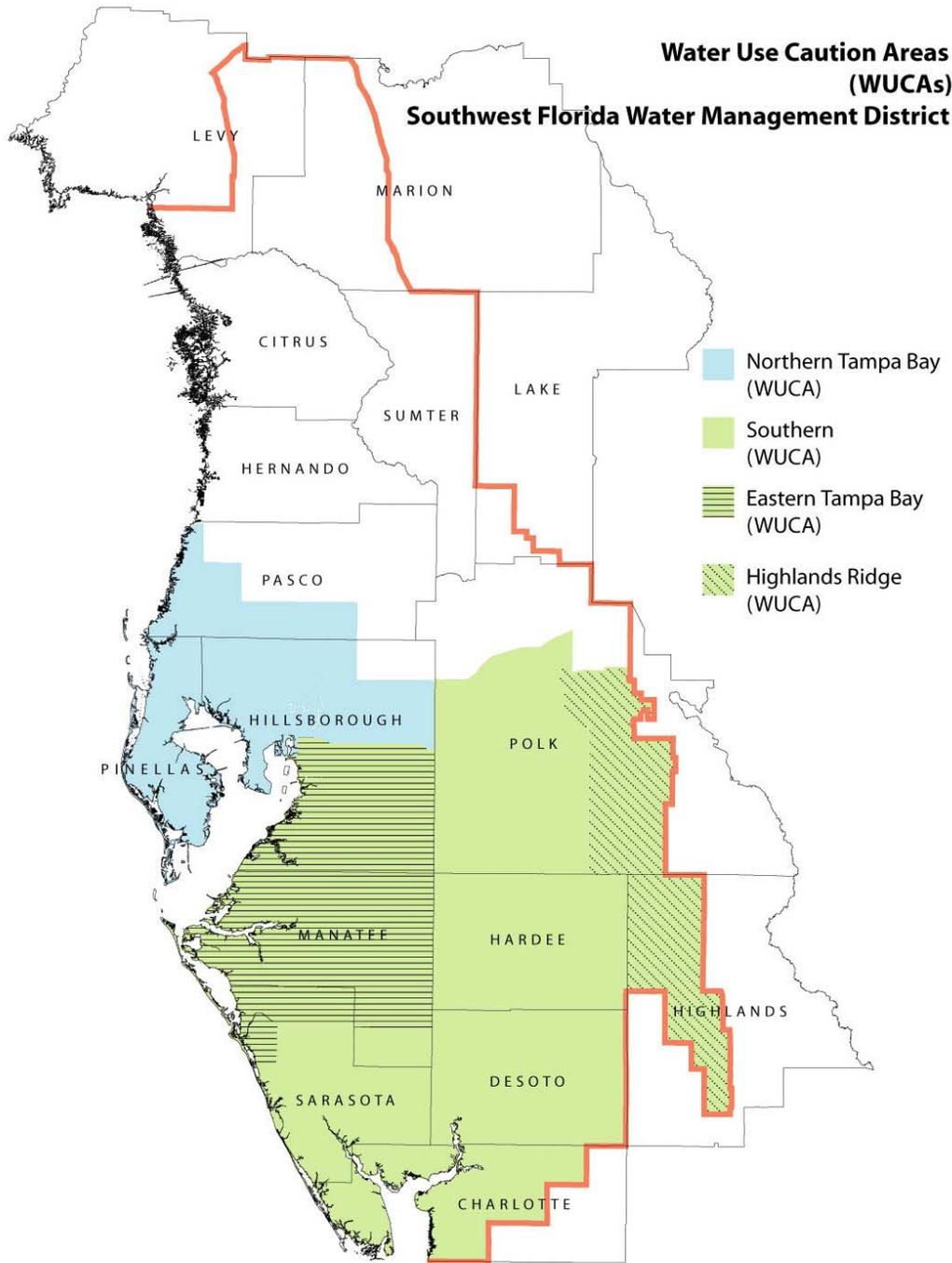


Figure 4

Water Management District Coordination Efforts

Coordination and cooperation with local governments, utilities, and other state agencies is crucial to the success of the District's reuse program. At the state level, District staff serve on the statewide Reuse Coordinating Committee which includes representatives from PSC, FDEP, DACS, the Department of Health Services (DHS), and the four other water management districts. The Reuse Coordinating Committee works to develop consistent and effective statewide reuse programs and policies. In addition, a Memorandum of Understanding has been executed between the District, the PSC, and the FDEP formalizing the coordination effort and level of participation by agencies regarding investor-owned utilities under PSC jurisdiction. Finally, in response to the Governor's Drought Action Plan (2001), FDEP has enlisted the assistance of the five water management districts, DACS, and the PSC in the facilitation of a statewide Water Conservation Initiative. The initiative is designed to involve all potential stakeholders in the state in providing input to the planning and implementation of various water conservation measures, including the use of reclaimed water.

At the regional level, the NWSI and WSRD programs rely on close cooperation with governmental agencies to develop reclaimed water and other alternative water sources. The successful implementation of large-scale regional projects will require close communication and coordination with local and county governments and elected officials, as well as with regulatory agencies such as the FDEP and the Hillsborough County Environmental Protection Commission.

At the local level, the District's Cooperative Funding Initiative provides a mechanism for cooperating and coordinating with governments and utilities to develop and expand reuse systems. From 1990 to 2002, the Cooperative Funding Initiative has involved 38 of the District's 50 local governments with wastewater treatment facilities. The District has been or is now involved in providing funding assistance for 213 projects with 70 different wastewater systems. The District provides technical as well as financial support through its cooperative efforts, and voluntarily meets with FDEP to discuss local reuse projects.

Funding Assistance Programs for Reuse

The District's funding assistance programs complement its regulatory policies. The District provides grants for reuse projects to accelerate and increase the effectiveness of reuse systems, to provide financial assistance to local governments, and to enhance the protection of existing water supplies. Financial grants may increase reuse system effectiveness by expanding reuse systems, thereby allowing more customers to connect. Existing water supplies can be protected by requiring funded reuse projects to offset ground or surface water withdrawals. Financial assistance also results in more affordable reclaimed water by enabling local governments to offset a portion of their capital costs.

Cooperative Funding Initiative

The Cooperative Funding Initiative provides financial assistance to local governments and utilities through the eight basin boards of the District for water resource-related projects, including reclaimed water projects. The basin boards will typically fund up to 50 percent of the cost of design and construction; pumping, storage, distribution, and transmission

facilities; and the development of reuse master plans. Treatment plant upgrades, including filtration and disinfection, are not normally considered eligible for funding. At least 50 percent of the reclaimed water utilized must offset ground or surface water withdrawals. The development of a reclaimed water master plan is required to qualify for a Cooperative Funding Initiative construction grant.

From 1990 through FY2002, the basin boards have budgeted approximately \$139 million for 193 reuse projects. The Cooperative Funding Initiative projects involve 46 of the largest 51 wastewater treatment plants in the District, and include six plants not presently supplying reclaimed water for reuse. When fully constructed, the 193 budgeted Cooperative Funding Initiative reuse projects, as reported in the District's 2002 Retrofit Programs, Reuse Projects, and Outdoor Water Conservation Efforts Summary Report, will increase reclaimed water use in the District by approximately 112.5 mgd.

New Water Sources Initiative Program

The District Governing Board established the NWSI program in 1993 to provide financial assistance for alternative water supply projects with regional benefits including reuse, desalination, surface water, and water conservation. The primary objective of the NWSI program is to develop regional alternative water sources to offset surface and ground water demands in the District, particularly in the SWUCA. Since FY1994, the Governing Board has allocated \$10 million per year as a funding source for eligible NWSIs. Basin boards receiving benefits from the selected projects have matched the \$10 million per year beginning in their FY1995 budgets. NWSI projects generally receive 25 percent of their funding from the Governing Board, 25 percent from the appropriate basin board(s), and the remaining 50 percent from the local cooperator(s).

Fourteen of the currently funded or completed NWSI projects may provide up to 73.4 million gallons per day of reclaimed water to meet current and future water needs. The 14 projects will also reduce ground water withdrawals, rehydrate stressed lakes and wetlands, increase ground water recharge, enhance wildlife habitat, and improve flood control. No new NWSI reuse projects were started in 2002.

Water Supply and Resource Development Program

The Water Supply and Resource Development Program (WSRD) was initiated in 2001. This program provides another funding opportunity to address large-scale water supply and resource development projects with regional benefits. In this second year of the program, five new reuse projects were started. These projects will have a total cost of \$34.8 million when completed. District funding for 2002 is \$3.8 million with total district funding projected to be \$17.4 million when completed. The estimated reuse flow from these projects will be 6.5 mgd.

III. District Summary

In the year 2002, there were 157 wastewater treatment plants in the Southwest Florida Water Management District. Seventy-nine plants have a **wastewater flow** of 0.5 mgd or greater (50.3 percent of the total number of plants), and generate 297 mgd or 95.7 percent of the District's wastewater flow. Fifty-three plants with wastewater flows between 0.1 mgd and 0.5 mgd (33.8 percent of the total number of the plants) generate 11.88 mgd or 3.8 percent of the District's wastewater flow. The remaining twenty-five plants have wastewater flows less than 0.1 mgd, (15.9 percent of the total number of plants), and generate 1.49 mgd or less than one-half percent of the wastewater flow.

Of these 157 wastewater treatment plants, fifty-four plants have a **reuse flow** of 0.5 mgd or greater, (thirty-four percent of the total number of plants), and generate 123.4 mgd or 94.7 percent of the District's reuse flow. Twenty-five plants with reuse flows between 0.1 mgd and 0.5 mgd (15.9 percent of the total number of plants) generate 6.38 mgd or 4.9 percent of the District's reuse flow. The remaining seventy-five plants, with reuse flows less than 0.1 mgd, (forty-eight percent of the total number of plants), re-use only 0.56 mgd or 0.4 percent of the District's total reuse flow.

Table I provides capacity and flow information, by county, for wastewater treatment plants with design capacities of 0.1 mgd and greater, according to the Department of Environmental Protection 2002 Ground Water Management System database. This information is displayed graphically, by region and county, in figures 5 through 8. Information regarding plant flows contained in that database was obtained from the Department of Environmental Protection's *2002 Annual Reclaimed Water Utilization Survey*. Wastewater plants providing reclaimed water and having design capacities of 0.1 mgd and greater were required to complete the form. In the event that a large wastewater plant (capacity greater than 0.5 mgd) did not submit a form, they were individually contacted by a staff member of the Southwest Florida Water Management District. The collected data are presented in Appendix A. Where no data were available, an "ND" was entered in the table.

Reuse requirements for wastewater treatment plants set forth by the Southwest Florida Water Management District are indicated in the seventh column of Appendix A. A "Y" indicates that a permit action requiring reuse is part of the utility's water use permit. The eighth column, labeled "Comments" indicates which treatment plants have increased their reuse capacity with funding assistance from the District. An "a" indicates that a reuse system is being designed/constructed in cooperation with local and regional governments as part of the District's NWSI or WSRD Programs, and a "b" indicates that a reuse system is being designed/constructed in cooperation with local governments as part of the District's Cooperative Funding Initiative. The presence of reuse in the absence of the letters "a" and "b" indicates that the community has taken the initiative to implement reuse without financial assistance from the District.

The 157 plants listed in Appendix A treated approximately 310 mgd of wastewater in FY2002. The combined design capacity of these plants was about 517 mgd. Of the 159 plants, 122 or 78 percent are located in WUCAs (i.e., water resource). The quantity of wastewater generated by plants located in WUCAs was approximately 296 mgd and accounted for 96 percent of the total wastewater generated in the District. The remaining

35 plants, located outside WUCAs, accounted for only 14 mgd or about 4 percent of wastewater generated in FY2002.

It is important to note that a significant difference in data exists between the 1997 and 1998 reports and all previous reports. In the past, the Southwest Florida Water Management District has reported reclaimed water flows only when the wastewater was delivered for agricultural irrigation, residential irrigation, industrial reuse, or any other use that would directly offset pumpage. However, beginning in 1997, the District started reporting any flow reported as reuse on the *Annual Reclaimed Water Utilization Survey*. The survey identifies reclaimed water to include areas of reuse not previously considered such as spray fields, rapid infiltration basins, absorption fields, and percolation ponds. The District's 1999 Annual Reuse Report again did not include the quantities of reuse used in Rapid Infiltration Basins (RIBs) as beneficial reuse in its 1999 data. The 2000 Annual Reuse Report showed additional decreases in beneficial reuse by excluding most At Treatment Plant (ATP), most Other Crops (OC), and Absorption Fields (AF) in its 2000 data. The 2002 report continues to utilize this stricter definition of beneficial reuse.

Using the more stringent definition of beneficial reuse, about 42 percent of the volume of wastewater generated in the District in FY2002 was reused. If the more inclusive FDEP definition of beneficial reuse had been used, 55.8 percent (173 mgd) of the wastewater would have been reused. The majority of reuse comes from large systems, 54 of the largest plants surveyed supplied nearly 95 percent (123.4 mgd) of reclaimed water in FY2002. Uses of reclaimed water included urban and agricultural irrigation, fire-fighting, environmental enhancement, industrial processes, and cooling water for thermoelectric power plants. Reuse in WUCAs accounted for about 125.7 mgd or 96 percent of the total volume of water reused in the District.

It is anticipated that ongoing Cooperative Funding Initiative, WSRD, and NWSI projects, combined with the efforts of local governments and utilities, will increase the present reuse system flows to approximately 209.7 mgd when the current projects are completed. The success of the District's reuse program is reflected in the increase in reuse since 1990. Between 1992 and 2002, the amount of wastewater increased from 207 mgd to 310 mgd. During the same period, reuse increased from 62 mgd in 1992 to 130.3 mgd in 2002. Reuse flow increased at a rate that was twice as fast as the increase of WWTP flows.

**Table I.
Summary of Reclaimed Water Sources
In the Southwest Florida Water Management District**

County	Number of WWTPs			Total Plant		Reuse			Comments (# of WWTP with SWFWMD funding)
	Total	In WRCA	Reuse Required	Capacity (mgd)	Flow (mgd)	Providing Reuse	Capacity (mgd)	Flow (mgd)	
Charlotte	9	9		12.24	8.61	7	4.11	2.58	3
Citrus	8	0		5.33	2.94	1	0.06	0.02	1
DeSoto	4	4		2.85	1.77	1	0.43	0.13	1
Hardee	4	4		1.73	1.35	1	0.52	0.17	2
Hernando	10	0		9.05	4.22	2	10.76	2.49	1
Highlands	7	7		5.02	2.19	0	0.00	0.00	1
Hillsborough	18	18	13	144.16	87.35	15	29.88	22.87	8
Lake	0	0		0.00	0.00	0	0.00	0.00	0
Levy	1	0		0.45	0.18	0	0.00	0.00	0
Manatee	5	5		42.80	27.04	5	37.57	15.66	5
Marion	6	0		2.45	1.14	2	0.50	0.33	1
Pasco	16	9	10	31.47	20.60	12	18.26	8.25	12
Pinellas	16	16	11	170.75	100.57	14	127.49	47.76	14
Polk	32	32	9	53.28	28.81	18	42.94	18.19	9
Sarasota	18	18		33.26	21.92	14	19.06	10.94	9
Sumter	3	0		2.30	1.73	2	1.20	0.92	2
District Totals									
-Within WCRAs	122		40	491.09	296.16	82	278.04	125.65	59
-Outside WCRAs	35		3	26.05	14.26	12	14.74	4.66	10
-District Total	157		43	517.14	310.42	94	292.78	130.31	69

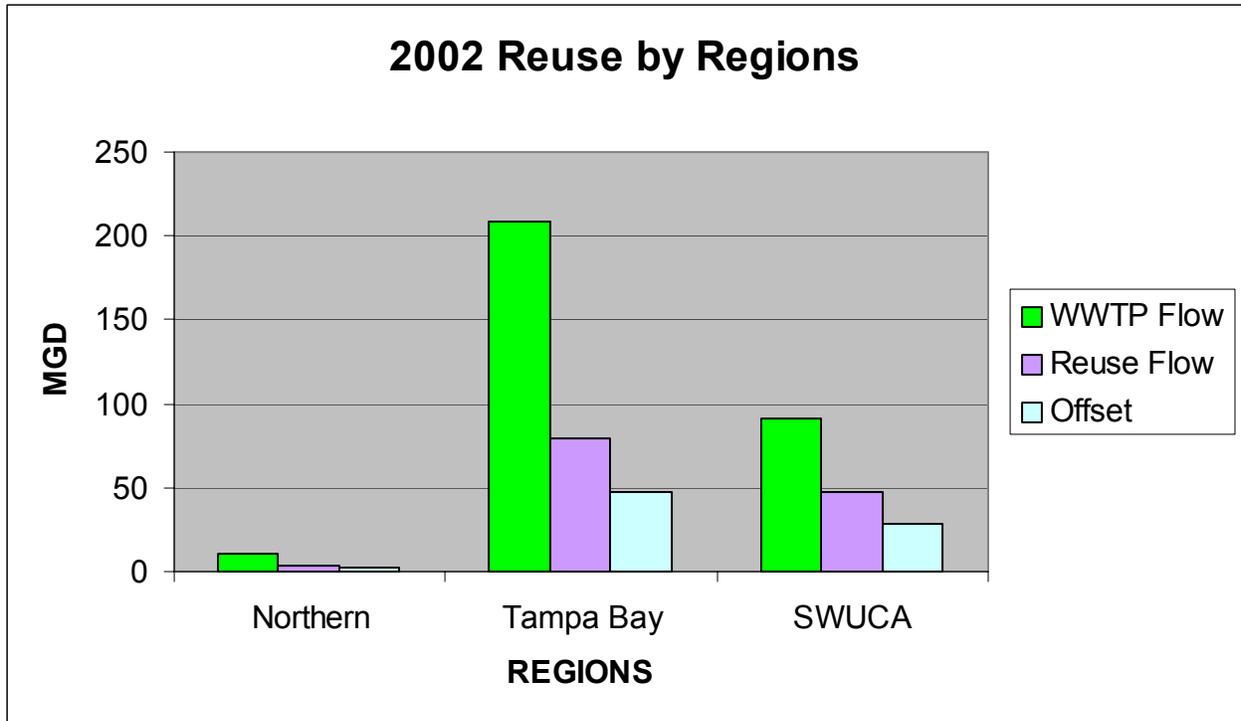


Figure 5

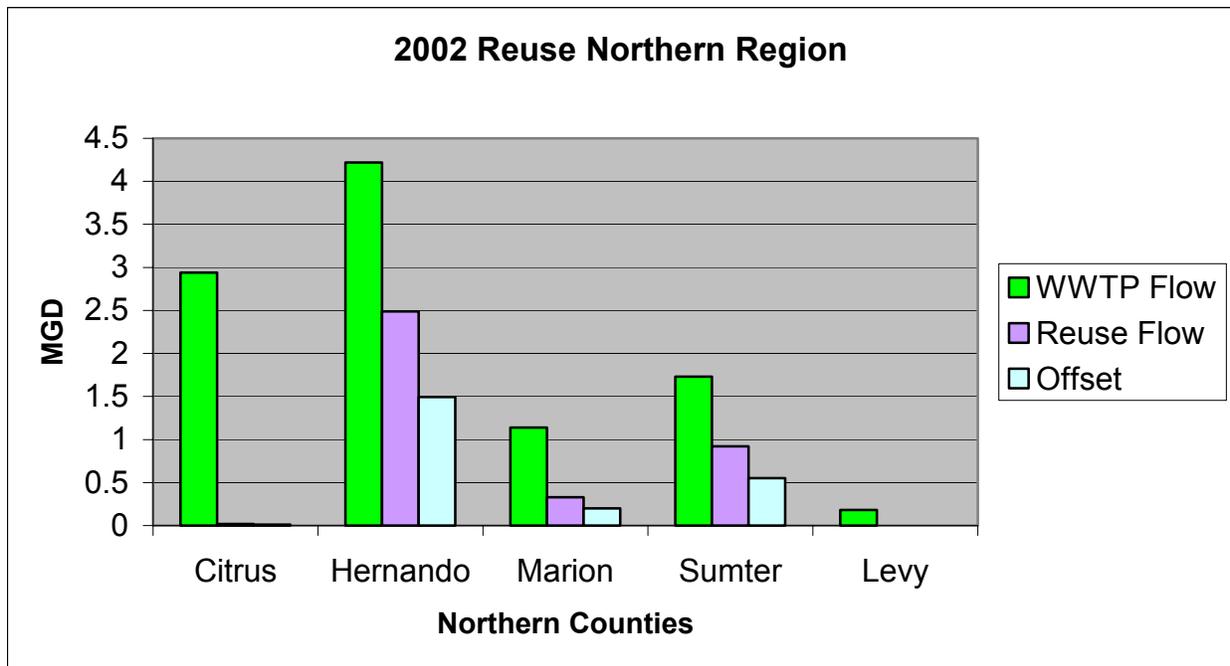


Figure 6

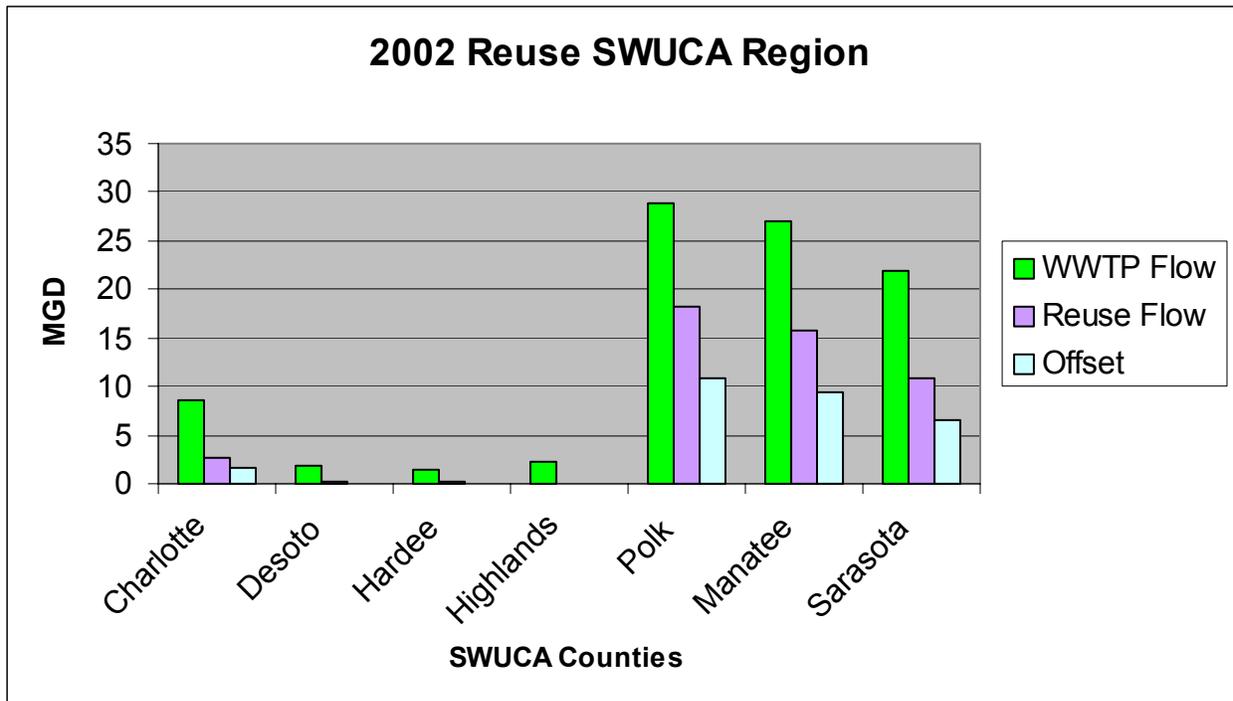


Figure 7

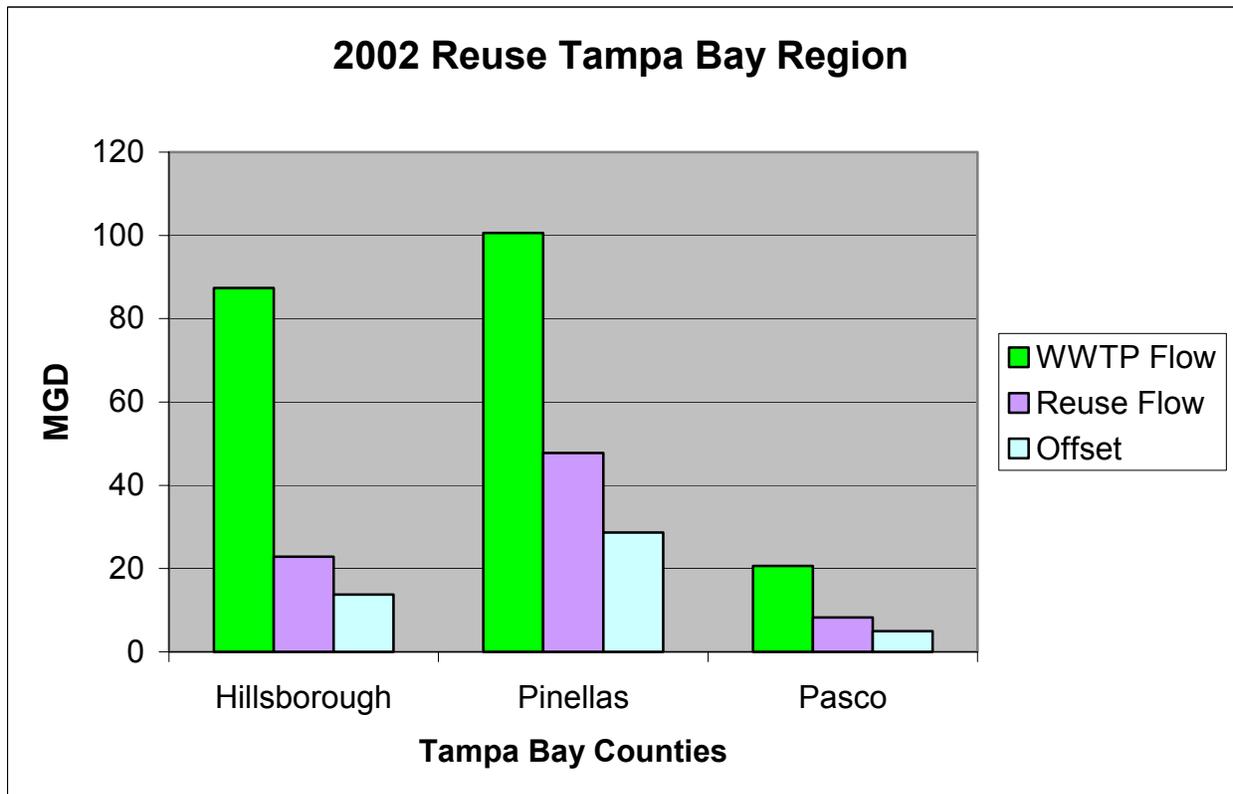


Figure 8

IV. Summary and Conclusions

Reuse Program

The Southwest Florida Water Management District has developed an aggressive reuse program which, when combined with the FDEPs reuse program, forms an effective means of promoting the development of reclaimed water systems. Key aspects of the District's reuse program are:

- The establishment of reuse goals set forth in the District Water Management Plan:

"Encourage, assist in and, where appropriate, require the development and efficient use of alternative sources of water, including the reuse of reclaimed water, greywater use, desalination, storm water reuse, cisterns and other appropriate alternative sources to ensure water availability, and reduce the demand for conventional sources to maximize and maintain existing sources."

"Require the lowest quality of available water suitable for the intended use."

"Require that local sources, demand management measures, and alternative sources be developed to the greatest extent practicable, considering the environmental, economic and technical feasibility of such alternatives, before development of sources outside a utility's service area."

"Consider the extent to which an area receiving water from another hydrologic basin has utilized local sources, demand management measures and alternative supplies."

- Regulatory requirements for reuse apply to all water use permit applicants in the District. Permit applicants must provide reasonable assurances that a water use will utilize the lowest quality of water available, will incorporate reuse measures to the greatest extent practicable, and will not cause water to go to waste. Reclaimed water may be considered a lower quality water and must be used if the water is available and is technically and economically feasible.
- Additional reuse requirements apply to permittees located in Water Resource Caution Areas, (termed "Water Use Caution Areas" by the Southwest Florida Water Management District). Permittees located in the District's four WUCAs are required to investigate the feasibility of reuse, and reuse will be required where economically, environmentally, and technically feasible. Public supply permittees must also reduce their per capita water use. Water use permittees generating reclaimed water must submit an annual report to the District summarizing the

quantity of wastewater generated, the quantity of reclaimed water reused, a list of reclaimed water customers, and a map depicting the reuse service area.

- A regulatory incentive program, adopted by the District in November of 1995, allows users and suppliers of reclaimed water in the SWUCA to receive a Ground Water Withdrawal Credit Permit. The value of the Ground Water Withdrawal Credit will be equal to 50 percent of the permitted ground water withdrawal that is discontinued as a result of reuse. Credits may be used to withdraw ground water at another location or, for public supply utilities, to reduce the calculated per capita water use within a public supply service area.
- Users of reclaimed water are provided with a backup water allocation through the issuance of an Alternative Source Standby Permit. The standby permit enables permittees to reactivate ground or surface water withdrawals when use of reclaimed water sources is temporarily or permanently lost.
- Three funding assistance programs complement the District's regulatory reuse policies:

The Cooperative Funding Initiative will typically fund up to 50 percent of the cost of design and construction; pumping, storage, distribution, and transmission facilities; and the development of reuse master plans. Over 193 Cooperative Funding Initiative reuse projects have been budgeted through FY2002, totaling \$139 million.

The WSRD program provides funding assistance to large-scale water supply and resource development projects. This program was initiated in 2001. There were five new reuse projects started in 2002 under this program. These projects will produce an estimated reuse flow of 6.5 mgd.

The NWSI program provides financial assistance for alternative water supply projects. Fourteen of the 30 current or completed NWSI projects utilize reclaimed wastewater or storm water. The fourteen projects will potentially provide up to 73.4 million gallons per day of reclaimed water.

- An important aspect of the District's reuse program is coordination and cooperation with local governments and utilities. Successful coordination is exemplified by the Cooperative Funding Initiative and NWSI programs which, to date, have included 38 of the District's 50 local governments with wastewater treatment facilities.

Reclaimed Water Sources

The success of the District's reuse program is reflected in the number of facilities that have developed or will develop reuse systems.

- Sixty percent of the WWTP's with permitted capacities greater than 0.1 mgd (and listed in Appendix A) supply reclaimed water.
- In 2002, 94 WWTP's supplied over 130.3 mgd of reclaimed water, utilizing 42 percent of the total volume of wastewater generated in the District.

- Reuse in WUCAs accounted for 96.5 percent or 125.7 mgd of the total volume of reclaimed water.
- The current reuse system flows in the Southwest Florida Water Management District are approximately 130.3 mgd and are expected to increase to approximately 200 mgd during the next decade.

Conclusions

The Southwest Florida Water Management District has developed a successful reuse program which promotes and encourages the development of reuse systems in its 16 county area. As of 2002, 94 utilities supplied over 130.3 mgd of reclaimed water and reused 42 percent of the wastewater generated in the District. Between 1990 and 2002, the rate of increase in reclaimed water use in the District has outstripped the rate of increase in wastewater production. The volume of reclaimed water reused increased by 68.3 mgd between 1990 and 2002. In some areas of the District, the demand for reclaimed water now exceeds the available supply. As a result of the proactive efforts of the District and local governments to develop reclaimed water supplies, reuse in the District is expected to increase from 130.3 mgd to more than 200 mgd within the next decade.

V. References

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VI.

Appendix A

REUSE INVENTORY

Appendix A. Reuse Inventory

Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
Charlotte County								
Burnt Store WWTP	Y	0.25	0.20	N	0.00	0.00	N	2,c
Charlotte County Correctional Institute	Y	0.25	0.14	Y	0.10	0.08	N	2,c
Charlotte County Utilities - Eastport	Y	5.00	3.83	Y	0.69	0.30	N	2,b,c
Charlotte County - West Port	Y	0.39	0.29	Y	0.31	0.08	N	2,b,c
Charlotte County - Rotunda West	Y	0.63	0.55	Y	0.67	0.49	N	2,c
Englewood	Y	1.87	1.48	Y	1.87	1.48	N	2,b
Punta Gorda, City of	Y	3.20	1.95	N	0.00	0.00	N	2,b,c
Riverwoods Utilities	Y	0.50	0.10	Y	0.37	0.10	N	2
Sandalhaven Utilities	Y	0.15	0.07	Y	0.10	0.05	N	2,c
Charlotte County Subtotals								
Within WRCA	9	12.24	8.61	7	4.11	2.58	0	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Total	9	12.24	8.61	7	4.11	2.58	0	
Citrus County								
Brentwood	N	0.50	0.22	N	0.00	0.00	N	2
Meadowcrest	N	0.50	0.25	N	0.00	0.00	N	2,b,c
Citrus Springs Utilities	N	0.20	0.08	N	0.00	0.00	N	2,c
Crystal River, City of	N	1.50	0.96	N	0.00	0.00	N	2,c
Inverness, City of	N	1.50	0.62	N	0.00	0.00	N	2,c
Point of Woods Utilities	N	0.06	0.02	Y	0.06	0.02	N	2
Beverly Hills / Rolling Oaks	N	0.57	0.41	N	0.00	0.00	N	2,c
Sugar Mill Woods/Cypress Village	N	0.50	0.38	N	0.00	0.00	N	2,c
Citrus County Subtotals								
Within WRCA	0	0.00	0.00	0	0.00	0.00	0	
Outside WRCA	8	5.33	2.94	1	0.06	0.02	0	
County Total	8	5.33	2.94	1	0.06	0.02	0	

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Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
DeSoto County								
Arcadia (William Tyson Plant)	Y	2.00	1.46	Y	0.43	0.13	N	2,b,c
DeSoto Correctional Institution	Y	0.50	0.19	N	0.00	0.00	N	2,c
G. Pierce Wood Memorial Hospital	Y	0.20	0.06	N	0.00	0.00	N	2,c
Lake Suzy WWTP	Y	0.15	0.06	N	0.00	0.00	N	2,c
DeSoto County Subtotals								
Within WRCA	4	2.85	1.77	1	0.43	0.13	0	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Total	4	2.85	1.77	1	0.43	0.13	0	
Hardee County								
Bowling Green, City of	Y	0.32	0.17	Y	0.32	0.17	N	2,b
Hardee County Correctional	Y	0.21	0.16	N	0.00	0.00	N	2,c
Wauchula, City of	Y	1.00	0.93	N	0.00	0.00	N	2,b,c
Zolfo Springs, City of	Y	0.20	0.09	N	0.00	0.00	N	2,c
Hardee County Subtotals								
Within WRCA	4	1.73	1.35	1	0.52	0.17	0	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Total	4	1.73	1.35	1	0.52	0.17	0	
Hernando County								
Brooksville, Cobb Road	N	1.50	0.94	Y	8.00	0.94	N	2
Hernando Co./Berkeley Manor	N	0.75	0.16	N	0.00	0.00	N	2,c
Hernando Co./Brookridge	N	0.75	0.20	N	0.00	0.00	N	2,c
Hernando Co./Glen Subregional	N	1.00	0.44	N	0.00	0.00	N	2,c
Hernando Co./Hernando Beach	N	0.25	0.16	N	0.00	0.00	N	2,c
Hernando Co./Ridge Manor	N	0.75	0.20	N	0.00	0.00	N	2,c
Hernando Co./Weeki Wachee	N	0.25	0.10	N	0.00	0.00	N	2,c
Hernando Co./Airport Industrial	N	0.30	0.26	N	0.00	0.00	N	2,c
Hernando Co./Airport Subregional	N	1.00	0.17	N	0.00	0.00	N	2,c
Spring Hill	N	2.50	1.59	Y	2.76	1.55	N	2,b,c
Hernando County Subtotals								
Within WRCA	0	0.00	0.00	0	0.00	0.00	0	
Outside WRCA	10	9.05	4.22	2	10.76	2.49	0	
County Total	10	9.05	4.22	2	10.76	2.49	0	

Appendix A. Reuse Inventory

Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
Highlands County								
Avon Park, City of	Y	1.50	0.70	N	0.00	0.00	N	2,c
Kissimmee River Resort	Y	0.20	0.01	N	0.00	0.00	N	2
Highlands Utilities County	Y	0.20	0.08	N	0.00	0.00	N	2
Sun N Lake of Sebring Unit 23	Y	0.47	0.45	N	0.00	0.00	N	2
Sebring, City of	Y	2.35	0.84	N	0.00	0.00	N	2,b,c
Sebring Airport Authority	Y	0.10	0.07	N	0.00	0.00	N	2
Tomoka Heights/Placid Utilities	Y	0.20	0.04	N	0.00	0.00	N	2
Highlands County Subtotals								
Within WRCA	7	5.02	2.19	0	0.00	0.00	0	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Total	7	5.02	2.19	0	0.00	0.00	0	
Hillsborough County								
Bahia Beach	Y	0.10	ND	ND	ND	ND	N	2
Country Meadows/Golden Lakes	Y	0.17	0.10	Y	0.07	0.00	Y	2,c
Hillsborough Co./Dale Mabry	Y	6.00	4.53	Y	3.52	3.20	Y	2,a,b,c
Hillsborough Co./The Eagles	Y	0.30	0.14	Y	0.30	0.14	N	2
Hillsborough Co./Falkenburg Road	Y	6.00	6.00	Y	1.92	1.73	Y	2,a,b,c
Hillsborough Co./NW Regional	Y	5.00	4.07	Y	3.15	2.87	Y	2,a,b,c
Hillsborough Co./River Oaks	Y	10.00	5.83	Y	1.40	1.30	Y	2,a,b
Hillsborough Co./South County	Y	3.95	3.18	Y	4.16	2.83	Y	2,c
Hillsborough Co./Summerfield	Y	0.75	0.05	Y	0.33	0.05	Y	2
Hillsborough Co./Valrico	Y	4.00	3.76	Y	2.65	1.46	Y	2,a,b
Hillsborough Co./Van Dyke	Y	1.70	0.74	Y	1.29	0.74	Y	2,a,b
Tampa, City of/Howard F. Curren	Y	96.00	52.81	Y	6.65	4.90	Y	2,a,b,c
MacDill AFB	Y	1.20	0.68	Y	0.90	0.56	N	2,c
Pebble Creek Village	Y	0.40	0.26	Y	0.39	0.16	Y	2
Plant City, City of	Y	8.00	4.94	Y	2.92	2.84	Y	2,a,b,c
Rice Creek Utility	Y	0.23	0.09	Y	0.23	0.09	N	2
Windemere Utility Company	Y	0.26	0.16	N	0.00	0.00	Y	2,c
Cork Elementary School	Y	0.10	0.01	N	0.00	0.00	N	2
Hillsborough County Subtotals								
Within WRCA	18	144.16	87.35	15	29.88	22.87	13	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Total	18	144.16	87.35	15	29.88	22.87	13	

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Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
Lake County	No WWTPs within SWFWMD Boundaries							
Levy County								
Williston, City of	N	0.45	0.18	N	0.00	0.00	N	2,c
Levy County Subtotals								
Within WRCA	0	0.00	0.00	0	0.00	0.00	0	
Outside WRCA	1	0.45	0.18	0	0.00	0.00	0	
County Total	1	0.45	0.18	0	0.00	0.00	0	
Manatee County								
Bradenton, City of	Y	6.00	5.47	Y	0.36	0.27	N	2,b,c
Manatee Co./North Regional	Y	5.40	3.10	Y	10.95	3.25	N	2,a,b
Manatee Co./Southeast Regional	Y	11.00	3.62	Y	7.75	3.42	N	2,a,b
Manatee Co./Southwest Regional	Y	18.00	13.48	Y	16.65	7.72	N	2,a,b
Palmetto, City of	Y	2.40	1.37	Y	1.86	1.00	N	2,a,b
Manatee County Subtotals								
Within WRCA	5	42.80	27.04	5	37.57	15.66	0	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Total	5	42.80	27.04	5	37.57	15.66	0	
Marion County								
Dunnellon, City of	N	0.25	0.12	N	0.00	0.00	N	2,c
Oak Run	N	0.80	0.39	Y	0.28	0.11	N	2,c
Ocala, City of **	N	N/A	N/A	Y	0.22	0.22	N	1,b
On Top of the World	N	0.75	0.33	N	0.00	0.00	N	2,c
Marion Oaks	N	0.20	0.18	N	0.00	0.00	N	2,c
Spruce Creek South	N	0.45	0.12	N	0.00	0.00	N	2,c
Marion County Subtotals								
Within WRCA	0	0.00	0.00	0	0.00	0.00	0	
Outside WRCA	6	2.45	1.14	2	0.50	0.33	0	
County Total	6	2.45	1.14	2	0.50	0.33	0	

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Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
Pasco County								
Seven Springs (Aloha)	Y	1.60	1.44	Y	1.35	0.80	Y	2,b,c
Dade City, City of	N	0.80	0.73	N	0.00	0.00	N	2,b,c
Forest Lakes Estates	N	0.22	0.09	N	0.00	0.00	N	2
Jasmine Lakes	Y	0.37	0.13	N	0.00	0.00	N	2
New Port Richey, City of	Y	7.50	5.19	Y	0.84	0.84	Y	2,b,c
Pasco Co. Utilities/Deer Park	Y	2.40	1.16	Y	15.24*	6.19*	Y	2,a,b,c
Pasco Co. Utilities/Embassy Hills	Y	3.50	2.46	Y	included with above	included with above	Y	2,a,b,c
Pasco Co. Utilities/Hudson	Y	3.00	2.89	Y	included with above	included with above	Y	2,a,b,c
Pasco Co. Utilities/Shady Hills	N	2.00	1.01	Y	included with above	included with above	Y	2,a,b,c
Pasco Co. Utilities/Odessa Sub.	N	0.30	0.15	Y	included with above	included with above	Y	2,a,b,c
Pasco Co. Utilities/SE Subregional	N	0.80	0.50	Y	included with above	included with above	Y	2,a,b,c
Pasco Co. Utilities/Wesley Center	Y	3.00	2.27	Y	included with above	included with above	Y	2,a,b,c
Pasco Co. Utilities/Land O' Lakes	Y	3.50	0.89	Y	included with above	included with above	Y	2,a,b,c
Palm Terrace Gardens/Florida Water Service	Y	0.13	0.12	N	0.00	0.00	N	2,c
Travelers Rest RV Park	N	0.10	0.03	Y	0.04	0.01	N	2,c
Zephyrhills, City of	N	2.25	1.54	Y	0.79	0.41	N	2,b,c
Pasco County Subtotals								
Within WRCA	9	25.00	16.55	7	15.19	6.92	7	
Outside WRCA	7	6.47	4.05	5	3.07	1.33	3	
County Totals	16	31.47	20.60	12	18.26	8.25	10	

Appendix A. Reuse Inventory

Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
Pinellas County								
Belleair, Town of	Y	0.90	0.72	Y	1.70	0.52	Y	2,b
Clearwater, City of/East	Y	5.00	2.72	N	0.00	0.00	N	2,b
Clearwater, City of/Marshall	Y	10.00	6.02	Y	5.00	1.10	Y	2,b
Clearwater, City of/Northeast	Y	13.50	5.71	Y	2.00	1.17	Y	2,a,b
Dunedin, City of/Mainland	Y	6.00	4.90	Y	3.73	3.47	Y	2,b
Largo, City of	Y	18.00	12.71	Y	18.00	6.73	N	2,a,b
Oldsmar, City of	Y	2.25	1.54	Y	3.00	0.45	N	2,b
On Top of the World	Y	0.60	0.45	Y	0.60	0.44	N	2
Pinellas County Utilities/South Cross Bayou	Y	33.00	19.49	Y	10.87	8.07	Y	2,a,b
Pinellas County Utilities/Northwest	Y	9.00	6.49	Y	16.17	6.49	Y	2,a,b
Mid County	Y	0.90	0.74	N	0.00	0.00	N	2
St. Petersburg, City of/Northeast	Y	16.00	9.44	Y	65.50*	18.31*	Y	2,b,c
St. Petersburg, City of/Northwest #3	Y	20.00	10.68	Y	included with above	included with above	Y	2,b,c
St. Petersburg, City of/Southwest #4	Y	20.00	10.11	Y	included with above	included with above	Y	2,b,c
St. Petersburg, City of/A. Whited	Y	12.40	7.07	Y	included with above	included with above	Y	2,b,c
Tarpon Springs, City of	Y	3.20	1.78	Y	0.92	1.01	Y	2,b
Pinellas County Subtotals								
Within WRCA	16	170.75	100.57	14	127.49	47.76	11	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Totals	16	170.75	100.57	14	127.49	47.76	11	

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Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
Polk County								
Auburndale, Allred	Y	1.40	1.23	Y	2.58	1.15	N	2,b,c
Auburndale, Westside Regional	Y	1.18	1.10	Y	included with above	included with above	N	2,b
Avon Park Correctional Institution	Y	0.50	0.30	N	0.00	0.00	N	2
Bartow, City of	Y	4.00	1.81	Y	4.00	1.81	Y	2,b
Carefree Country Club	Y	0.07	0.03	Y	0.07	0.03	N	2
Fort Meade, City of	Y	1.00	0.41	Y	1.00	0.41	Y	2,b
Cypress Lakes	Y	0.17	0.11	Y	0.17	0.11	N	2
Cypresswood	Y	1.44	0.80	Y	1.44	0.80	Y	2
Grenelee Resort	Y	0.68	0.10	Y	0.34	0.10	N	2,c
Haines City, City of	Y	2.97	1.13	Y	0.91	0.38	Y	2,b,c
Lake Alfred, City of	Y	0.60	0.45	Y	0.60	0.48	N	2
Lake Wales Utilities/Fed. Haven	Y	0.13	0.12	N	0.00	0.00	N	2,c
Lake Wales, City of/New Plant	Y	1.20	0.98	N	0.00	0.00	N	2,b,c
W.C. Dicks	Y	13.70	7.68	Y	27.00	10.89	Y	2
Lakeland, City of/Northside	Y	6.25	3.21	Y	included with above	included with above	Y	2,c
Mulberry, City of	Y	0.75	0.34	N	0.00	0.00	N	2
Poinciana STP #5	Y	1.20	1.00	Y	0.26	0.00	N	2,c
Polk County Utilities/NE Regional	Y	3.00	0.80	N	0.00	0.00	N	2,b,c
Polk County Utilities/Central Regional	Y	1.10	0.62	N	0.00	0.00	N	2,c
Polk County Utilities/Meadowlands Regional	Y	0.20	0.16	Y	0.20	0.16	N	2
Polk County Utilities/Mount Olive Heights	Y	0.20	0.09	N	0.00	0.00	N	2,c
Polk County Utilities/Northwest Regional	Y	1.01	0.41	Y	0.74	0.40	N	2,c
Polk County Utilities/Oak Hill Estates	Y	0.20	0.12	N	0.00	0.00	N	2,c
Polk County Utilities/Polo Park	Y	0.60	0.39	N	0.00	0.00	N	2,c
Polk County Utilities/SW Regional	Y	2.00	1.43	Y	2.00	1.07	Y	2,b,c
Polk County Utilities/Waverly	Y	0.13	0.04	N	0.00	0.00	Y	2,c
Polk County Correctional Institute	Y	0.31	0.18	N	0.00	0.00	N	2,c
Sun Ray	Y	0.27	0.16	N	0.00	0.00	N	2,c
Swiss Golf Club	Y	0.18	0.07	Y	0.18	0.07	N	2
Swiss Village	Y	0.14	0.04	N	0.00	0.00	N	2,c
Winter Haven, City of/Conine #2	Y	1.70	0.40	Y	1.45	0.33	Y	2,b,c
Winter Haven, City of/Pollard #3	Y	5.00	3.10	N	0.00	0.00	N	2,c
Polk County Subtotals								
Within WRCA	32	53.28	28.81	18	42.94	18.19	9	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Total	32	53.28	28.81	18	42.94	18.19	9	

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Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
Sarasota County								
Aquasource – Longwood Run	Y	0.22	0.07	N	0.00	0.00	N	2
Aquasource – 27 th Street	Y	0.17	0.05	Y	1.96*	1.24*	N	2,c
Aquasource – Monica Parkway	Y	0.46	0.09	Y	included with above	included with above	N	2,c
Aquasource – Fruitville	Y	1.50	1.14	Y	included with above	included with above	N	2,c
Aquasource – Tri-Par	Y	0.30	0.08	N	0.00	0.00	N	2
Camelot Lakes	Y	0.17	0.08	Y	0.09	0.08	N	2
North Port, City of	Y	1.50	1.30	Y	0.66	0.22	N	2,b
Sarasota County/Atlantic Utilities	Y	1.75	0.44	Y	7.23*	3.07*	N	2,a,b,c
Sarasota County/Bee Ridge	Y	1.50	1.50	Y	included with above	included with above	N	2,a,b,c
Sarasota County/Central County	Y	4.00	1.83	Y	included with above	included with above	N	2,a,b,c
Sarasota County/Meadowood	Y	0.98	0.53	Y	included with above	included with above	N	2,a,b,c
Sarasota County/Venice Gardens	Y	2.00	1.84	Y	2.80	1.31	N	2,b,c
Sarasota, City of	Y	10.20	6.42	Y	3.43	2.28	N	2,b,c
Siesta Key Utility Authority	Y	2.70	1.43	N	0.00	0.00	N	2
Florida City Water/Gulfgate	Y	1.80	1.47	N	0.00	0.00	N	2
Florida City Water/Southgate	Y	1.36	1.13	Y	0.24	0.23	N	2
Venice, City of/Eastside	Y	2.10	1.98	Y	2.65*	2.51*	N	2,b
Venice, City of/Island Beach	Y	0.55	0.54	Y	included with above	included with above	N	2,b
Sarasota County Totals								
Within WRCA	18	33.26	21.92	14	19.06	10.94	0	
Outside WRCA	0	0.00	0.00	0	0.00	0.00	0	
County Total	18	33.26	21.92	14	19.06	10.94	0	

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Domestic Wastewater Facility Name	WWTP in WRCA (Y/N)	Total Plant		Has Reuse (Y/N)	Reuse		Reuse Required	Comments
		Capacity (mgd)	Flow (mgd)		Capacity (mgd)	Flow (mgd)		
Sumter County								
Continental Country Club	N	0.20	0.12	N	0.00	0.00	N	2,c
Sumter Correctional Institute	N	0.35	0.19	Y	0.20	0.17	N	2,b,c
Wildwood, City of	N	1.75	1.42	Y	1.00	0.75	N	2,b,c
Sumter County Subtotals								
Within WRCA	0	0.00	0.00	0	0.00	0.00	0	
Outside WRCA	3	2.30	1.73	2	1.20	0.92	0	
County Total	3	2.30	1.73	2	1.20	0.92		
2002 District Totals								
Within WRCA	122	491.09	296.16	82	278.04	125.65	40	
Outside WRCA	35	26.05	14.26	12	14.74	4.66	3	
District Totals	157	517.14	310.42	94	292.78	130.31	43	
2001 District Totals								
	159	510.94	311.74	94	286.30	126.67	43	
Percent Change								
	-2.5%	+1.2%	-0.4%	0%	+2.2%	+2.8%	0%	

* Indicates that the reclaimed water system is regionalized and receives water from the plants listed directly below with an "included with above" designation.

** The City of Ocala's reuse system is partially in and funded by the SWFWMD. The treatment plant itself is within the SJRWMD.

KEY

ND = No data available

N/A = Not applicable

Y = Yes

N = No

"included with above" = Indicates that the reclaimed water flow goes to the regionalized system designated with an asterisk and listed above.

COMMENTS

1 = Southwest Florida Water Management District, 2004 Telephone Survey.

2 = Florida Department of Environmental Protection (FDEP), 2002 Reuse Inventory Report.

a = Reuse system designed/constructed under the District New Water Sources Initiative (NWSI) or Water Supply and Resource Development (WSRD) Program.

b = Reuse system being designed/constructed under the District Cooperative Funding Initiative Program.

c = The District does not consider Rapid Infiltration Basins (RIBs), some "At Treatment Plant" uses, sprayfields, or some OTHER uses as beneficial reuse.