

# **2019 Estimated Water Use**

*in the*

**Northwest Florida Water Management District**

# **SUMMARY REPORT**



**January 2021**

**TRS-21-2**

# Background and Methods

Pursuant to Florida Statutes,<sup>1</sup> quantifying existing legal uses of water or estimating water use is foundational data for Northwest Florida Water Management District (NFWFMD or District) water supply assessments, regional water supply plans, groundwater models and MFL technical assessments, and for consumptive use permitting. Existing water use is the baseline data to develop water demand projections and future reasonable-beneficial water use needs.

As noted in rule (62-40.540(6), F.A.C.), *“The Districts shall implement a strategy for measuring, estimating, and reporting withdrawal and use of water by permitted and exempted users. ... The Districts are encouraged to summarize and analyze water use in the District at least annually.”* Also by rule (62-40.531, F.A.C.), water use estimates and projections are to be provided for the following use classes:

1. Public Supply,
2. Domestic Self-Supply (DSS),
3. Agriculture,
4. Recreational Irrigation,
5. Industrial-Commercial-Institutional (ICI), and
6. Thermoelectric (Power Generation).

Estimates are based on best available data, and primarily rely on audited reports from permittees with Individual Water Use Permits (IWUPs) that have an average daily rate equal to or greater than 0.1 million gallons per day (mgd) of water use or permitted allocation, or that have permit conditions requiring annual water use reporting, for example, due to being within a Water Resource Caution Area or Area of Resource Concern. With numerous small towns and rural areas in NFWFMD, in an average year about 30 percent of IWUPs are less than 0.1 mgd. Estimates include water withdrawals from six different groundwater aquifer systems and from surface water sources.

<sup>1</sup> Sections 373.036 and 373.709, Florida Statutes (F.S.).

Public supply data include estimates of water production, transfers, and demand; and estimates of populations served and per capita water use rates. Domestic self-supply (DSS) is estimated with population and a per capita rate. Agriculture water use is reported but the total estimate is based on the Florida Department of Agriculture and Consumer Services (FDACS) Florida Statewide Agricultural Irrigation Demand (FSAID) estimates. Recreational irrigation estimates are a combination of reported pumpage and additional estimating methods. Industrial-commercial-institutional (ICI) and power generation water use are estimated from reported pumpage and adjusted for recirculation. Power and ICI water that is withdrawn for cooling purposes and returned to the source is not, for planning or estimating purposes, considered consumptive use.

Public supply reported pumpage and other supporting data include, by default, seasonal water use. Seasonal residents, which include migrant workers, are estimated to affect public supply and DSS water use in all sixteen counties. Therefore, population estimates for public supply, DSS, and by county include seasonal resident adjustments.

This report summarizes the District’s reported and estimated water use in calendar year 2019. An overview of District land use and water supply planning regions is illustrated in Figure 1, below.

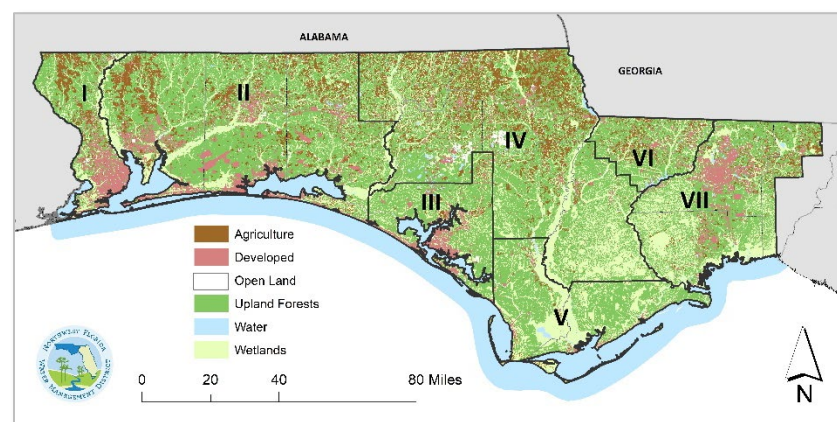


Figure 1. NFWFMD Land Use and Planning Regions (I - VII)

# 2019 Water Use Summary

As illustrated in Figure 1, the District's sixteen counties are organized into seven water supply planning regions:

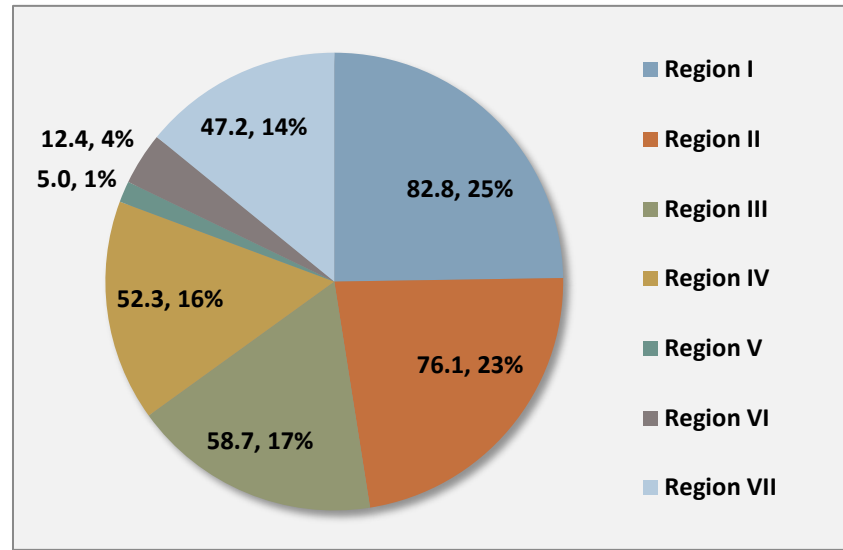
- I. Escambia County
- II. Santa Rosa, Okaloosa, and Walton counties
- III. Bay County
- IV. Washington, Holmes, Jackson, Calhoun, and Liberty counties
- V. Gulf and Franklin counties
- VI. Gadsden County
- VII. Leon, Wakulla, and (NWF portion of) Jefferson counties

District water use in 2019 totaled about 334 mgd and is summarized by region and by water use category in Table 1 and Figure 2.

Escambia County (Region I) accounted for one-fourth of all District estimated water use in 2019, about 83 mgd. Rapidly growing Region II was the second largest user with 76 mgd or 23 percent. Bay County was third largest in water use, followed by regions IV and VII.

Public supply has consistently been the largest water use category Districtwide since 1995 (see Appendix, page A.20). Public supply water use is concentrated in urbanized regions I, II, III, and VII (Table 1 and Figure 3). Region IV, predominately rural and agricultural, had

36 percent of all DSS and 72 percent of all agricultural water use. Region II had 58 percent of all recreational water use. Escambia County had half of all industrial-commercial-institutional (ICI) self-supplied water use and 40 percent of power generation water use.



**Figure 2. Estimated Water Use 2019 by Planning Region (mgd)**

In 2019, public supply was half of all Districtwide water use (168 mgd), followed by ICI at 62 mgd, and then agriculture (49 mgd). Recreation, DSS and power generation range from four to six percent of total water use (Figure 4).

**Table 1. NWFMD 2019 Estimated Water Use by Category and by Region (mgd)**

Planning Region	Public Supply	Domestic Self-Supply	Agriculture	Recreation	ICI	Power Generation	TOTAL WATER USE (mgd)
Region I	39.06	1.53	2.55	2.33	31.55	5.75	82.77
Region II	52.70	2.96	2.61	12.61	5.19	-	76.07
Region III	28.24	1.41	0.90	2.26	21.93	3.94	58.68
Region IV	5.80	6.94	34.95	0.91	1.81	1.85	52.27
Region V	3.95	0.28	0.31	0.31	0.14	-	4.99
Region VI	4.22	1.50	5.98	0.16	0.56	-	12.41
Region VII	33.59	4.67	1.58	3.33	1.23	2.82	47.21
<b>TOTALS</b>	<b>167.57</b>	<b>19.29</b>	<b>48.88</b>	<b>21.90</b>	<b>62.41</b>	<b>14.36</b>	<b>334.40</b>

More detailed water use data is in the Appendix. Contents of the Appendix are available [here](#). Click [here](#) for 2019 water use by source.

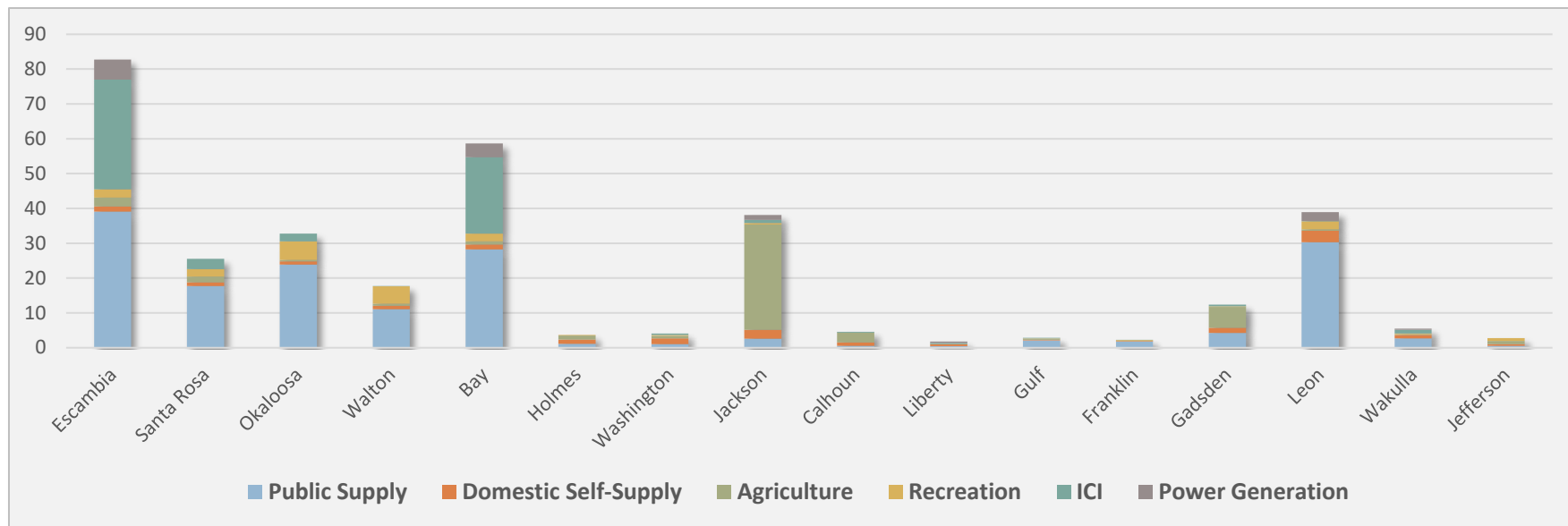


Figure 3. Total Water Use by County and by Water Use Category (mgd)

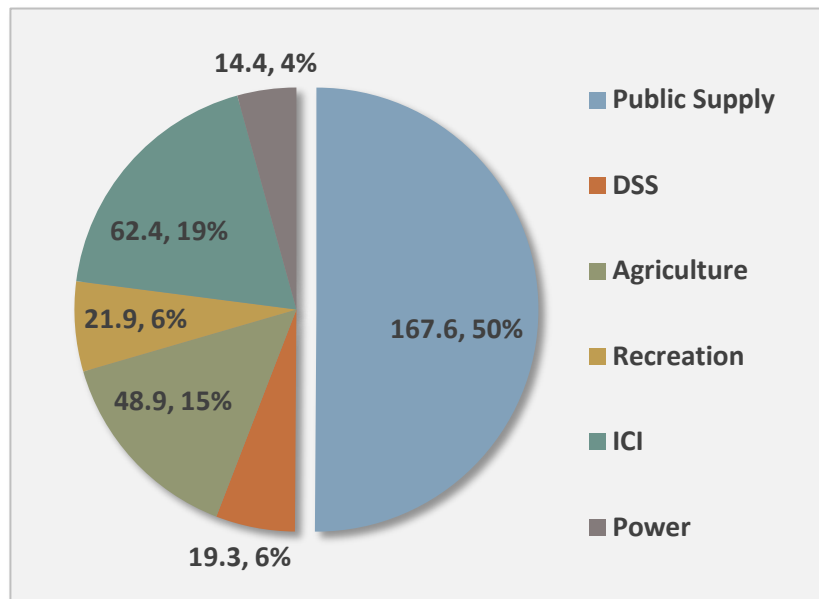


Figure 4. NFWWMD Total Water Use 2019 by Category (mgd)

## Population Estimates

The University of Florida, Bureau of Business and Economic Research (BEBR), estimated 2019 District population to be 1,465,835 (Table 2).

Table 2. NFWWMD 2019 Population Estimates

REGION	BEBR Permanent Populations	Seasonal Adjustments	TOTAL <sup>(b)</sup> Population Estimates	% Public Supply	% DSS
Region I	321,134	10,276	331,410	95%	5%
Region II	450,639	56,052	506,691	93%	7%
Region III	167,283	13,450	180,733	91%	9%
Region IV	115,244	3,583	118,827	34%	66%
Region V	25,355	7,665	33,020	90%	10%
Region VI	46,277	1,111	47,388	64%	36%
Region VII <sup>(a)</sup>	339,903	3,496	343,399	85%	15%
<b>TOTALS</b>	<b>1,465,835</b>	<b>95,632</b>	<b>1,561,467</b>	<b>86%</b>	<b>14%</b>

<sup>(a)</sup> Estimated NFWWMD share of Jefferson County only.

<sup>(b)</sup> Total population estimates, including seasonal adjustments.

The effects of seasonality were estimated to add an equivalent of 95,632 residents for a total adjusted 2019 population estimate of 1,561,467. About 86 percent of District residents are estimated to be served by public supply utilities.

The 2019 BEBR Districtwide population estimate is -5,332 and only a fraction of a percent less than 2018, however, the data at a county level illustrates the lingering impacts of Hurricane Michael (Table 3). Collectively, the first seven counties listed in Table 3 lost 23,603 residents while the remaining nine continued to grow and gained in population by 18,271.

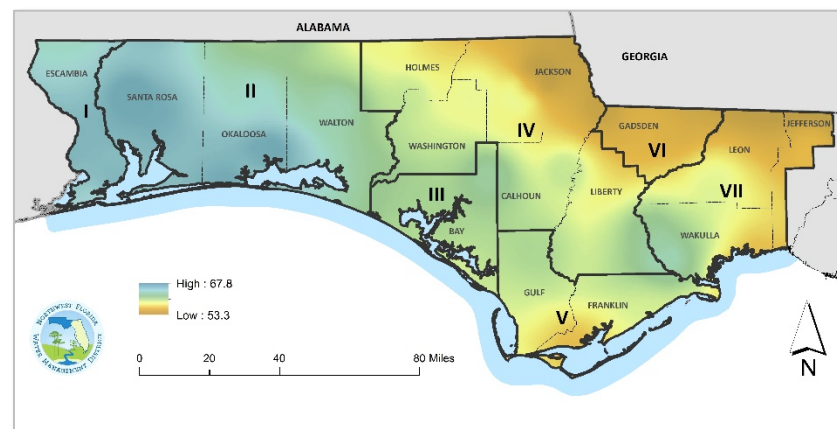
**Table 3. BEBR Population Estimates 2018-2019**

	BEBR Population Estimates		2018-2019 Change	
	2018	2019	Population	Percent
Gulf	16,499	13,082	(3,417)	-20.7%
Bay	181,199	167,283	(13,916)	-7.7%
Jackson	50,435	46,969	(3,466)	-6.9%
Calhoun	15,093	14,067	(1,026)	-6.8%
Gadsden	47,828	46,277	(1,551)	-3.2%
Liberty	8,915	8,772	(143)	-1.6%
Holmes	20,133	20,049	(84)	-0.4%
Jefferson <sup>(NWF Only)</sup>	10,397	10,428	31	0.3%
Escambia	318,560	321,134	2,574	0.8%
Washington	25,129	25,387	258	1.0%
Leon	292,332	296,499	4,167	1.4%
Okaloosa	198,152	201,514	3,362	1.7%
Franklin	12,009	12,273	264	2.2%
Santa Rosa	174,887	179,054	4,167	2.4%
Wakulla	31,943	32,976	1,033	3.2%
Walton	67,656	70,071	2,415	3.6%
<b>TOTALS</b>	<b>1,471,167</b>	<b>1,465,835</b>	<b>(5,332)</b>	<b>-0.36%</b>

Population declines in counties known to have seasonal residents (Bay, Gulf) presented unique challenges to estimating 2019 public supply utility populations.

## Rainfall and Drought

Precipitation varies regionally with more rain naturally occurring in the western panhandle and lower rainfall levels typical in north-eastern parts of the District (Figure 5). The 2019 annual average rainfall Districtwide at about 50 inches was below the normal annual average of 60.71 inches (Figure 8).



**Figure 5. Normal Average Annual Precipitation (1981-2010) In/Yr<sup>2</sup>**

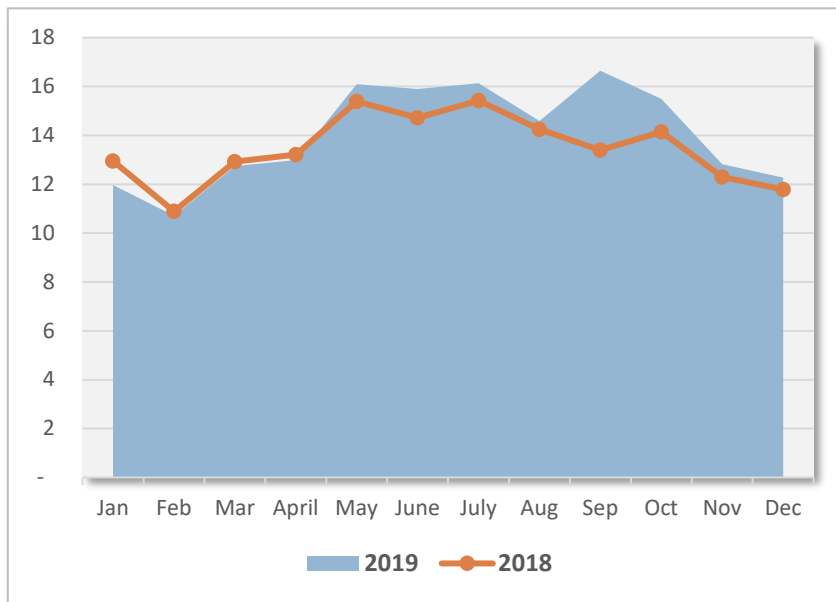
Agriculture and recreation are the two water use categories most affected by rainfall and drought. More precipitation information is in the Agriculture and Recreational Irrigation section.

Water use in Public Supply and Domestic Self-Supply typically increases by an estimated seven percent in dry years. Power Generation and ICI drought year demands are not anticipated to differ from water demands during an average rainfall year.

<sup>2</sup> Source: PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>. Data created July 10, 2012.

# Public Supply and Domestic Self-Supply

Public supply water use in 2019 was estimated to be 167.6 mgd, half of all water use Districtwide. With seasonal adjustments, estimated public supply populations served totaled 1.34 million in 2019. About 59 percent of all public supply water use was in the District's three most urbanized counties: Escambia, Bay, and Leon; and nearly 92 percent was in regions I, II, III and VII.



**Figure 6. Monthly Average Public Supply Water Use (mgd)**

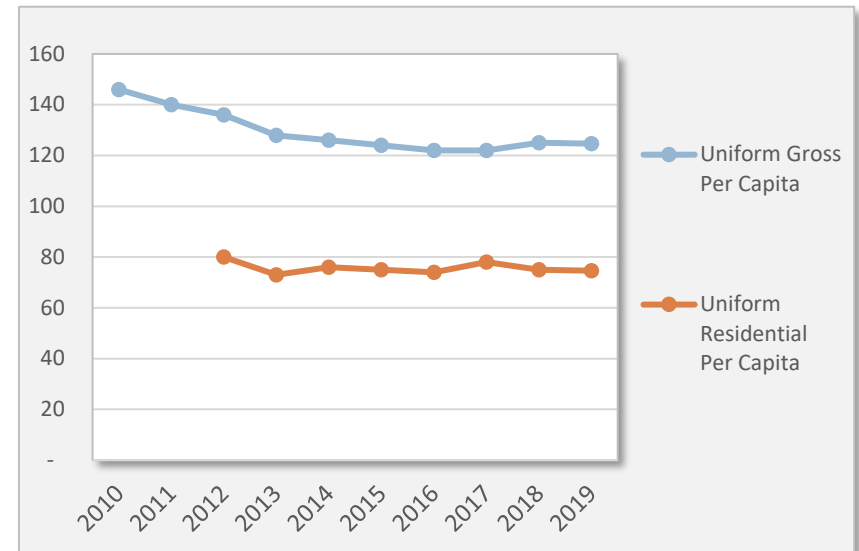
Districtwide monthly average public supply water use during 2018 and 2019 is illustrated in Figure 6. Lowest water use generally occurs during winter months. Higher water consumption from May through October is likely due to landscape irrigation needs or the impacts from seasonal residents in some communities, or both.

The estimated 2019 DSS population was 217,517. With a domestic per capita water use rate of 88.67 gpcd<sup>3</sup> (USGS, 2014), the estimated domestic self-supply (DSS) water use was about 19.3 mgd.

Together, public supply and DSS comprised approximately 56 percent of all water use Districtwide in 2019.

## Per Capita Water Use Rates

The 2019 Districtwide public supply per capita water use rates were 125 gpcd gross and 75 gpcd residential. Gross per capita rates have been in a general downward trend and residential rates relatively constant (Figure 7). See Appendix, page A.19, for more information.



**Figure 7. Trends in Per Capita Water Use Rates 2010-2019 (gpcd)**

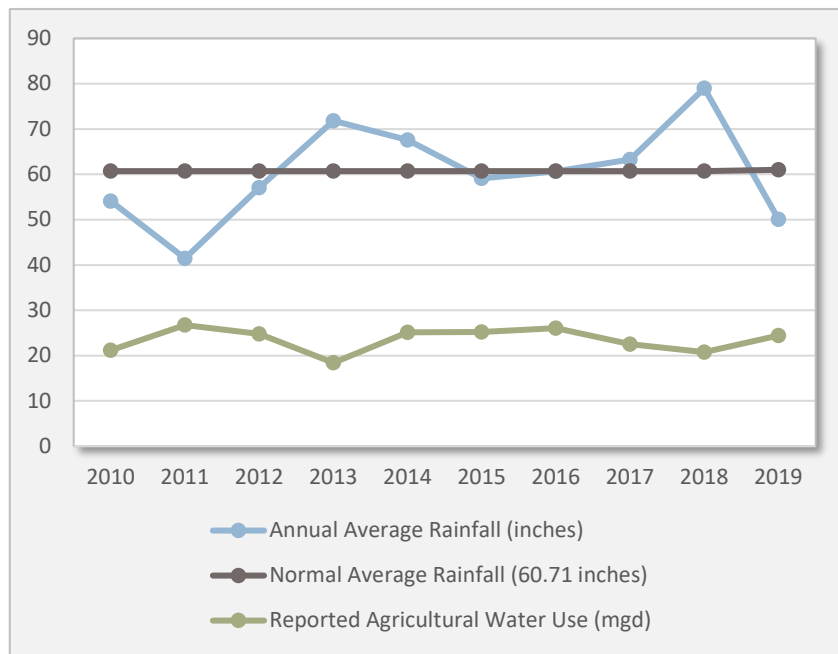
Five-year average per capita rates over the period 2015-2019 are:

- Average Uniform Gross Per Capita: 123.54 gpcd
- Average Uniform Residential Per Capita: 75.31 gpcd

<sup>3</sup> Gallons per capita per day (gpcd).

# Agriculture and Recreational Irrigation

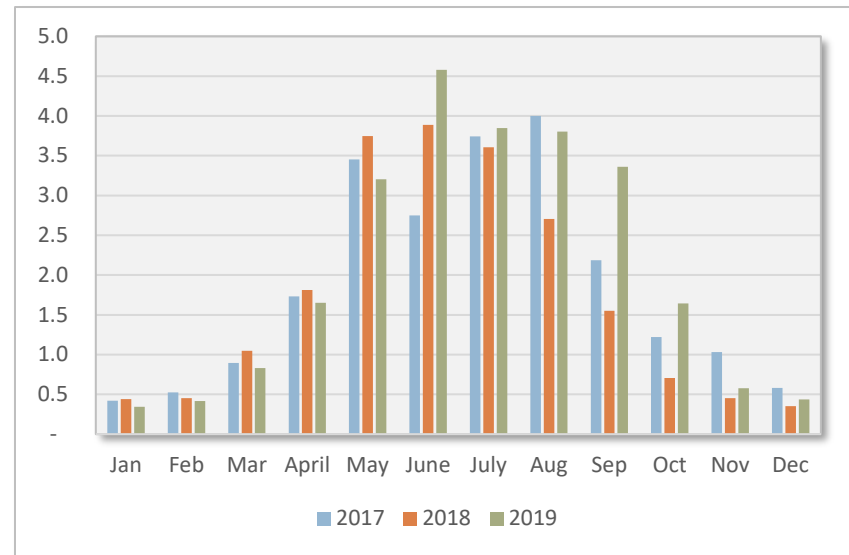
The Districtwide annual average rainfall in 2019 was below average (Figure 8). From 2010 to 2019, the data appears to indicate that reported agriculture water use generally has an inverse relationship to annual average precipitation.



**Figure 8. Rainfall and Agricultural Reported Water Use 2010-2019**

The reported agricultural water use in 2019 was 24.4 mgd, about 50 percent of the most recent FSAID total agricultural estimate of 48.9 mgd (2018 data). Ninety-four percent of reported agricultural water withdrawals are from groundwater. Ninety percent of the reported surface water withdrawals were in Gadsden County, where surface water was 46 percent of reported agricultural water use.

Monthly average reported agriculture water use during calendar years 2017, 2018, and 2019 is illustrated in Figure 9.



**Figure 9. Reported Agriculture Water Use by Month (mgd)**

Recreational water uses include golf course and landscape irrigation, and water-based recreation. About 70 percent of small-scale irrigation GWUP wells in NFWMD are estimated to be in Region II. Also, Region II had 61 percent of the reported and 58 percent of the total estimated recreational water use Districtwide.

The total estimated recreational water use in 2019 was 21.9 mgd. Reported recreational water use was 13.5 mgd or about 62 percent of the total. The sources of reported recreational water use are about 52-48 ground to surface water. Other sources of water may include reuse of reclaimed water or co-mingling of surface, ground, and reuse waters, which were not analyzed at the time of this report.

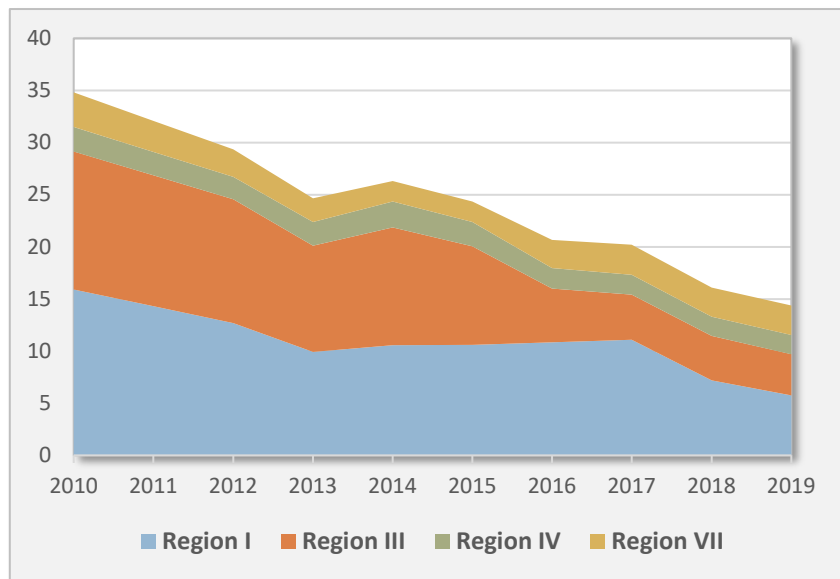
Collectively, agriculture and recreational irrigation were estimated to comprise about 21 percent of all water use Districtwide in 2019.



## Power Generation and ICI

Thermoelectric power generation and ICI self-supplied water use estimates in 2019, adjusted for recirculation, were about 14.4 mgd and 62.4 mgd respectively. Power generation and ICI together were about 23 percent of all 2019 water use Districtwide.

Eighty-six percent of ICI self-supply water use was in Escambia and Bay counties, 8.3 percent in Region II, and less than 10 percent in the remaining District counties. Additional ICI water users are served by public supply utilities. Of the total ICI self-supplied water use, 65 percent was groundwater and 35 percent surface waters.



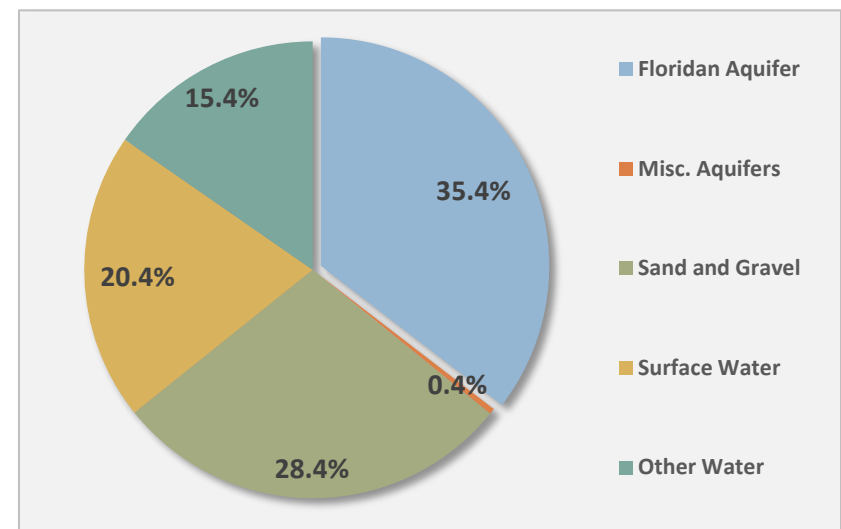
**Figure 10. Trends in Power Water Use 2010-2019 (mgd)**

Figure 10 illustrates total power water use from 2010 to 2019 in regions that have thermoelectric power generation facilities. Factors contributing to declining water use trends may include conservation, system efficiencies, and fuel conversions.

## Water Withdrawals by Water Source

Primary groundwater resources are the Floridan aquifer across much of northwest Florida and the sand-and-gravel aquifer in western parts of the District. A major surface water resource is Deer Point Lake Reservoir in Bay County.

About 64 percent of water withdrawals in 2019 were from groundwater aquifers, 20 percent from surface waters, and 15 percent “Other Water” – which are unknown or uncertain sources of water attributed to DSS and to additional agriculture and recreational water use estimates (Figure 11). Withdrawals from the Floridan aquifer accounted for an estimated 35 percent of all 2019 water use and over half of all groundwater withdrawals. Less than one percent of groundwater pumped was from miscellaneous aquifers known as the intermediate, Claiborne, and surficial aquifer systems.



**Figure 11. NFWFMD 2019 Water Use by Water Source**



# Data Quality and Uncertainty Analysis

In 2019, about 84 percent (282 mgd) of all estimated water use was from reported and audited compliance data submitted by permittees that have an Individual Water Use Permit (IWUP). The remaining water use estimates are generated or affected by the following:

- Domestic Self-Supply (DSS) – 100% estimated from population that is not served by public supply and a domestic per capita water use rate provided by USGS.
- Agriculture – Half of the total FDACS/FSAID<sup>4</sup> estimate is NFWFMD reported and audited pumping reports.
- Recreation – About 62 percent of the recreational estimate was from audited pumping reports. The total includes water use estimated from small-scale irrigation wells.
- Power – Some power generating facilities with DEP Site Certifications do not have an IWUP or have limited IWUP compliance reporting conditions. About 2.8 mgd of power estimates reflect this uncertainty.

Also, changes in regulatory criteria, type and frequency of compliance reports submitted by permittees, and changes in the number of permittees with reporting requirements can all affect the availability and quality of water use and population data.

The District continues refining data and methods to enhance population estimates for public supply and DSS, including how to account for ICI institutional residents and limited public supply populations in overall population analyses.

<sup>4</sup> The FDACS/FSAID agriculture estimates are typically completed by June following water management district annual estimates, in this case, FSAID VII released in June 2020 was prepared with 2018 water use data. The water demand estimates are modeled based on average hypothetical rainfall.

Inmate populations are included in BEBR estimates. In 2019, BEBR estimated that NFWFMD had close to seven percent of the total state population and 29 percent of Florida's inmate population. Share of inmate populations by county are in Table 4.

Correctional facility IWUPs often provide water for multiple use categories (e.g., agriculture, heating and cooling, landscape irrigation) and may still be separately dependent on a public supply utility for potable water supplies.

**Table 4. BEBR 2019 Total and Inmate Population Estimates**

COUNTY	Total BEBR Estimate	Inmates Estimate	Net Total (less inmates)	Inmates as a % of Total BEBR	Inmates % of Net Total
LIBERTY	8,772	1,744	7,028	19.9%	24.8%
FRANKLIN	12,273	1,662	10,611	13.5%	15.7%
JACKSON	46,969	5,878	41,091	12.5%	14.3%
CALHOUN	14,067	1,417	12,650	10.1%	11.2%
WASHINGTON	25,387	2,389	22,998	9.4%	10.4%
WAKULLA	32,976	3,096	29,880	9.4%	10.4%
HOLMES	20,049	1,428	18,621	7.1%	7.7%
GADSDEN	46,277	3,042	43,235	6.6%	7.0%
SANTA ROSA	179,054	4,952	174,102	2.8%	2.8%
WALTON	70,071	1,525	68,546	2.2%	2.2%
GULF	13,082	249	12,833	1.9%	1.9%
ESCAMBIA	321,134	2,493	318,641	0.8%	0.8%
OKALOOSA	201,514	1,343	200,171	0.7%	0.7%
BAY	167,283	1,092	166,191	0.7%	0.7%
LEON	296,499	1,078	295,421	0.4%	0.4%
JEFFERSON (NWF)	10,428	0	10,428	0.0%	0.0%
<b>TOTALS</b>	<b>1,465,835</b>	<b>33,388</b>	<b>1,432,447</b>	<b>2.3%</b>	<b>2.3%</b>

Another factor in data uncertainty is relaxation of compliance requirements due to executive orders issued in response to weather and other emergencies, e.g., Hurricane Michael in 2018 and the COVID-19 pandemic in 2020. Where appropriate, 2017 or 2018 data was carried over and used as a proxy for 2019 estimates.

## Acronyms

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BEBR	Bureau of Business and Economic Research
DSS	Domestic Self-Supply
F.A.C.	Florida Administrative Code
FDACS	Florida Department of Agriculture and Consumer Services
F.S.	Florida Statutes
FSAID	Florida Statewide Agricultural Irrigation Demand
gpcd	Gallons per Capita per Day
GWUP	General Water Use Permit
ICI	Industrial-Commercial-Institutional
IWUP	Individual Water Use Permit
mgd	Million Gallons per Day
MFLs	Minimum Flows and Minimum Water Levels
USGS	United States Geological Survey

## References and Additional Information

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- Bureau of Business and Economic Research (BEBR). 2020. *Florida Estimates of Population 2019*. University of Florida, College of Liberal Arts and Sciences, Population Studies Program. <https://www.bibr.ufl.edu/population>.
- Florida Department of Agriculture and Consumer Services (FDACS) and The Balmoral Group (TBG). June 30, 2020. *Florida Statewide Agricultural Irrigation Demand 2018-2045 Agricultural Water Demands* (FSAID VII). <https://www.freshfromflorida.com/Business-Services/Water/Agricultural-Water-Supply-Planning>.
- Northwest Florida Water Management District (NFWFMD). December 2018. *2018 Water Supply Assessment Update*. WRA 18-01. <https://www.nfwfwater.com/Water-Resources/Water-Supply-Planning/Water-Supply-Assessments>.
- U.S. Geological Survey (USGS). 2014. *Water Withdrawals, Use, and Trends in Florida, 2010*. Data supplied by Mr. Rich Marella, USGS Florida Water Science Center, Orlando, Florida.

## APPENDIX CONTENTS

## Page(s)

### Districtwide Water Use and Population Estimates:

NWFWMD 2019 Total Estimated Water Use by Category (mgd) .....	A.01
NWFWMD 2019 Total Estimated Water Withdrawals by Source (mgd) .....	A.02
NWFWMD 2019 Population Estimates - County, Public Supply Utility, and Domestic Self-Supply .....	A.03

### Summary 2019 Data Tables by Water Use Category:

<b>1. Public Supply</b>	
1.1 Public Supply Water Demand, Populations Served, and Per Capita Water Use .....	A.04
1.2 Public Supply Water Withdrawals by Source (mgd) .....	A.05
1.3 Public Supply Water Demand, Populations Served, and Per Capita Water Use - by Utility .....	A.06 – A.10
<b>2. Domestic Self-Supply</b>	
2.1 Domestic Self-Supply Population and Water Use Estimates (mgd) .....	A.11
2.2 Domestic Self-Supply Population Estimates Over Time .....	A.12
<b>3. Agriculture</b>	
3.1 Agriculture Water Use - Reported and Total Estimates (mgd) .....	A.13
3.2 Agriculture Reported Water Use by Source (mgd) .....	A.14
<b>4. Recreational Irrigation</b>	
4.1 Recreational Irrigation Water Use - Reported and Total Estimates (mgd) .....	A.15
4.2 Recreational Irrigation Reported Water Use by Source (mgd) .....	A.16
<b>5. Industrial-Commercial-Institutional</b>	
5.1 Industrial-Commercial-Institutional Reported Water Use by Source (mgd) .....	A.17
<b>6. Thermoelectric Power Generation</b>	
6.1 Thermoelectric Power Generation Reported Water Use by Source (mgd) .....	A.18

### Water Use Trends:

NWFWMD 1995-2019 Public Supply Per Capita Water Use Over Time (gpcd) .....	A.19
NWFWMD 1995-2019 Trends in Share of and Total Water Use Estimates, by Water Use Category (mgd) .....	A.20

## NFWWMD 2019 Total Estimated Water Use by Category (mgd)

Planning Region	County / Region	1. Public Supply	2. Domestic Self-Supply	3. Agriculture <sup>(1)</sup>	4. Recreation <sup>(2)</sup>	5. ICI	6. Power Generation	TOTAL ESTIMATED WATER USE (mgd)
I	Escambia	39.061	1.528	2.554	2.332	31.548	5.751	82.774
	<b>Region I Total</b>	<b>39.061</b>	<b>1.528</b>	<b>2.554</b>	<b>2.332</b>	<b>31.548</b>	<b>5.751</b>	<b>82.774</b>
II	Okaloosa	23.893	0.921	0.396	5.371	2.201	-	32.782
	Santa Rosa	17.709	1.064	1.648	2.193	2.958	-	25.572
	Walton	11.098	0.975	0.566	5.041	0.032	-	17.712
	<b>Region II Total</b>	<b>52.699</b>	<b>2.960</b>	<b>2.610</b>	<b>12.606</b>	<b>5.191</b>	-	<b>76.066</b>
III	Bay	28.242	1.408	0.898	2.262	21.932	3.942	58.683
	<b>Region III Total</b>	<b>28.242</b>	<b>1.408</b>	<b>0.898</b>	<b>2.262</b>	<b>21.932</b>	<b>3.942</b>	<b>58.683</b>
IV	Calhoun	0.561	0.953	2.832	0.005	0.225	-	4.576
	Holmes	1.164	1.220	1.112	0.215	-	-	3.711
	Jackson	2.590	2.604	30.202	0.386	0.929	1.409	38.120
	Liberty	0.476	0.475	0.098	0.002	0.300	0.442	1.793
	Washington	1.012	1.686	0.710	0.307	0.351	-	4.066
	<b>Region IV Total</b>	<b>5.803</b>	<b>6.939</b>	<b>34.954</b>	<b>0.915</b>	<b>1.805</b>	<b>1.851</b>	<b>52.267</b>
V	Franklin	1.822	0.114	0.007	0.216	0.017	-	2.176
	Gulf	2.130	0.169	0.299	0.090	0.126	-	2.813
	<b>Region V Total</b>	<b>3.952</b>	<b>0.283</b>	<b>0.306</b>	<b>0.305</b>	<b>0.144</b>	-	<b>4.989</b>
VI	Gadsden	4.218	1.504	5.975	0.156	0.556	-	12.409
	<b>Region VI Total</b>	<b>4.218</b>	<b>1.504</b>	<b>5.975</b>	<b>0.156</b>	<b>0.556</b>	-	<b>12.409</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.577	0.454	0.937	0.843	-	-	2.810
	Leon	30.322	3.239	0.443	2.279	0.118	2.500	38.902
	Wakulla	2.692	0.974	0.202	0.205	1.114	0.316	5.502
	<b>Region VII Total</b>	<b>33.591</b>	<b>4.666</b>	<b>1.582</b>	<b>3.327</b>	<b>1.232</b>	<b>2.816</b>	<b>47.214</b>
	<b>TOTALS</b>	<b>167.565</b>	<b>19.288</b>	<b>48.879</b>	<b>21.902</b>	<b>62.409</b>	<b>14.360</b>	<b>334.403</b>
	<b>Percent of Total Water Use:</b>	<b>50.1%</b>	<b>5.8%</b>	<b>14.6%</b>	<b>6.5%</b>	<b>18.7%</b>	<b>4.3%</b>	<b>100%</b>

Total annual average daily rate (ADR) estimated water use in million gallons per day (mgd).

(1) FSAID VII - 2018 estimated water use based on average hypothetical precipitation.

(2) Estimate of 2019 reported recreational water use and additional estimating methods and data used in the 2018 WSA.

## NFWWMD 2019 Total Estimated Water Withdrawals by Source (mgd)

Planning Region	County / Region	a. Coastal Floridan	b. Inland Floridan	c. Inter-mediate	d. Claiborne	e. Sand and Gravel	f. Surficial	Total Ground-water	Total Other Water <sup>(1)</sup>	Total Surface Water	TOTAL ESTIMATED WATER USE
I	Escambia	-	-	-	-	71.691	0.203	71.895	5.114	5.766	82.774
	<b>Region Totals</b>	-	-	-	-	<b>71.691</b>	<b>0.203</b>	<b>71.895</b>	<b>5.114</b>	<b>5.766</b>	<b>82.774</b>
II	Okaloosa	13.287	9.407	-	-	1.672	-	24.367	3.061	2.026	29.454
	Santa Rosa	0.858	0.416	-	-	20.311	-	21.584	3.596	0.392	25.572
	Walton	1.165	13.698	0.133	-	1.285	0.148	16.429	2.073	2.538	21.040
	<b>Region Totals</b>	<b>15.310</b>	<b>23.520</b>	<b>0.133</b>	-	<b>23.268</b>	<b>0.148</b>	<b>62.381</b>	<b>8.729</b>	<b>4.956</b>	<b>76.066</b>
III	Bay	0.243	3.347	-	-	0.015	0.350	3.954	2.808	51.921	58.683
	<b>Region Totals</b>	<b>0.243</b>	<b>3.347</b>	-	-	<b>0.015</b>	<b>0.350</b>	<b>3.954</b>	<b>2.808</b>	<b>51.921</b>	<b>58.683</b>
IV	Calhoun	-	1.737	-	-	-	-	1.737	2.770	0.070	4.576
	Holmes	-	0.852	-	0.278	-	-	1.130	2.547	-	3.676
	Jackson	-	21.804	-	0.181	-	-	21.985	14.804	1.332	38.120
	Liberty	-	1.183	-	-	-	0.034	1.217	0.575	0.001	1.793
	Washington	-	1.719	-	-	-	-	1.719	2.336	0.045	4.101
	<b>Region Totals</b>	-	<b>27.295</b>	-	<b>0.459</b>	-	<b>0.034</b>	<b>27.788</b>	<b>23.032</b>	<b>1.448</b>	<b>52.267</b>
V	Franklin	1.839	-	-	-	-	-	1.839	0.178	0.158	2.176
	Gulf	0.437	0.475	0.023	-	-	0.023	0.959	0.301	1.554	2.813
	<b>Region Totals</b>	<b>2.277</b>	<b>0.475</b>	<b>0.023</b>	-	-	<b>0.023</b>	<b>2.798</b>	<b>0.479</b>	<b>1.713</b>	<b>4.989</b>
VI	Gadsden	-	6.390	-	-	-	-	6.390	4.594	1.425	12.409
	<b>Region Totals</b>	-	<b>6.390</b>	-	-	-	-	<b>6.390</b>	<b>4.594</b>	<b>1.425</b>	<b>12.409</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	1.914	-	-	-	-	1.914	0.896	-	2.810
	Leon	-	34.415	-	-	-	-	34.415	4.316	0.688	39.419
	Wakulla	-	3.289	-	-	-	-	3.289	1.380	0.316	4.985
	<b>Region Totals</b>	-	<b>39.617</b>	-	-	-	-	<b>39.617</b>	<b>6.592</b>	<b>1.004</b>	<b>47.214</b>
<b>DISTRICT TOTALS</b>		<b>17.830</b>	<b>100.644</b>	<b>0.157</b>	<b>0.459</b>	<b>94.974</b>	<b>0.759</b>	<b>214.823</b>	<b>51.347</b>	<b>68.233</b>	<b>334.403</b>
<b>Percentages</b>		<b>8.3%</b>	<b>46.8%</b>	<b>0.1%</b>	<b>0.2%</b>	<b>44.2%</b>	<b>0.4%</b>	<b>64.2%</b>	<b>15.4%</b>	<b>20.4%</b>	<b>100%</b>

(1) "Other Water" refers to estimated withdrawals, but source is unknown or uncertain. Domestic Self-Supply (DSS) water use is estimated with population estimates and a per capita water use rate: groundwater withdrawn from domestic or limited public supply wells is assumed but no specific water source or aquifer is identified. Additional estimating methods for Agriculture and Recreational Irrigation also have uncertain water sources. Gadsden County agricultural water use is on average 50-50 surface and groundwater. Recreational water use is often a complex water flow system of both ground and surface waters and at times co-mingled with reclaimed water.

## NWFWMD 2019 Population Estimates - County, Public Supply Utility, and Domestic Self-Supply

Planning Region	County / Region	2010-2019 Population Change % <sup>(1)</sup>	BEBR 2019 County Permanent Populations <sup>(2)</sup>	Seasonal Rate % County Average	County Seasonal <sup>(3)</sup> Adjustments	TOTAL <sup>(4)</sup> County Population Estimates	Public Supply Populations Served <sup>(5)</sup>	% of TOTAL	DSS-Other Population Estimates <sup>(6)</sup>	% of TOTAL
I	Escambia	7.9%	321,134	3.2%	10,276	331,410	314,179	94.8%	17,231	5.2%
	<b>Total/Average</b>	<b>7.9%</b>	<b>321,134</b>	<b>3.2%</b>	<b>10,276</b>	<b>331,410</b>	<b>314,179</b>	<b>94.8%</b>	<b>17,231</b>	<b>5.2%</b>
II	Okaloosa	11.4%	201,514	9.0%	18,136	219,650	209,268	95.3%	10,382	4.7%
	Santa Rosa	18.3%	179,054	2.0%	3,581	182,635	170,638	93.4%	11,997	6.6%
	Walton	27.3%	70,071	49.0%	34,335	104,406	93,409	89.5%	10,997	10.5%
	<b>Total/Average</b>	<b>16.4%</b>	<b>450,639</b>	<b>20.0%</b>	<b>56,052</b>	<b>506,690</b>	<b>473,314</b>	<b>93.4%</b>	<b>33,377</b>	<b>6.6%</b>
III	Bay	-0.9%	167,283	8.0%	13,450	180,733	164,849	91.2%	15,884	8.8%
	<b>Total/Average</b>	<b>-0.9%</b>	<b>167,283</b>	<b>8.0%</b>	<b>13,450</b>	<b>180,733</b>	<b>164,849</b>	<b>91.2%</b>	<b>15,884</b>	<b>8.8%</b>
IV	Calhoun	-3.8%	14,067	3.0%	422	14,489	3,737	25.8%	10,752	74.2%
	Holmes	0.6%	20,049	1.0%	200	20,250	6,489	32.0%	13,761	68.0%
	Jackson	-5.6%	46,969	3.0%	1,409	48,378	19,011	39.3%	29,368	60.7%
	Liberty	4.9%	8,772	9.0%	789	9,562	4,200	43.9%	5,361	56.1%
	Washington	2.0%	25,387	3.0%	762	26,149	7,134	27.3%	19,015	72.7%
	<b>Total/Average</b>	<b>-2.0%</b>	<b>115,244</b>	<b>3.8%</b>	<b>3,583</b>	<b>118,827</b>	<b>40,571</b>	<b>34.1%</b>	<b>78,256</b>	<b>65.9%</b>
V	Franklin	6.3%	12,273	39.0%	4,786	17,060	15,773	92.5%	1,287	7.5%
	Gulf	-17.5%	13,082	22.0%	2,878	15,960	14,058	88.1%	1,902	11.9%
	<b>Total/Average</b>	<b>-7.5%</b>	<b>25,355</b>	<b>30.5%</b>	<b>7,665</b>	<b>33,020</b>	<b>29,831</b>	<b>90.3%</b>	<b>3,189</b>	<b>9.7%</b>
VI	Gadsden	-0.2%	46,277	2.4%	1,111	47,388	30,430	64.2%	16,958	35.8%
	<b>Total/Average</b>	<b>-0.2%</b>	<b>46,277</b>	<b>2.4%</b>	<b>1,111</b>	<b>47,388</b>	<b>30,430</b>	<b>64.2%</b>	<b>16,958</b>	<b>35.8%</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.1%	10,428	3.5%	365	10,793	5,677	52.6%	5,116	47.4%
	Leon	7.6%	296,499	0.5%	1,482	297,982	261,454	87.7%	36,527	12.3%
	Wakulla	7.1%	32,976	5.0%	1,649	34,625	23,645	68.3%	10,980	31.7%
	<b>Total/Average</b>	<b>7.3%</b>	<b>339,903</b>	<b>3.0%</b>	<b>3,496</b>	<b>343,399</b>	<b>290,776</b>	<b>84.7%</b>	<b>52,622</b>	<b>15.3%</b>
	<b>TOTALS/AVERAGES</b>	<b>7.6%</b>	<b>1,465,835</b>	<b>6.5%</b>	<b>95,632</b>	<b>1,561,467</b>	<b>1,343,950</b>	<b>86.1%</b>	<b>217,517</b>	<b>13.9%</b>

(1) Source: University of Florida (UF), Bureau of Economic and Business Research (BEBR), Population Studies Program, <https://www.bebr.ufl.edu/population>.

(2) UF BEBR, Population Studies Program, Vol. 52, Bulletin 183, April 2019. Permanent population estimates only, but includes estimated inmate populations.

(3) Estimated seasonal populations based on county average seasonal rates applied to BEBR population estimates.

(4) Total county populations adjusted by adding the estimated seasonal populations to BEBR estimate.

(5) The population served by each public supply utility service area is estimated from review of all available data, including compliance submissions, and include seasonal population estimates where applicable.

(6) Net Domestic Self-Supply (DSS) population estimates are derived by subtracting public supply utility populations served from adjusted county totals. This estimate includes other miscellaneous populations, e.g., small public systems and correctional facility inmates not otherwise accounted for.

## 1.1 Public Supply 2019 Water Withdrawn, Demand, Populations Served, and Per Capita Water Use

Planning Region	County / Region	Withdrawals and Water Demand (mgd)				Populations and Per Capita Water Use (gpcd)		
		Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted <sup>(1)</sup> Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
I	Escambia	39.061	-	-	39.061	314,179	124.33	75.50
	<b>Totals/Average Per Capita</b>	<b>39.061</b>	<b>0.000</b>	<b>0.000</b>	<b>39.061</b>	<b>314,179</b>	<b>124.33</b>	<b>75.50</b>
II	Okaloosa	20.565	3.328	-	23.893	209,268	114.17	84.09
	Santa Rosa	17.709	6.986	6.986	17.709	170,638	103.78	70.41
	Walton	14.426	2.688	6.016	11.098	93,409	118.81	79.49
	<b>Totals/Average Per Capita</b>	<b>52.699</b>	<b>13.002</b>	<b>13.002</b>	<b>52.699</b>	<b>473,314</b>	<b>111.34</b>	<b>78.25</b>
III	Bay	28.242	26.584	26.584	28.242	164,849	171.32	83.38
	<b>Totals/Average Per Capita</b>	<b>28.242</b>	<b>26.584</b>	<b>26.584</b>	<b>28.242</b>	<b>164,849</b>	<b>171.32</b>	<b>83.38</b>
IV	Calhoun	0.561	-	-	0.561	3,737	150.17	92.25
	Holmes	1.130	0.035	-	1.164	6,489	179.40	99.28
	Jackson	2.590	-	-	2.590	19,011	136.24	61.31
	Liberty	0.476	-	-	0.476	4,200	113.40	91.39
	Washington	1.046	-	0.035	1.012	7,134	141.82	87.59
	<b>Totals/Average Per Capita</b>	<b>5.803</b>	<b>0.035</b>	<b>0.035</b>	<b>5.803</b>	<b>40,571</b>	<b>143.04</b>	<b>77.97</b>
V	Franklin	1.822	0.092	0.092	1.822	15,773	115.51	61.28
	Gulf	2.130	-	-	2.130	14,058	151.51	52.18
	<b>Totals/Average Per Capita</b>	<b>3.952</b>	<b>0.092</b>	<b>0.092</b>	<b>3.952</b>	<b>29,831</b>	<b>132.48</b>	<b>56.99</b>
VI	Gadsden	4.218	-	-	4.218	30,430	138.60	84.82
	<b>Totals/Average Per Capita</b>	<b>4.218</b>	<b>0.000</b>	<b>0.000</b>	<b>4.218</b>	<b>30,430</b>	<b>138.60</b>	<b>84.82</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.577	-	-	0.577	5,677	101.60	80.16
	Leon	30.840	-	0.517	30.322	261,454	115.98	60.47
	Wakulla	2.175	0.517	-	2.692	23,645	113.85	85.01
	<b>Totals/Average Per Capita</b>	<b>33.591</b>	<b>0.517</b>	<b>0.517</b>	<b>33.591</b>	<b>290,776</b>	<b>115.52</b>	<b>62.85</b>
	<b>DISTRICT TOTALS/AVERAGE</b>	<b>167.565</b>	<b>40.230</b>	<b>40.230</b>	<b>167.565</b>	<b>1,343,950</b>	<b>124.68</b>	<b>74.57</b>

(1) Populations served include seasonal resident adjustments.



## 1.2 Public Supply 2019 Water Withdrawals by Source (mgd)

Planning Region	County / Region	a. Coastal Floridan	b. Inland Floridan	c. Intermediate	d. Claiborne	e. Sand and Gravel	f. Surficial	Total Groundwater	Total Surface Water	TOTAL REPORTED WATER USE
I	Escambia	-	-	-	-	39.061	-	39.061	-	39.061
	<b>Region Totals</b>	-	-	-	-	<b>39.061</b>	-	<b>39.061</b>	-	<b>39.061</b>
II	Okaloosa	12.810	7.755	-	-	-	-	20.565	-	20.565
	Santa Rosa	0.858	0.289	-	-	16.561	-	17.709	-	17.709
	Walton	1.165	13.165	0.096	-	-	-	14.426	-	14.426
	<b>Region Totals</b>	<b>14.833</b>	<b>21.209</b>	<b>0.096</b>	-	<b>16.561</b>	-	<b>52.699</b>	-	<b>52.699</b>
III	Bay <sup>(1)</sup>	-	1.657	-	-	-	-	1.657	26.584	28.242
	<b>Region Totals</b>	-	<b>1.657</b>	-	-	-	-	<b>1.657</b>	<b>26.584</b>	<b>28.242</b>
IV	Calhoun	-	0.561	-	-	-	-	0.561	-	0.561
	Holmes	-	0.852	-	0.278	-	-	1.130	-	1.130
	Jackson	-	2.475	-	0.115	-	-	2.590	-	2.590
	Liberty	-	0.476	-	-	-	-	0.476	-	0.476
	Washington	-	1.046	-	-	-	-	1.046	-	1.046
	<b>Region Totals</b>	-	<b>5.411</b>	-	<b>0.393</b>	-	-	<b>5.803</b>	-	<b>5.803</b>
V	Franklin	1.822	-	-	-	-	-	1.822	-	1.822
	Gulf	0.437	0.138	-	-	-	-	0.576	1.554	2.130
	<b>Region Totals</b>	<b>2.259</b>	<b>0.138</b>	-	-	-	-	<b>2.398</b>	<b>1.554</b>	<b>3.952</b>
VI	Gadsden	-	4.218	-	-	-	-	4.218	-	4.218
	<b>Region Totals</b>	-	<b>4.218</b>	-	-	-	-	<b>4.218</b>	-	<b>4.218</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	0.577	-	-	-	-	0.577	-	0.577
	Leon	-	30.840	-	-	-	-	30.840	-	30.840
	Wakulla	-	2.175	-	-	-	-	2.175	-	2.175
	<b>Region Totals</b>	-	<b>33.591</b>	-	-	-	-	<b>33.591</b>	-	<b>33.591</b>
<b>DISTRICT TOTALS</b>		<b>17.092</b>	<b>66.224</b>	<b>0.096</b>	<b>0.393</b>	<b>55.622</b>	-	<b>139.427</b>	<b>28.138</b>	<b>167.565</b>

(1) Bay County Board of County Commissioners (BCBOCC) surface water withdrawals from Deer Point Lake Reservoir exclude exports to large industrial users, and to Tyndall Air Force Base. See ICI for industrial and institutional water use estimates.

NOTE: Since 2015, public supply IWUP compliance data has been affected by adjustments in permit and reporting requirements, and by Emergency Executive Orders. As a result, the 2019 estimated public supply water use relies on DEP Monthly Operating Report (MOR) data and/or historical water use for approximately 15 percent of the total public supply utility systems.

### 1.3 Public Supply 2019 Water Demand, Populations Served, and Per Capita Water Use - by Utility

Planning Region	Public Supply Utility or Service Area	Withdrawals and Water Demand (mgd)				Populations and Per Capita Water Use (gpcd)		
		Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted <sup>(1)</sup> Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
I	<b>Escambia County</b>	<b>39.061</b>	<b>0.000</b>	<b>0.000</b>	<b>39.061</b>	<b>314,179</b>	<b>124.33</b>	<b>75.50</b>
	Bratt-Davisville Water System (EREC)	0.168	-	-	0.168	1,892	88.56	59.71
	Central Water Works, Inc.	0.295	-	-	0.295	2,495	118.05	46.79
	Century, Town of	0.536	-	-	0.536	4,056	132.24	94.65
	Cottage Hill Water Works, Inc.	0.356	-	-	0.356	3,577	99.45	75.59
	Emerald Coast Utilities Authority (ECUA)	33.336	-	-	33.336	258,224	129.10	77.32
	Farm Hill Utilities, Inc.	0.557	-	-	0.557	5,065	109.98	66.13
	Gonzalez Utilities Association, Inc.	0.503	-	-	0.503	4,491	112.00	72.52
	Molino Utilities, Inc.	0.758	-	-	0.758	5,578	135.80	84.20
	People's Water Service Company	2.377	-	-	2.377	27,074	87.80	60.55
	Walnut Hill Water Works (EREC)	0.176	-	-	0.176	1,727	101.80	58.28
	<b>REGION I - Totals/Average Per Capita</b>	<b>39.061</b>	<b>0.000</b>	<b>0.000</b>	<b>39.061</b>	<b>314,179</b>	<b>124.33</b>	<b>75.50</b>
II	<b>Okaloosa County</b>	<b>20.565</b>	<b>3.328</b>	<b>0.000</b>	<b>23.893</b>	<b>209,268</b>	<b>114.17</b>	<b>84.09</b>
	Auburn Water System	2.153	-	-	2.153	16,860	127.68	88.12
	Baker Water System	0.232	-	-	0.232	2,496	92.91	73.70
	Blackman Community Water System, Inc.	0.031	-	-	0.031	557	55.36	41.52
	Crestview, City of	2.387	-	-	2.387	25,675	92.99	34.83
	Destin Water Users	1.483	2.781	-	4.235	30,457	139.04	89.59
	Fort Walton Beach, City of	2.563	-	-	2.563	21,357	120.01	60.72
	Holt Water Works, Inc.	0.218	-	-	0.218	2,086	104.55	64.82
	Laurel Hill, City of	0.130	-	-	0.130	1,474	88.49	66.67
	Mary Esther, City of	0.396	-	-	0.396	4,013	98.62	55.49
	Milligan Water System	0.139	-	-	0.139	1,680	82.56	51.18
	Niceville, City of	2.632	-	-	2.632	19,956	131.91	87.47
	OCW&S - Bluewater (Raintree)	1.207	-	-	1.207	12,823	94.13	70.03
	OCW&S - Main (Garniers) Office Well Plant	4.038	-	-	4.038	-	105.20	57.83
	<i>Main Garniers</i>					42,898		54.22
	<i>Shalimar</i>					737		73.65
	<i>Okaloosa Island</i>					2,202		34.55
	<i>County West</i>					8,915		51.37
	OCW&S - Mid-County (Crestview) Antioch	2.465	-	-	2.465	7,058	-	93.52
	SWUC (Okaloosa County portion)	-	0.577	-	0.577	3,227	178.76	103.93
	Valparaiso, City of	0.490	-	-	0.490	4,798	102.21	65.56

Table 1.3, continued

Planning Region	Public Supply Utility / County / Region	Withdrawals and Water Demand (mgd)				Populations and Per Capita Water Use (gpcd)		
		Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted <sup>(1)</sup> Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
II	<b>Santa Rosa County</b>	<b>17.709</b>	<b>6.986</b>	<b>6.986</b>	<b>17.709</b>	<b>170,638</b>	<b>103.78</b>	<b>70.41</b>
	Bagdad-Garcon Point Water System	0.605	-	-	0.605	5,945	101.81	62.53
	Berrydale Water System	0.237	-	-	0.237	2,630	90.05	45.16
	Chumuckla Water System	0.349	-	-	0.349	4,035	86.48	70.17
	East Milton Water System	1.680	-	-	1.680	12,201	137.70	63.51
	Fairpoint Regional Utility System (FRUS)	5.931	-	5.931	-	-	-	0.00
	Gulf Breeze Water Department (Service Area)	-	2.041	1.021	1.020	5,938	171.80	128.85
	Holley-Navarre Water System, Inc.	0.537	2.511	-	3.048	41,567	73.32	56.70
	Jay, Town of	0.181	-	-	0.181	1,115	162.64	83.81
	Midway Water System	0.597	0.943	0.035	1.505	16,591	90.72	62.53
	Milton, City of	1.923	-	-	1.923	18,520	103.85	71.90
	Moore Creek-Mt. Carmel Utilities, Inc.	0.304	-	-	0.304	3,096	98.31	60.95
	Pace Water System, Inc.	4.483	-	-	4.483	38,811	115.51	74.72
	Point Baker Water System, Inc.	0.863	-	-	0.863	9,400	91.82	75.17
	Navarre Beach - Santa Rosa BOCC	0.018	0.436	-	0.453	5,904	76.80	49.97
	South Santa Rosa Utilities (Service Area)	-	1.056	-	1.056	4,884	216.12	162.09
	<b>Walton County</b>	<b>14.426</b>	<b>2.688</b>	<b>6.016</b>	<b>11.098</b>	<b>93,409</b>	<b>118.81</b>	<b>79.49</b>
	Argyle Water System	0.062	-	-	0.062	767	80.28	60.21
	DeFuniak Springs, City of	1.224	-	-	1.224	12,243	99.96	35.45
II	FCSWC / Regional Utilities	5.065	-	0.010	5.055	44,903	112.58	87.46
	Freeport, City of	0.938	-	-	0.938	8,815	106.38	74.88
	Freeport, City of, North Bay Water System	0.134	-	-	0.134	2,115	63.54	63.54
	Inlet Beach Water System, Inc.	0.200	0.010	-	0.209	2,615	80.08	66.67
	Mossy Head Water Works, Inc.	0.286	-	-	0.286	3,439	83.25	51.61
	Paxton, City of	0.161	-	-	0.161	1,572	102.57	70.46
	SWUC - Rockhill Inland Well Field	5.430	-	5.430	0.000	-	-	-
	SWUC - Coastal Well Field	0.927	2.679	0.577	3.028	16,941	178.76	103.93
	<b>REGION II - Totals/Average Per Capita</b>	<b>52.699</b>	<b>13.002</b>	<b>13.002</b>	<b>52.699</b>	<b>473,314</b>	<b>111.34</b>	<b>78.25</b>

Table 1.3, continued

Planning Region	Public Supply Utility / County / Region	Withdrawals and Water Demand (mgd)				Populations and Per Capita Water Use (gpcd)		
		Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted <sup>(1)</sup> Population Served	Average GROSS Per Capita Water Use	Average <sup>(2)</sup> RESIDENTIAL Per Capita Water Use
III	<b>Bay County</b>	<b>28.242</b>	<b>26.584</b>	<b>26.584</b>	<b>28.242</b>	<b>164,849</b>	<b>171.32</b>	<b>83.38</b>
	Bay County BOCC (Public Supply ONLY)	26.584	-	-	-	1,357	-	-
	- Cedar Grove (separate BOCC service area)	-	0.568	-	0.568	3,401	-	103.56
	- GCEC (North Bay, Lake Merial)	-	0.671	-	0.671	6,000	-	69.36
	- Bay Co. (excludes North Bay, Lk Merial, SE)	-	1.087	-	1.087	9,370	-	71.95
	Bay County BOCC - Total Exports	-	-	26.584	-	-	-	-
	Callaway	-	1.334	-	1.334	13,211	100.95	62.59
	Lynn Haven, City of	1.657	0.512	-	2.169	19,586	110.77	69.64
	Mexico Beach	-	0.191	-	0.191	2,488	76.77	47.60
	Panama City Water System	-	6.185	-	6.185	40,998	150.86	79.95
	Panama City Beach	-	14.664	-	14.664	56,951	257.49	103.00
	Parker	-	0.328	-	0.328	3,694	88.66	54.97
	Springfield	-	1.044	-	1.044	7,793	133.98	83.07
	<b>REGION III - Totals/Average Per Capita</b>	<b>28.242</b>	<b>26.584</b>	<b>26.584</b>	<b>28.242</b>	<b>164,849</b>	<b>171.32</b>	<b>83.38</b>

**NOTE:** The Bay County Board of County Commissioners (BOCC) water utility serves the majority of service areas (except for parts of the City of Lynn Haven) in Bay County. Water withdrawn and supplied to several large industrial facilities and to Tyndall Air Force Base are excluded from Public Supply and included in ICI.

(2) County-wide average estimate.

Table 1.3, continued

Planning Region	Public Supply Utility / County / Region	Withdrawals and Water Demand (mgd)				Populations and Per Capita Water Use (gpcd)		
		Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted <sup>(1)</sup> Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
V	<b>Franklin County</b>	<b>1.822</b>	<b>0.092</b>	<b>0.092</b>	<b>1.822</b>	<b>15,773</b>	<b>115.51</b>	<b>61.28</b>
	Alligator Point Water Resources District	0.092	-	-	0.092	671	136.72	95.76
	Apalachicola, City of	0.520	-	-	0.520	3,784	138.62	36.33
	Carrabelle, City of	0.423	-	0.092	0.331	3,041	108.98	67.57
	- Carrabelle, City of (Lanark Village)	0.000	0.092	-	0.092	1,625	56.45	35.00
	Eastpoint Water and Sewer District	0.225	-	-	0.225	2,375	94.81	58.79
	St. James Island (Summercamp, FRWA)	0.008	-	-	0.008	57	147.61	64.34
	Water Management (St. George Island)	0.536	-	-	0.536	4,250	126.15	84.78
V	<b>Gulf County</b>	<b>2.130</b>	<b>0.000</b>	<b>0.000</b>	<b>2.130</b>	<b>14,058</b>	<b>151.51</b>	<b>52.18</b>
	Lighthouse Utilities Company, Inc.	0.437	-	-	0.437	3,804	114.97	75.92
	Port St. Joe, City of	1.554	-	-	1.554	8,283	187.64	43.33
	Wewahitchka, City of	0.138	-	-	0.138	1,971	70.21	43.53
	<b>REGION V - Totals/Average Per Capita</b>	<b>3.952</b>	<b>0.092</b>	<b>0.092</b>	<b>3.952</b>	<b>29,831</b>	<b>132.48</b>	<b>56.99</b>

Table 1.3, continued

Planning Region	Public Supply Utility / County / Region	Withdrawals and Water Demand (mgd)				Populations and Per Capita Water Use (gpcd)		
		Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted <sup>(1)</sup> Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
IV	<b>Calhoun County</b>	<b>0.561</b>	<b>0.000</b>	<b>0.000</b>	<b>0.561</b>	<b>3,737</b>	<b>150.17</b>	<b>92.25</b>
	Altha, Town of	0.145	-	-	0.145	694	208.17	129.06
	Blountstown	0.417	-	-	0.417	3,043	136.94	83.85
IV	<b>Holmes County</b>	<b>1.130</b>	<b>0.035</b>	<b>0.000</b>	<b>1.164</b>	<b>6,489</b>	<b>179.40</b>	<b>99.28</b>
	Bonifay, City of	0.964	-	-	0.964	4,148	232.29	130.01
	Caryville, Town of (Holmes County portion)	-	0.035	-	0.035	271	127.42	52.67
	Esto Water Works	0.024	-	-	0.024	395	61.76	38.29
	Joyce E. Snare Waterworks	0.028	-	-	0.028	254	110.17	68.31
	Noma, Town of	0.004	-	-	0.004	237	15.59	9.67
	Ponce de Leon, Town of	0.075	-	-	0.075	850	88.16	40.24
	Westville, Town of	0.035	-	-	0.035	334	104.82	64.99
	<b>Jackson County</b>	<b>2.590</b>	<b>0.000</b>	<b>0.000</b>	<b>2.590</b>	<b>19,011</b>	<b>136.24</b>	<b>61.31</b>
IV	Alford, Town of	0.060	-	-	0.060	590	101.29	40.51
	Campbellton, Town of	0.016	-	-	0.016	281	58.64	23.46
	Cottdondale, City of	0.150	-	-	0.150	1,086	137.82	55.13
	Graceville, City of	0.354	-	-	0.354	2,238	158.22	55.27
	Grand Ridge, Town of	0.099	-	-	0.099	907	108.62	43.45
	Greenwood, Town of	0.057	-	-	0.057	659	86.34	34.53
	Jackson Utilities, Plant 1, JCBOCC	0.282	-	-	0.282	2,254	125.01	107.42
	Jacob, City of	0.019	-	-	0.019	318	58.86	23.54
	Malone, Town of	0.064	-	-	0.064	2,070	30.78	12.31
	Marianna, City of	1.249	-	-	1.249	6,679	187.00	77.51
	Sneads, Town of	0.242	-	-	0.242	1,817	132.95	53.18
	<b>Liberty County</b>	<b>0.476</b>	<b>0.000</b>	<b>0.000</b>	<b>0.476</b>	<b>4,200</b>	<b>113.40</b>	<b>91.39</b>
	Bristol, City of	0.232	-	-	0.232	1,954	118.55	118.55
	Liberty Co. BOCC, Estiffanulga	0.028	-	-	0.028	281	99.62	61.77
IV	Liberty Co. BOCC, Hosford-Telogia	0.111	-	-	0.111	1,257	88.02	54.57
	Liberty Co. BOCC, Lake Mystic	0.041	-	-	0.041	314	129.47	80.27
	Liberty Co. BOCC, Rock Bluff	0.047	-	-	0.047	166	281.25	174.38
	Liberty Co. BOCC, Sumatra Water System	0.015	-	-	0.015	163	89.54	55.51
	Talquin Electric - Sweetwater System	0.004	-	-	0.004	65	62.49	46.86
	<b>Washington</b>	<b>1.046</b>	<b>0.000</b>	<b>0.035</b>	<b>1.012</b>	<b>7,134</b>	<b>141.82</b>	<b>87.59</b>
	Sunny Hills (formerly Aqua Utilities)	0.106	-	-	0.106	1,368	77.75	45.94
	Caryville, Town of	0.115	-	0.035	0.081	421	191.47	135.67
IV	Chipley, City of	0.682	-	-	0.682	3,885	175.64	105.19
	Vernon, City of	0.079	-	-	0.079	734	107.36	77.42
	Wausau, Town of	0.064	-	-	0.064	488	130.40	80.85
	<b>REGION IV - Totals/Average Per Capita</b>	<b>5.803</b>	<b>0.035</b>	<b>0.035</b>	<b>5.803</b>	<b>40,571</b>	<b>143.04</b>	<b>77.97</b>

Table 1.3, continued

Planning Region	Public Supply Utility / County / Region	Withdrawals and Water Demand (mgd)				Populations and Per Capita Water Use (gpcd)		
		Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted <sup>(1)</sup> Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
VI	<b>Gadsden County</b>	<b>4.218</b>	<b>0.000</b>	<b>0.000</b>	<b>4.218</b>	<b>30,430</b>	<b>138.60</b>	<b>84.82</b>
	Chattahoochee, City of	0.433	-	-	0.433	3,090	140.07	56.98
	Greensboro, Town of	0.050	-	-	0.050	655	76.69	60.56
	Gretna, City of	0.328	0.017	-	0.345	1,495	230.50	142.91
	Havana, Town of	0.463	-	-	0.463	3,240	142.77	88.52
	Quincy, City of	1.315	-	0.017	1.298	8,716	156.54	97.05
	Talquin Electric - Gadsden County Regional	1.599	-	-	1.599	13,338	119.85	77.75
	Talquin Electric - Hammock Creek	0.006	-	-	0.006	40	160.39	120.30
	Talquin Electric - Jamieson Water	0.015	-	-	0.015	107	137.70	103.27
	Talquin Electric - St. James	0.010	-	-	0.010	175	57.82	43.37
	<b>REGION VI - Totals/Average Per Capita</b>	<b>4.218</b>	<b>0.000</b>	<b>0.000</b>	<b>4.218</b>	<b>30,430</b>	<b>138.60</b>	<b>84.82</b>
VII	<b>Jefferson County</b> <sup>(NWF Only)</sup>	<b>0.577</b>	<b>0.000</b>	<b>0.000</b>	<b>0.577</b>	<b>5,677</b>	<b>101.60</b>	<b>80.16</b>
	Jefferson Communities Water System, Inc.	0.195	-	-	0.195	1,687	115.42	100.76
	Monticello, City of	0.382	-	-	0.382	3,990	95.75	71.45
	<b>Leon County</b>	<b>30.840</b>	<b>0.000</b>	<b>0.517</b>	<b>30.322</b>	<b>261,454</b>	<b>115.98</b>	<b>60.47</b>
	Seminole-Rowe (total all service areas)	0.126	-	-	0.126	1,601	78.84	58.63
	Tallahassee, City of	27.134	-	0.517	26.617	227,849	116.82	58.63
	Talquin Electric - Bradfordville Regional	1.258	-	-	1.258	11,498	109.44	67.86
	Talquin Electric - Lake Jackson Regional	1.038	-	-	1.038	10,036	103.44	72.46
	Talquin Electric - Leon County East Regional	0.333	-	-	0.333	1,922	173.31	113.02
	Talquin Electric - Leon County West Regional	0.274	-	-	0.274	2,264	121.04	78.59
	Talquin Electric - Meadows Regional	0.493	-	-	0.493	3,979	123.96	79.72
	Talquin Electric Coop Small Systems (total)	0.078	-	-	0.078	1,222	63.92	47.94
	Miscellaneous Small Public Systems (total)	0.104	-	-	0.104	1,083	96.43	72.32
	<b>Wakulla County</b>	<b>2.175</b>	<b>0.517</b>	<b>0.000</b>	<b>2.692</b>	<b>23,645</b>	<b>113.85</b>	<b>85.01</b>
	Panacea Area Water System, Inc.	0.222	-	-	0.222	2,556	86.76	53.79
	Sopchoppy, City of	0.966	-	-	0.966	8,720	110.76	102.86
	St. Marks, City of, Water Sys. (COT Booster Plant)	-	0.150	-	0.150	666	226.08	140.17
	Tallahassee, City of (Wakulla County portion)	-	0.367	-	0.367	2,994	122.45	66.92
	Talquin Electric - Wakulla Regional	0.964	-	-	0.964	8,433	114.35	78.82
	Wakulla County, River Sink Subdivision	0.023	-	-	0.023	276	82.60	61.95
	<b>REGION VII - Totals/Average Per Capita</b>	<b>33.591</b>	<b>0.517</b>	<b>0.517</b>	<b>33.591</b>	<b>290,776</b>	<b>115.52</b>	<b>62.85</b>
<b>NWFWMD Districtwide TOTALS / Averages -</b>		<b>167.565</b>	<b>40.230</b>	<b>40.230</b>	<b>167.565</b>	<b>1,343,950</b>	<b>124.68</b>	<b>74.57</b>

## 2.1 Domestic Self-Supply 2019 Population and Water Use Estimates

Planning Region	County / Region	DSS <sup>(1)</sup> Pop Estimate	Estimated DSS Water Use <sup>(2)</sup> (mgd)	Adjusted DSS Populations <sup>(3)</sup>	GROSS DSS <sup>(4)</sup> Well Count	BEBR 2019 PPH <sup>(5)</sup>	Estimated Persons Per Well	Estimated Water Use <sup>(6)</sup> (mgd)
I	Escambia	17,231	1.528	14,738	1,424	2.38	10.35	0.301
	<b>Total/Average</b>	<b>17,231</b>	<b>1.528</b>	<b>14,738</b>	<b>1,424</b>	<b>2.38</b>	<b>10.35</b>	<b>0.301</b>
II	Okaloosa	10,382	0.921	9,039	2,721	2.40	3.32	0.579
	Santa Rosa	11,997	1.064	9,521	3,590	2.54	2.65	0.809
	Walton	10,997	0.975	10,997	7,943	2.36	1.38	1.662
	<b>Total/Average</b>	<b>33,377</b>	<b>2.960</b>	<b>29,558</b>	<b>14,254</b>	<b>2.43</b>	<b>2.45</b>	<b>3.050</b>
III	Bay	15,884	1.408	14,792	13,364	2.38	1.11	2.820
	<b>Total/Average</b>	<b>15,884</b>	<b>1.408</b>	<b>14,792</b>	<b>13,364</b>	<b>2.38</b>	<b>1.11</b>	<b>2.820</b>
IV	Calhoun	10,752	0.953	10,043	3,623	2.48	2.77	0.797
	Holmes	13,761	1.220	12,333	4,507	2.44	2.74	0.975
	Jackson	29,367	2.604	26,428	10,645	2.36	2.48	2.228
	Liberty	5,361	0.475	3,617	1,311	2.54	2.76	0.295
	Washington	19,015	1.686	18,218	7,326	2.49	2.49	1.618
	<b>Total/Average</b>	<b>78,256</b>	<b>6.939</b>	<b>70,640</b>	<b>27,412</b>	<b>2.46</b>	<b>2.65</b>	<b>5.912</b>
V	Franklin	1,287	0.114	1,287	1,081	2.26	1.19	0.217
	Gulf	1,902	0.169	2,151	1,789	2.26	1.20	0.359
	<b>Total/Average</b>	<b>3,189</b>	<b>0.283</b>	<b>3,438</b>	<b>2,870</b>	<b>2.26</b>	<b>1.20</b>	<b>0.575</b>
VI	Gadsden	16,958	1.504	13,916	3,810	2.50	3.65	0.845
	<b>Total/Average</b>	<b>16,958</b>	<b>1.504</b>	<b>13,916</b>	<b>3,810</b>	<b>2.50</b>	<b>3.65</b>	<b>0.845</b>
VII	Jefferson <sup>(NWF Only)</sup>	5,116	0.454	5,116	2,253	2.29	2.27	0.457
	Leon	36,527	3.239	35,449	9,611	2.32	3.69	1.977
	Wakulla	10,980	0.974	9,281	4,077	2.58	2.28	0.933
	<b>Total/Average</b>	<b>52,622</b>	<b>4.666</b>	<b>49,845</b>	<b>15,941</b>	<b>2.40</b>	<b>2.75</b>	<b>3.367</b>
	<b>TOTALS/AVERAGES</b>	<b>217,517</b>	<b>19.288</b>	<b>196,927</b>	<b>79,075</b>	<b>2.40</b>	<b>2.75</b>	<b>16.870</b>

(1) Domestic Self-Supply (DSS) includes small limited public supply systems and inmate populations that are not reported or estimated in the public supply water use category.

(2) Estimated water use based on DSS population estimate multiplied by a USGS per capita Districtwide estimated rate of 88.67 gpcd (USGS, 2014).

(3) "Adjusted DSS Populations" is an experimental estimate with inmate population refinements not otherwise accounted for.

(4) Estimates of all known DSS (DO) and limited public supply (LP) wells in NFWMD wells inventory ArcGIS database as of 8/30/2019.

(5) County-wide average persons per household (PPH) based on UF Bureau of Economic and Business Research (BEBR) 2019 population estimate data.

(6) For information or comparison only: estimated water use, based on number of known wells x BEBR average PPH x USGS per capita water use rate of 88.67 gpcd.



## 2.2 Domestic Self-Supply Population Estimates Over Time

Planning Region	County / Region	WSA 2013 2010	NFWFMD Annual Water Use Reports <sup>(1)</sup>								
			2011 <sup>(2)</sup>	2012	2013	2014 <sup>(3)</sup>	2015	2016	2017	2018	2019
I	Escambia	16,606		19,133	17,720	18,809	12,017	11,958	11,242	15,118	17,231
	<b>Region I Total</b>	<b>16,606</b>	<b>-</b>	<b>19,133</b>	<b>17,720</b>	<b>18,809</b>	<b>12,017</b>	<b>11,958</b>	<b>11,242</b>	<b>15,118</b>	<b>17,231</b>
II	Okaloosa	12,367		13,885	11,731	12,224	23,940	18,595	9,375	12,916	10,382
	Santa Rosa	22,402		11,584	11,772	8,907	2,890	1,794	10,368	13,228	11,997
	Walton	4,218		14,117	13,106	16,009	17,616	11,508	15,896	16,019	10,997
	<b>Region II Total</b>	<b>38,987</b>	<b>-</b>	<b>39,586</b>	<b>36,609</b>	<b>37,140</b>	<b>44,446</b>	<b>31,897</b>	<b>35,639</b>	<b>42,163</b>	<b>33,377</b>
III	Bay	17,892		18,436	17,930	18,538	17,743	16,364	19,142	21,767	15,884
	<b>Region III Total</b>	<b>17,892</b>	<b>-</b>	<b>18,436</b>	<b>17,930</b>	<b>18,538</b>	<b>17,743</b>	<b>16,364</b>	<b>19,142</b>	<b>21,767</b>	<b>15,884</b>
IV	Calhoun	10,423		10,435	10,415	10,311	10,417	11,237	11,699	11,808	10,752
	Holmes	13,929		14,275	14,328	14,316	14,554	14,659	14,502	14,436	13,761
	Jackson	33,022		34,163	34,666	34,491	35,409	35,244	36,528	33,333	29,367
	Liberty	5,092		4,410	4,407	4,584	5,478	5,460	5,485	5,679	5,361
	Washington	16,420		17,642	17,255	17,501	18,814	18,765	19,285	19,087	19,015
	<b>Region IV Total</b>	<b>78,886</b>	<b>-</b>	<b>80,925</b>	<b>81,071</b>	<b>81,203</b>	<b>84,672</b>	<b>85,366</b>	<b>87,499</b>	<b>84,343</b>	<b>78,256</b>
V	Franklin	1,785		2,967	1,772	1,611	1,821	1,843	3,668	2,034	1,287
	Gulf	2,487		2,071	2,005	475	3,629	3,774	5,512	5,182	1,902
	<b>Region V Total</b>	<b>4,272</b>	<b>-</b>	<b>5,038</b>	<b>3,777</b>	<b>2,086</b>	<b>5,450</b>	<b>5,617</b>	<b>9,180</b>	<b>7,216</b>	<b>3,189</b>
VI	Gadsden	15,173		16,119	15,095	16,286	17,085	17,155	18,731	18,750	16,958
	<b>Region VI Total</b>	<b>15,173</b>	<b>-</b>	<b>16,119</b>	<b>15,095</b>	<b>16,286</b>	<b>17,085</b>	<b>17,155</b>	<b>18,731</b>	<b>18,750</b>	<b>16,958</b>
VII	Jefferson <sup>(NWF Only)</sup>	9,350		5,588	10,237	7,800	5,160	5,216	5,421	5,989	5,116
	Leon	59,552		75,085	74,538	57,952	51,884	51,414	32,616	38,154	36,527
	Wakulla	24,872		9,110	7,987	8,007	9,591	9,516	8,886	9,018	10,980
	<b>Region VII Total</b>	<b>93,774</b>	<b>-</b>	<b>89,783</b>	<b>92,762</b>	<b>73,759</b>	<b>66,635</b>	<b>66,147</b>	<b>46,923</b>	<b>53,161</b>	<b>52,622</b>
	<b>TOTALS</b>	<b>265,590</b>	<b>-</b>	<b>269,020</b>	<b>264,964</b>	<b>247,821</b>	<b>248,048</b>	<b>234,504</b>	<b>228,356</b>	<b>242,518</b>	<b>217,517</b>

(1) Population estimates from 2015 to date include seasonal population adjustments. County total BEBR estimates are adjusted with estimated impacts of seasonal residents, and public supply populations served also includes estimates of seasonal residents where applicable. District studies indicate that approximately 10% of seasonal populations are in the domestic self-supply water use category. Therefore, the net county populations not served by public supply, i.e. DSS, also include seasonal resident estimates.

(2) Population estimates for 2011 not compiled at the time of this report.

(3) Year 2014 included seasonal population adjustments in public supply utility populations served in Walton and Franklin counties.

### 3.1 Agriculture Water Use - 2019 Reported and Total Estimates (mgd)

#### 2019 Reported Water Use

Planning Region	County / Region	Ground Water	Surface Water	Total REPORTED Water Use <sup>(1)</sup>	Percent Reported to Total Estimate	Additional FSAID <sup>(2)</sup> Estimated Water Use	FSAID VII - 2018 Estimated TOTAL Water Use <sup>(3)</sup>	FSAID VI - 2017 Estimated TOTAL Water Use <sup>(4)</sup>	FSAID V - 2016 Estimated TOTAL Water Use <sup>(4)</sup>
I	Escambia	0.094	-	0.094	3.7%	2.460	2.554	2.584	3.196
	<b>Region I Total</b>	<b>0.094</b>	<b>0.000</b>	<b>0.094</b>	<b>3.7%</b>	<b>2.460</b>	<b>2.554</b>	<b>2.584</b>	<b>3.196</b>
II	Okaloosa	0.000	-	0.000	0.0%	0.396	0.396	0.419	0.402
	Santa Rosa	0.405	0.003	0.408	24.8%	1.240	1.648	1.804	1.805
	Walton	0.201	-	0.201	35.5%	0.365	0.566	0.518	0.576
	<b>Region II Total</b>	<b>0.605</b>	<b>0.003</b>	<b>0.609</b>	<b>23.3%</b>	<b>2.002</b>	<b>2.610</b>	<b>2.740</b>	<b>2.783</b>
III	Bay	0.342	-	0.342	38.1%	0.556	0.898	0.342	0.648
	<b>Region III Total</b>	<b>0.342</b>	<b>0.000</b>	<b>0.342</b>	<b>38.1%</b>	<b>0.556</b>	<b>0.898</b>	<b>0.342</b>	<b>0.648</b>
IV	Calhoun	0.951	0.070	1.020	36.0%	1.811	2.832	3.191	2.768
	Holmes	-	0.000	0.000	0.0%	1.112	1.112	1.155	1.131
	Jackson	18.353	0.036	18.388	60.9%	11.814	30.202	29.134	24.892
	Liberty	-	-	0.000	0.0%	0.098	0.098	0.079	0.073
	Washington	0.028	0.045	0.074	10.4%	0.636	0.710	0.794	0.779
	<b>Region IV Total</b>	<b>19.332</b>	<b>0.151</b>	<b>19.482</b>	<b>55.7%</b>	<b>15.472</b>	<b>34.954</b>	<b>34.353</b>	<b>29.643</b>
V	Franklin	-	-	0.000	0.0%	0.007	0.007	0.005	0.006
	Gulf	0.210	-	0.210	70.2%	0.089	0.299	0.366	0.465
	<b>Region V Total</b>	<b>0.210</b>	<b>0.000</b>	<b>0.210</b>	<b>68.7%</b>	<b>0.096</b>	<b>0.306</b>	<b>0.371</b>	<b>0.471</b>
VI	Gadsden	1.607	1.389	2.997	50.1%	2.979	5.975	6.090	5.123
	<b>Region VI Total</b>	<b>1.607</b>	<b>1.389</b>	<b>2.997</b>	<b>50.1%</b>	<b>2.979</b>	<b>5.975</b>	<b>6.090</b>	<b>5.123</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.684	-	0.684	73.0%	0.253	0.937	1.162	0.922
	Leon	0.027	-	0.027	6.1%	0.416	0.443	0.471	0.490
	Wakulla	-	-	0.000	0.0%	0.202	0.202	0.293	0.190
	<b>Region VII Total</b>	<b>0.711</b>	<b>0.000</b>	<b>0.711</b>	<b>44.9%</b>	<b>0.871</b>	<b>1.582</b>	<b>1.926</b>	<b>1.602</b>
<b>TOTALS</b>		<b>22.901</b>	<b>1.543</b>	<b>24.444</b>	<b>50.0%</b>	<b>24.435</b>	<b>48.879</b>	<b>48.406</b>	<b>43.466</b>

(1) In 2019, approximately three-fourths of agriculture IWUPs had reported water use and were audited. Where appropriate, the previous year reported use was carried forward.

(2) Florida Statewide Agricultural Irrigation Demand (FSAID), Florida Department of Agriculture and Consumer Services (DACs), Office of Agricultural Water Policy. This column indicates the approximate amount of additional water that is estimated to be used (but not required to be reported) in northwest Florida.

(3) FSAID estimate based on average hypothetical rainfall (modeled results).

(4) Previous FSAID estimates for information and reference only.

### 3.2 Agriculture 2019 Reported Water Use by Source (mgd)

Planning Region	County / Region	Water Use by Groundwater Aquifer(s)						Total Ground-water	Total Surface Water	TOTAL 2019 REPORTED WATER USE <sup>(1)</sup>	TOTAL 2018 <sup>(2)</sup> REPORTED WATER USE	TOTAL 2017 <sup>(2)</sup> REPORTED WATER USE
		Coastal Floridan	Inland Floridan	Inter-mediate	Claiborne	Sand-and-Gravel	Surficial					
I	Escambia	-	-	-	-	0.094	-	0.094	-	0.094	0.032	0.016
	<b>Region I Total</b>	-	-	-	-	<b>0.094</b>	-	<b>0.094</b>	-	<b>0.094</b>	<b>0.032</b>	<b>0.016</b>
II	Okaloosa	-	0.000	-	-	-	-	0.000	-	0.000	0.000	0.065
	Santa Rosa	-	0.126	-	-	0.278	-	0.405	0.003	0.408	0.339	0.352
	Walton	-	0.201	-	-	-	-	0.201	-	0.201	0.012	0.019
	<b>Region II Total</b>	-	<b>0.327</b>	-	-	<b>0.278</b>	-	<b>0.605</b>	<b>0.003</b>	<b>0.609</b>	<b>0.351</b>	<b>0.436</b>
III	Bay	-	0.342	-	-	-	-	0.342	-	0.342	1.197	0.158
	<b>Region III Total</b>	-	<b>0.342</b>	-	-	-	-	<b>0.342</b>	-	<b>0.342</b>	<b>1.197</b>	<b>0.158</b>
IV	Calhoun	-	0.951	-	-	-	-	0.951	0.070	1.020	0.535	0.510
	Holmes	-	-	-	-	-	-	0.000	0.000	0.000	0.000	0.004
	Jackson	-	18.353	-	-	-	-	18.353	0.036	18.388	15.312	16.172
	Liberty	-	-	-	-	-	-	-	-	0.000	0.000	0.000
	Washington	-	0.028	-	-	-	-	0.028	0.045	0.074	0.005	0.092
	<b>Region IV Total</b>	-	<b>19.332</b>	-	-	-	-	<b>19.332</b>	<b>0.151</b>	<b>19.482</b>	<b>15.852</b>	<b>16.778</b>
V	Franklin	-	-	-	-	-	-	-	-	0.000	0.000	0.000
	Gulf	-	0.210	-	-	-	-	0.210	-	0.210	0.196	0.223
	<b>Region V Total</b>	-	<b>0.210</b>	-	-	-	-	<b>0.210</b>	-	<b>0.210</b>	<b>0.196</b>	<b>0.223</b>
VI	Gadsden	-	1.607	-	-	-	-	1.607	1.389	2.997	2.537	4.270
	<b>Region VI Total</b>	-	<b>1.607</b>	-	-	-	-	<b>1.607</b>	<b>1.389</b>	<b>2.997</b>	<b>2.537</b>	<b>4.270</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	0.684	-	-	-	-	0.684	-	0.684	0.581	0.591
	Leon	-	0.027	-	-	-	-	0.027	0.000	0.027	0.011	0.063
	Wakulla	-	-	-	-	-	-	0.000	-	0.000	0.000	0.000
	<b>Region VII Total</b>	-	<b>0.711</b>	-	-	-	-	<b>0.711</b>	-	<b>0.711</b>	<b>0.592</b>	<b>0.654</b>
	<b>TOTALS</b>	-	<b>22.529</b>	-	-	<b>0.372</b>	-	<b>22.901</b>	<b>1.543</b>	<b>24.444</b>	<b>20.757</b>	<b>22.535</b>

(1) In 2019, approximately three-fourths of agriculture IWUPs had reported water use and were audited. Where appropriate, the previous year reported use was carried forward.

(2) Reported agricultural water use in previous calendar years for information and reference only.

## 4.1 Recreational Irrigation Water Use - 2019 Reported and Total Estimates (mgd)

Planning Region	County / Region	2019 Reported Water Use			Additional Water Use Estimates <sup>(1)</sup>			ESTIMATED TOTAL WATER USE		
		Ground-water	Surface Water	Total District REPORTED Water Use	Ground-water	Surface Water	Total Additional Estimates	Ground-water	Surface Water	Estimated TOTAL Water Use
I	Escambia	0.560	0.647	1.207	1.125	0.000	1.125	1.685	0.647	2.332
	<b>Region I Total</b>	<b>0.560</b>	<b>0.647</b>	<b>1.207</b>	<b>1.125</b>	<b>0.000</b>	<b>1.125</b>	<b>1.685</b>	<b>0.647</b>	<b>2.332</b>
II	Okaloosa	1.601	2.026	3.627	1.744	0.000	1.744	3.345	2.026	5.371
	Santa Rosa	0.513	0.013	0.526	1.292	0.375	1.667	1.805	0.388	2.193
	Walton	1.771	2.351	4.122	0.732	0.187	0.920	2.503	2.538	5.041
	<b>Region II Total</b>	<b>3.885</b>	<b>4.390</b>	<b>8.275</b>	<b>3.768</b>	<b>0.562</b>	<b>4.330</b>	<b>7.653</b>	<b>4.953</b>	<b>12.606</b>
III	Bay	0.606	0.809	1.418	0.844	0.000	0.844	1.450	0.809	2.262
	<b>Region III Total</b>	<b>0.606</b>	<b>0.809</b>	<b>1.418</b>	<b>0.844</b>	<b>0.000</b>	<b>0.844</b>	<b>1.450</b>	<b>0.809</b>	<b>2.262</b>
IV	Calhoun	0.000	0.000	0.000	0.005	0.000	0.005	0.005	0.000	0.005
	Holmes	0.000	0.000	0.000	0.215	0.000	0.215	0.215	0.000	0.215
	Jackson	0.000	0.000	0.000	0.386	0.000	0.386	0.386	0.000	0.386
	Liberty	0.000	0.000	0.000	0.002	0.000	0.002	0.002	0.000	0.002
	Washington	0.294	0.000	0.294	0.014	0.000	0.014	0.307	0.000	0.307
	<b>Region IV Total</b>	<b>0.294</b>	<b>0.000</b>	<b>0.294</b>	<b>0.621</b>	<b>0.000</b>	<b>0.621</b>	<b>0.915</b>	<b>0.000</b>	<b>0.915</b>
V	Franklin	0.000	0.158	0.158	0.058	0.000	0.058	0.058	0.158	0.216
	Gulf	0.047	0.000	0.047	0.043	0.000	0.043	0.090	0.000	0.090
	<b>Region V Total</b>	<b>0.047</b>	<b>0.158</b>	<b>0.205</b>	<b>0.100</b>	<b>0.000</b>	<b>0.100</b>	<b>0.147</b>	<b>0.158</b>	<b>0.305</b>
VI	Gadsden	0.009	0.036	0.045	0.111	0.000	0.111	0.120	0.036	0.156
	<b>Region VI Total</b>	<b>0.009</b>	<b>0.036</b>	<b>0.045</b>	<b>0.111</b>	<b>0.000</b>	<b>0.111</b>	<b>0.120</b>	<b>0.036</b>	<b>0.156</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.653	0.000	0.653	0.189	0.000	0.189	0.843	0.000	0.843
	Leon	0.930	0.448	1.378	0.661	0.240	0.901	1.591	0.688	2.279
	Wakulla	0.000	0.000	0.000	0.205	0.000	0.205	0.205	0.000	0.205
	<b>Region VII Total</b>	<b>1.584</b>	<b>0.448</b>	<b>2.032</b>	<b>1.055</b>	<b>0.240</b>	<b>1.295</b>	<b>2.639</b>	<b>0.688</b>	<b>3.327</b>
	<b>TOTALS</b>	<b>6.984</b>	<b>6.488</b>	<b>13.475</b>	<b>7.624</b>	<b>0.802</b>	<b>8.427</b>	<b>14.609</b>	<b>7.290</b>	<b>21.902</b>

(1) Additional water use estimates include Individual Water Use Permits (IWUPs) with no reporting requirements, and estimates of water use from residential and other small-scale recreational wells with General Water Use Permits (GWUPs). Estimates developed from 2015 data for the 2018 WSA.

## 4.2 Recreational Irrigation 2019 Reported Water Use by Source (mgd)

Planning Region	County / Region	Water Use by Groundwater Aquifer(s)						Total Groundwater	Net Surface Water <sup>(1)</sup>	TOTAL REPORTED WATER USE <sup>(1)</sup>
		Coastal Floridan	Inland Floridan	Inter-mediate	Claiborne	Sand-and-Gravel	Surficial			
I	Escambia	-	-	-	-	0.527	0.033	0.560	0.647	1.207
	<b>Region I Total</b>	-	-	-	-	<b>0.527</b>	<b>0.033</b>	<b>0.560</b>	<b>0.647</b>	<b>1.207</b>
II	Okaloosa	-	0.027	-	-	1.573	-	1.601	2.026	3.627
	Santa Rosa	-	-	-	-	0.513	-	0.513	0.013	0.526
	Walton	-	0.300	0.038	-	1.285	0.148	1.771	2.351	4.122
	<b>Region II Total</b>	-	<b>0.327</b>	<b>0.038</b>	-	<b>3.372</b>	<b>0.148</b>	<b>3.885</b>	<b>4.390</b>	<b>8.275</b>
III	Bay	0.221	0.024	-	-	0.015	0.350	0.606	0.809	1.418
	<b>Region III Total</b>	<b>0.221</b>	<b>0.024</b>	-	-	<b>0.015</b>	<b>0.350</b>	<b>0.606</b>	<b>0.809</b>	<b>1.418</b>
IV	Calhoun	-	-	-	-	-	-	-	-	-
	Holmes	-	-	-	-	-	-	-	-	-
	Jackson	-	-	-	-	-	-	-	-	-
	Liberty	-	-	-	-	-	-	-	-	-
	Washington	-	0.294	-	-	-	-	0.294	-	0.294
	<b>Region IV Total</b>	-	<b>0.294</b>	-	-	-	-	<b>0.294</b>	-	<b>0.294</b>
V	Franklin	-	-	-	-	-	-	0.000	0.158	0.158
	Gulf	-	-	0.023	-	-	0.023	0.047	-	0.047
	<b>Region V Total</b>	-	-	<b>0.023</b>	-	-	<b>0.023</b>	<b>0.047</b>	<b>0.158</b>	<b>0.205</b>
VI	Gadsden	-	0.009	-	-	-	-	0.009	0.036	0.045
	<b>Region VI Total</b>	-	<b>0.009</b>	-	-	-	-	<b>0.009</b>	<b>0.036</b>	<b>0.045</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	0.653	-	-	-	-	0.653	-	0.653
	Leon	-	0.930	-	-	-	-	0.930	0.448	1.378
	Wakulla	-	-	-	-	-	-	0.000	-	-
	<b>Region VII Total</b>	-	<b>1.584</b>	-	-	-	-	<b>1.584</b>	<b>0.448</b>	<b>2.032</b>
	<b>TOTALS</b>	<b>0.221</b>	<b>2.238</b>	<b>0.061</b>	-	<b>3.914</b>	<b>0.554</b>	<b>6.984</b>	<b>6.488</b>	<b>13.475</b>

(1) Recreational water use systems are often complex water flows between ground and surface waters. Groundwater withdrawals sometimes supplement surface water ponds, and at times, may be co-mingled with reclaimed water. Net surface water, and total water use, are adjusted and estimated accordingly.

**NOTE:** Of the current 92 recreational IWUPs, pumping reports and audits have been completed as of 10/6/2020 for 69 or about three-fourths of Permittees. For IWUPs without pumping audits, where appropriate, the previous year reported use is carried forward as a proxy for 2019 estimated water use. These "proxy estimates" occur in six counties: Bay, Escambia, Leon, Santa Rosa, Okaloosa, and Walton.

## 5.1 Industrial-Commercial-Institutional (ICI) 2019 Reported Water Use by Source (mgd)

Planning Region	County / Region	Water Use by Groundwater Aquifer(s)						Total Groundwater	Total Surface Water	TOTAL WATER USE <sup>(1)</sup>
		Coastal Floridan	Inland Floridan	Inter-mediate	Claiborne	Sand-and-Gravel	Surficial			
I	Escambia	-	-	-	-	30.751	0.171	30.922	0.626	31.548
	<b>Region I Total</b>	-	-	-	-	<b>30.751</b>	<b>0.171</b>	<b>30.922</b>	<b>0.626</b>	<b>31.548</b>
II	Okaloosa	0.477	1.625	-	-	0.099	-	2.201	-	2.201
	Santa Rosa	-	-	-	-	2.958	-	2.958	-	2.958
	Walton	-	0.032	-	-	-	-	0.032	-	0.032
	<b>Region II Total</b>	<b>0.477</b>	<b>1.657</b>	-	-	<b>3.057</b>	-	<b>5.191</b>	-	<b>5.191</b>
III	Bay <sup>(2)</sup>	0.022	0.512	-	-	-	-	0.534	21.398	21.932
	<b>Region III Total</b>	<b>0.022</b>	<b>0.512</b>	-	-	-	-	<b>0.534</b>	<b>21.398</b>	<b>21.932</b>
IV	Calhoun	-	0.225	-	-	-	-	0.225	-	0.225
	Holmes	-	-	-	-	-	-	-	-	-
	Jackson	-	0.862	-	0.066	-	-	0.929	-	0.929
	Liberty	-	0.265	-	-	-	0.034	0.299	0.001	0.300
	Washington	-	0.351	-	-	-	-	0.351	-	0.351
	<b>Region IV Total</b>	-	<b>1.704</b>	-	<b>0.066</b>	-	<b>0.034</b>	<b>1.804</b>	<b>0.001</b>	<b>1.805</b>
V	Franklin	0.017	-	-	-	-	-	0.017	-	0.017
	Gulf	-	0.126	-	-	-	-	0.126	-	0.126
	<b>Region V Total</b>	<b>0.017</b>	<b>0.126</b>	-	-	-	-	<b>0.144</b>	-	<b>0.144</b>
VI	Gadsden	-	0.556	-	-	-	-	0.556	0.000	0.556
	<b>Region VI Total</b>	-	<b>0.556</b>	-	-	-	-	<b>0.556</b>	<b>0.000</b>	<b>0.556</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	-	-	-	-	-	-	-	-
	Leon	-	0.118	-	-	-	-	0.118	-	0.118
	Wakulla	-	1.114	-	-	-	-	1.114	-	1.114
	<b>Region VII Total</b>	-	<b>1.232</b>	-	-	-	-	<b>1.232</b>	-	<b>1.232</b>
<b>TOTALS</b>		<b>0.517</b>	<b>5.787</b>	-	<b>0.066</b>	<b>33.809</b>	<b>0.204</b>	<b>40.383</b>	<b>22.026</b>	<b>62.409</b>

(1) Where applicable, water use that is recirculated and returned to source is, for estimating purposes, not considered to be contributing to total estimated consumptive water use. Total estimated water use is adjusted accordingly.

(2) Surface water source is the Deer Point Lake Reservoir supplied by Bay County Board of County Commissioners. See Public Supply for more information.

**NOTE:** Since 2015, eleven ICI IWUPs have closed and one new IWUP was issued in 2019. Of these current 56 IWUPs, pumping reports and audits have been completed as of 10/6/2020 for 44 or about 79 percent of Permittees. For IWUPs without pumping audits, the previous year reported use is carried forward as a proxy for 2019 estimated water use. These "proxy estimates" occur in all but one planning region.

## 6.1 Thermoelectric Power Generation 2019 Reported Water Use by Source (mgd)

Planning Region	County / Region and Power Facility	Water Use by Groundwater Aquifer(s)						Total Groundwater	Total (Net Adjusted) Surface Water	TOTAL WATER USE <sup>(1)</sup>
		Coastal Floridan	Inland Floridan	Inter-mediate	Claiborne	Sand-and-Gravel	Surficial			
I	Escambia - Gulf / Crist	-	-	-	-	1.258	-	1.258	4.493	5.751
	Escambia - North Site	-	-	-	-	-	-	-	-	-
	<b>Region I Total</b>	-	-	-	-	<b>1.258</b>	-	<b>1.258</b>	<b>4.493</b>	<b>5.751</b>
II	Okaloosa	-	-	-	-	-	-	-	-	-
	Santa Rosa	-	-	-	-	-	-	-	-	-
	Walton	-	-	-	-	-	-	-	-	-
	<b>Region II Total</b>	-	-	-	-	-	-	-	-	<b>0.000</b>
III	Bay - BOCC Waste Energy	-	0.084	-	-	-	-	0.084	0.000	0.084
	Bay - Gulf / Lansing Smith	-	0.728	-	-	-	-	0.728	3.130	3.858
	<b>Region III Total</b>	-	<b>0.812</b>	-	-	-	-	<b>0.812</b>	<b>3.130</b>	<b>3.942</b>
IV	Calhoun	-	-	-	-	-	-	-	-	-
	Holmes	-	-	-	-	-	-	-	-	-
	Jackson - Gulf / Scholz	-	0.113	-	-	-	-	0.113	1.296	1.409
	Liberty - Telogia Power	-	0.442	-	-	-	-	0.442	-	0.442
	Washington	-	-	-	-	-	-	-	-	-
	<b>Region IV Total</b>	-	<b>0.555</b>	-	-	-	-	<b>0.555</b>	<b>1.296</b>	<b>1.851</b>
V	Franklin	-	-	-	-	-	-	-	-	-
	Gulf	-	-	-	-	-	-	-	-	-
	<b>Region V Total</b>	-	-	-	-	-	-	-	-	<b>0.000</b>
VI	Gadsden	-	-	-	-	-	-	-	-	-
	<b>Region VI Total</b>	-	-	-	-	-	-	-	-	<b>0.000</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	-	-	-	-	-	-	-	-
	Leon - City of Tallahassee <sup>(2)</sup>	-	2.500	-	-	-	-	2.500	-	2.500
	Wakulla - City of Tallahassee	-	-	-	-	-	-	-	0.316	0.316
	<b>Region VII Total</b>	-	<b>2.500</b>	-	-	-	-	<b>2.500</b>	<b>0.316</b>	<b>2.816</b>
	<b>TOTALS</b>	-	<b>3.867</b>	-	-	<b>1.258</b>	-	<b>5.125</b>	<b>9.235</b>	<b>14.360</b>

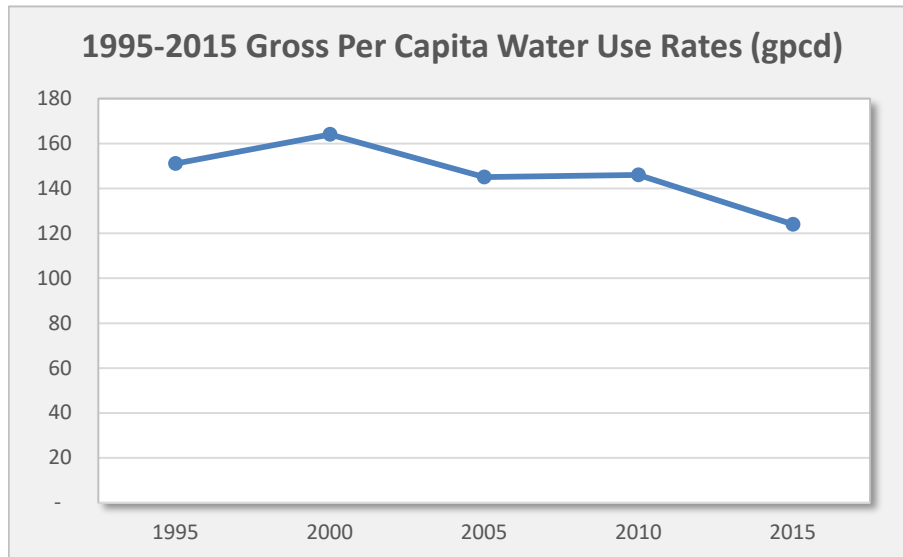
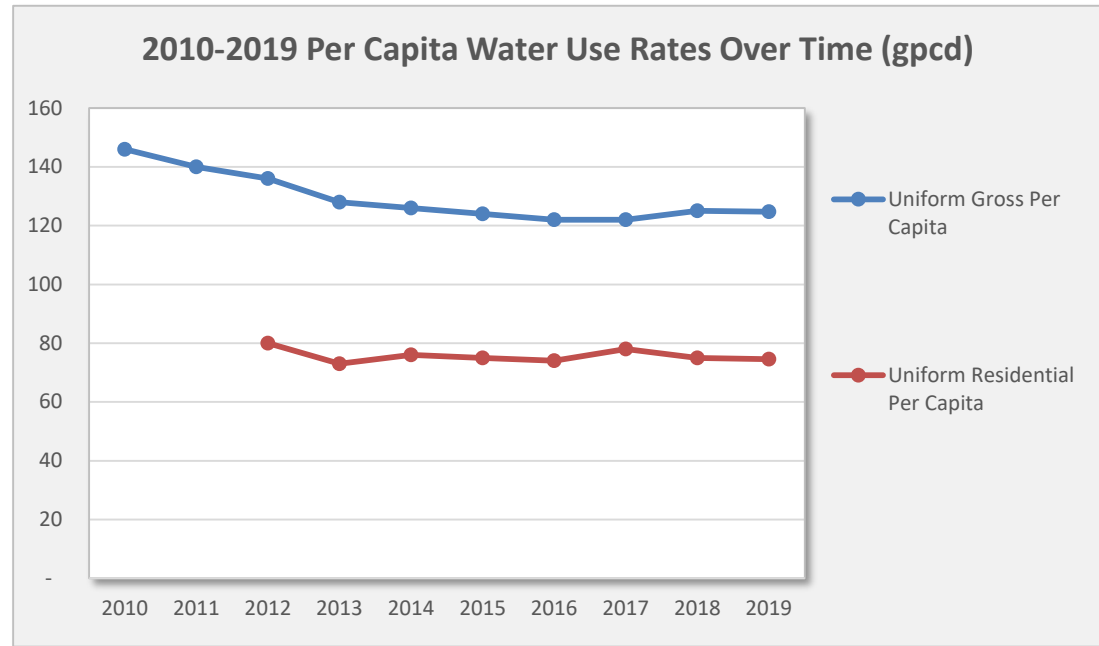
(1) Water withdrawn from surface water sources is typically used for cooling and returned to the source, and is not considered or estimated as consumptive water use.

(2) Arvah B. Hopkins Generating Station, Florida DEP Site Certification #PA 74-03. Provisional amount for estimated use, which was 1.95 mgd in 2015. Water withdrawal projections provided by the City of Tallahassee in March 2017 are 4.93 mgd throughout twenty year planning horizon 2020-2040.



## NWFWMD 1995-2019 Public Supply Per Capita Water Use Over Time (gpcd)

Year	Uniform Gross Per Capita	Uniform Residential Per Capita
<b>1995</b>	151	
<b>2000</b>	164	
<b>2005</b>	145	
<b>2010</b>	146	
2011	140	
2012	136	80
2013	128	73
2014	126	76
<b>2015</b>	124	75
2016	122	74
2017	122	78
2018	125	75
2019	125	75



### Five-Year Per Capita Averages, 2015-2019

**Uniform Gross Per Capita (gpcd) 123.54**

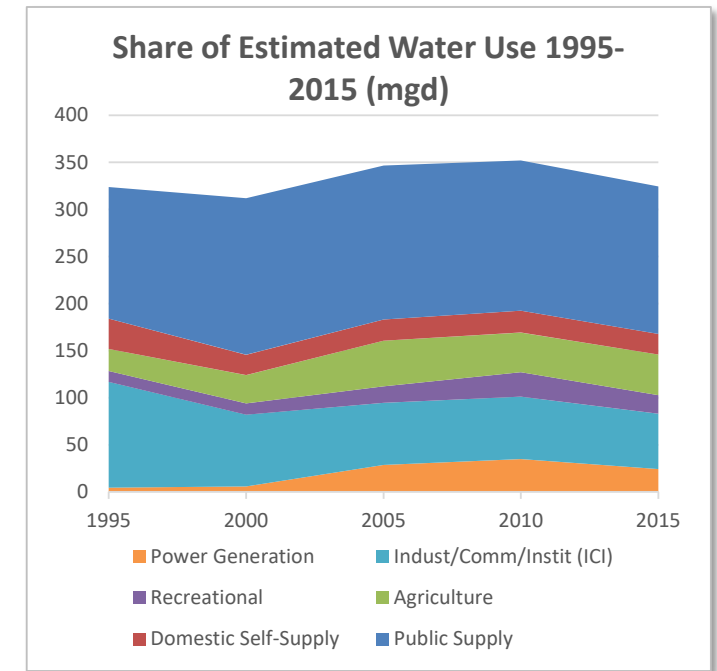
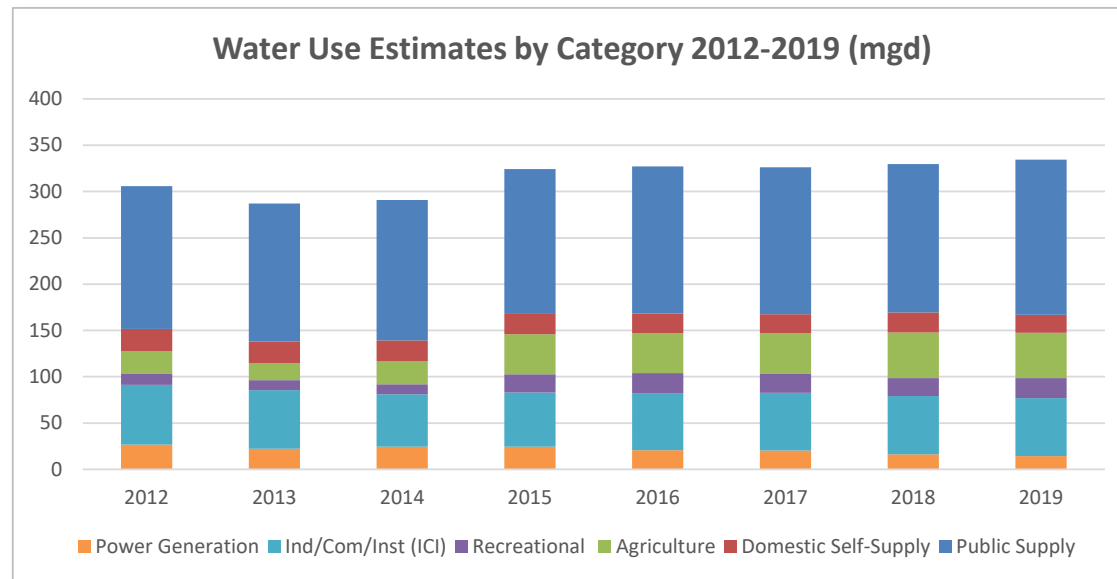
**Uniform Residential Per Capita (gpcd) 75.31**

**NOTES.** Public supply per capita rates, in gallons per capita per day (gpcd), are calculated from public supply water use data and estimates of populations served. The sources of per capita rates are district water supply assessments and, since 2012, annual water use reports. Also since 2015, populations served estimates include seasonal resident adjustments in all counties.

## NWFWMD 1995-2019 Trends in Share of and Total Water Use Estimates, By Water Use Category (mgd)

Districtwide	1995	2000	2005	2010	2011*	2012	2013	2014	2015	2016	2017	2018	2019
Public Supply	139.790	166.160	163.481	159.570		154.270	149.088	151.549	156.495	159.084	158.717	160.323	167.565
Domestic Self-Supply	32.140	21.632	22.386	23.272		23.754	23.361	22.216	22.021	20.794	20.249	21.505	19.288
Agriculture	23.400	30.100	48.630	42.030		24.817	18.410	25.157	43.240	43.360	43.466	49.261	48.879
Recreational	11.500	12.060	17.310	25.905		11.777	10.698	10.846	19.595	21.594	21.032	19.521	21.902
Ind/Com/Inst (ICI)	112.450	76.280	66.160	66.440		64.411	63.238	56.664	58.703	61.581	62.448	63.058	62.409
Power Generation	4.470	5.650	28.530	34.820		26.708	22.373	24.357	24.335	20.676	20.206	16.095	14.360
<b>Total Water Use</b>	<b>323.750</b>	<b>311.882</b>	<b>346.550</b>	<b>352.030</b>	<b>-</b>	<b>305.737</b>	<b>287.168</b>	<b>290.789</b>	<b>324.389</b>	<b>327.089</b>	<b>326.118</b>	<b>329.762</b>	<b>334.403</b>

\*2011 water use estimates not compiled at the time of this report.



### NOTES.

1. Agriculture and recreational water use estimates vary over time. In some cases, they are the sum of reported water use plus additional estimating methods (for WSAs, and 2015-2019). In other years agriculture and recreational estimates appear to be from reported use only.
2. In 2010, the agriculture water use estimate of 42.03 mgd reflects the value after corrections made in Gadsden County agricultural water use. Therefore, both the agriculture and total water use estimates do not match the WSA 2013 report data (errata never issued).
3. Differences in water use categories over time may reflect moving permittees from one category to another, for example, an industrial use moved to power generation, or splitting a permittees major uses across two or more water use categories (e.g. a municipality that also serves a correctional facility).



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