

SUWANNEE RIVER WATER MANAGEMENT DISTRICT

2015 ANNUAL WASTEWATER TREATMENT FACILITIES REPORT



Introduction

The State of Florida has formal state objectives listed in Sections 403.064 and 373.250, Florida Statutes (F.S.) to conserve water and promote the reuse of reclaimed water. The Florida Department of Environmental Protection (FDEP) monitors the reuse inventory throughout the state and provides annual updates. The purpose of this inventory is to encourage and promote the use of reclaimed water while also providing access to information on programs that have already been implemented by municipalities and utilities (Reuse Inventory Database and Annual Report).

To align with one of the Suwannee River Water Management District's (District) Core Focus of Water Supply, the Water Supply Planning Team previously published a 2015 Annual Groundwater Use Report which provided an in-depth analysis of groundwater use throughout the District (Annual Groundwater Use Report). This report is an addition to the Annual Groundwater Use Report and focuses on the reuse component of water in the District.

Data Sources

Annual Reuse data was obtained from the FDEP's Reuse Inventory Database. This database includes all active domestic wastewater treatment facilities that have a permitted capacity of 0.1 million gallons per day (mgd) or more. It also includes facilities that do not engage in reuse activities as well.

Results

Reuse Facilities

There are 28 total domestic wastewater treatment facilities in the District. Of these, 27 make reclaimed water available for reuse (table 1). The total permitted capacity of all facilities in the District is approximately 18.39 mgd, with 9.91 mgd of reuse water being utilized. This accounts for just under 54% of the total permitted capacity. Figure 1 shows a breakdown of 2015 reuse flows by county. The county with the largest reuse flow is Columbia County with about 2.5 mgd, followed by Bradford County with 1.6 mgd, and Suwannee County with 1.2 mgd.

Reuse Utilization Types

There is a variety of ways that reuse water is implemented throughout the District. These include agricultural irrigation, industrial, toilet flushing, groundwater recharge and indirect potable use, landscape irrigation, and more. Many facilities used a mixture of two or more methods for reuse. Table 2 below has a breakdown of the utilization of reuse by facility, reuse type, and subtype.

Disposal Facilities

City of Jasper WWTF is the only facility in the District that does not provide reuse of any kind. In 2015, 0.66 mgd was disposed of from the Jasper WWTF. There are three facilities that may use surface water as one method of disposal. These facilities are City of Starke, City of Cedar Key, and City of Perry. In 2015, City of Starke was the only facility to dispose to surface water.

Some reuse systems, such as Columbia Correctional Institution, Cross City, and Jefferson Correctional Institution use other sources of water to supplement the reclaimed water supply, if there is not enough water available (table 1). Other sources may include surface water, groundwater, stormwater, or drinking water. This explains why some reuse flows are larger than the total flow of the system. Additional information for supplemental water supplies can be found in Appendix C of FDEP's Annual Reuse Report (Water Reuse Program).

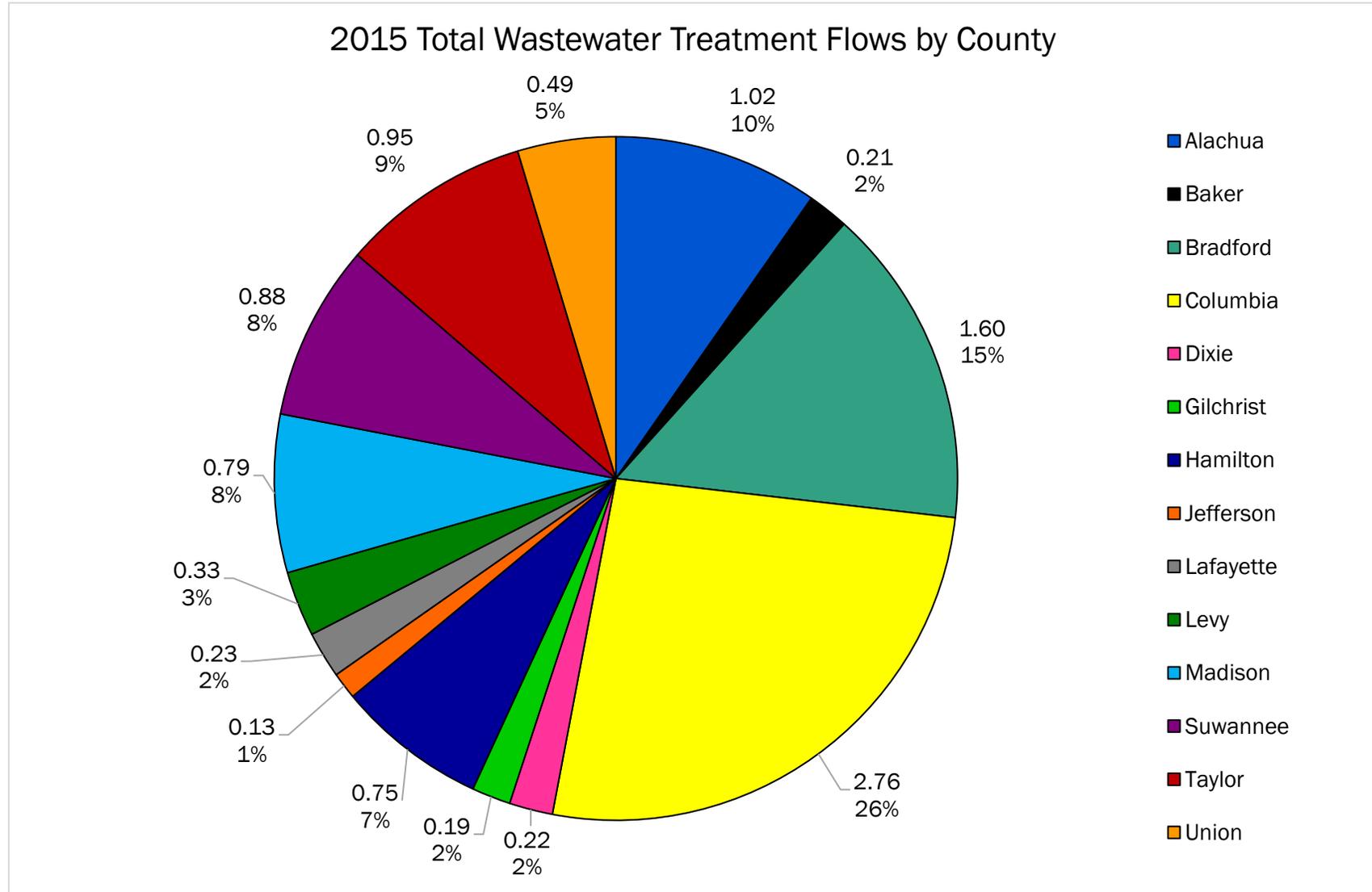
2015 Wastewater Treatment Flows by Facility

Table 1: 2015 Wastewater Treatment Flows by Facility

County	Planning Region	City	Facility Name	2015 Total Flow (mgd)	2015 Reuse Flow (mgd)	Capacity (mgd)
Alachua	Eastern	Alachua	Alachua	0.61	0.61	1.50
Alachua	Eastern	High Springs	High Springs	0.15	0.15	0.24
Alachua	Eastern	Newberry	Newberry WWTF	0.22	0.22	0.50
Baker	Eastern	Sanderson	Baker Correctional Institution	0.23	0.23	0.32
Bradford	Eastern	Raiford	Florida State Prison WWTF	0.92	0.92	1.78
Bradford	Eastern	Starke	City of Starke	0.68	0.21	0.98
Columbia	Eastern	Lake City	Columbia Correctional Institution	0.33	0.43	0.53
Columbia	Eastern	Lake City	Lake City WWTF	2.18	2.18	2.95
Dixie	Western	Cross City	Cross City WWTF	0.22	0.38	0.40
Gilchrist	Eastern	Trenton	Lancaster Correctional Institution WWTF	0.10	0.10	0.25
Gilchrist	Eastern	Trenton	Trenton	0.11	0.11	0.20
Hamilton	Eastern	Jasper	City of Jasper WWTF	0.66	0.00	1.20
Hamilton	Eastern	Jennings	Town of Jennings WWTF	0.12	0.12	0.18
Hamilton	Eastern	Jasper	SR-6/I-75 WWTF	0.02	0.02	0.05
Hamilton	Eastern	White Springs	Town of White Springs WWTF	0.08	0.08	0.15
Jefferson	Western	Monticello	Jefferson Correctional Institution	0.15	0.18	0.25
Lafayette	Western	Mayo	Mayo WWTP	0.09	0.09	0.15
Lafayette	Western	Mayo	Mayo Correctional Institution	0.14	0.14	0.50
Levy	Western	Cedar Key	Cedar Key WRF	0.09	0.09	0.18
Levy	Western	Chiefland	Chiefland WWTF	0.25	0.25	0.48
Madison	Western	Greenville	Town of Greenville	0.06	0.06	0.15
Madison	Western	Madison	Madison WWTF	0.65	0.65	0.99
Suwannee	Eastern	Dowling Park	Advent Christian Village	0.06	0.06	0.21
Suwannee	Eastern	Branford	Branford	0.06	0.06	0.10
Suwannee	Eastern	Live Oak	City of Live Oak WWTF	1.09	1.09	1.82
Taylor	Western	Perry	City of Perry	0.82	0.82	1.25
Taylor	Western	Perry	Taylor Correctional Institution	0.18	0.18	0.40
Union	Eastern	Lake Butler	Lake Butler WWTF	0.47	0.47	0.70
TOTAL	NA	NA	NA	10.74	9.91	18.39

Wastewater Treatment Flows by County

Figure 1: Wastewater Treatment Flows by County



2015 Utilization of Reuse by Facility and Type

Table 2: 2015 Utilization of Reuse by Facility and Type

County	Planning Region	City	Reuse System Name	Reuse Type	Reuse Subtype	Capacity (mgd)	Flow (mgd)	Area (acres)
Alachua	Eastern	Alachua	Alachua	PAA&LI	GCI	0.40	0.00	197
Alachua	Eastern	Alachua	Alachua	IND	AOF	1.40	0.46	NA
Alachua	Eastern	Alachua	Alachua	AI	OC	1.23	0.15	105
Alachua	Eastern	High Springs	High Springs	AI	OC	0.24	0.15	33
Alachua	Eastern	Newberry	Newberry WWTF	AI	OC	0.56	0.22	59.8
Baker	Eastern	Sanderson	Baker Correctional Institution	AI	OC	0.05	0.04	22.2
Baker	Eastern	Sanderson	Baker Correctional Institution	GWR&IPR	RIB	0.19	0.16	4.7
Baker	Eastern	Sanderson	Baker Correctional Institution	TF	NA	0.13	0.03	NA
Bradford	Eastern	Raiford	Florida State Prison WWTF	AI	OC	1.78	0.92	766
Bradford	Eastern	Starke	City of Starke	IND	ATP	0.12	0.03	NA
Bradford	Eastern	Starke	City of Starke	AI	OC	0.80	0.18	225
Columbia	Eastern	Lake City	Columbia Correctional Institution	TF	NA	0.25	0.20	NA
Columbia	Eastern	Lake City	Columbia Correctional Institution	AI	OC	0.28	0.23	36
Columbia	Eastern	Lake City	Lake City WWTF	AI	OC	2.95	2.18	350
Dixie	Western	Cross City	Town of Cross City	AI	OC	0.40	0.38	76.9
Gilchrist	Eastern	Trenton	Lancaster Correctional Institution	AI	OC	0.25	0.10	33.8
Gilchrist	Eastern	Trenton	Trenton WWTF	AI	OC	0.20	0.11	40
Hamilton	Eastern	Jennings	Jennings	AI	OC	0.18	0.12	44
Hamilton	Eastern	Jasper	SR-6/I-75 WWTF	AI	OC	0.13	0.02	19.2
Hamilton	Eastern	White Springs	Town of White Springs	IND	AOF	0.15	0.08	NA
Jefferson	Western	Monticello	Jefferson Correctional Institution	AI	OC	0.12	0.15	17.5
Jefferson	Western	Monticello	Jefferson Correctional Institution	TF	NA	0.19	0.03	NA

County	Planning Region	City	Reuse System Name	Reuse Type	Reuse Subtype	Capacity (mgd)	Flow (mgd)	Area (acres)
Lafayette	Western	Mayo	Mayo Correctional Institution	GWR&IPR	RIB	0.50	0.14	NA
Lafayette	Western	Mayo	Mayo Correctional Institution	TF	NA	0.01	0.01	NA
Lafayette	Western	Mayo	Town of Mayo	AI	OC	0.15	0.09	33
Levy	Western	Cedar Key	Cedar Key	PAA&LI	OPAA	0.03	0.00	6.4
Levy	Western	Cedar Key	Cedar Key	GWR&IPR	AF	0.17	0.09	1
Levy	Western	Chiefland	Chiefland	GWR&IPR	RIB	0.48	0.25	11
Madison	Western	Greenville	Town of Greenville	AI	OC	0.15	0.06	29.4
Madison	Western	Madison	City of Madison	AI	OC	0.99	0.65	275
Suwannee	Eastern	Dowling Park	Advent Christian Village	GWR&IPR	RIB	0.17	0.06	2.1
Suwannee	Eastern	Branford	Branford	AI	OC	0.10	0.06	6.5
Suwannee	Eastern	Live Oak	City of Live Oak	AI	OC	1.37	0.72	177
Suwannee	Eastern	Live Oak	City of Live Oak	PAA&LI	OPAA	0.29	0.21	40
Suwannee	Eastern	Live Oak	City of Live Oak	GWR&IPR	RIB	0.45	0.16	3.1
Taylor	Western	Perry	City of Perry	IND	AOF	0.80	0.42	NA
Taylor	Western	Perry	City of Perry	AI	OC	1.25	0.40	185
Taylor	Western	Perry	Taylor Correctional Institution	GWR&IPR	RIB	0.40	0.18	11.4
Union	Eastern	Lake Butler	Lake Butler	AI	OC	0.70	0.47	240

Reuse Type Abbreviations

AI – Agricultural Irrigation
 GWR&IPR - Ground Water Recharge & Indirect Potable Reuse
 IND – Industrial
 PAA&LI - Public Access Areas & Landscape Irrigation
 TF – Toilet Flushing

Reuse Subtype Abbreviations

AOF – At Other Facilities
 ATP - At Treatment Plant
 GCI - Golf Course Irrigation
 OC – Other Crops (sprayfields)
 OPAA - Other Public Access Areas
 RIB – Rapid Infiltration Basin

For more information on reuse, please visit FDEP’s Water Reuse Program website
<https://floridadep.gov/water/domestic-wastewater/content/water-reuse-program>

References

- “Annual Groundwater Use Report.” Suwannee River Water Management District, 2015, <http://mysuwanneeriver.com/DocumentCenter/View/17226/2015-Annual-Groundwater-Use-Report>
- “Reuse Inventory Database and Annual Report.” Florida Department of Environmental Protection, 18 Sept. 2019, <https://floridadep.gov/water/domestic-wastewater/content/reuse-inventory-database-and-annual-report>.
- “Water Reuse Program.” Florida Department of Environmental Protection, 14 Aug. 2019, <https://floridadep.gov/water/domestic-wastewater/content/water-reuse-program>.