

# **2018 Estimated Water Use**

*in the*

**Northwest Florida Water Management District**

# **SUMMARY REPORT**



**March 2020**

**TRS-20-2**

# 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 modeling and MFL technical assessments, and 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).

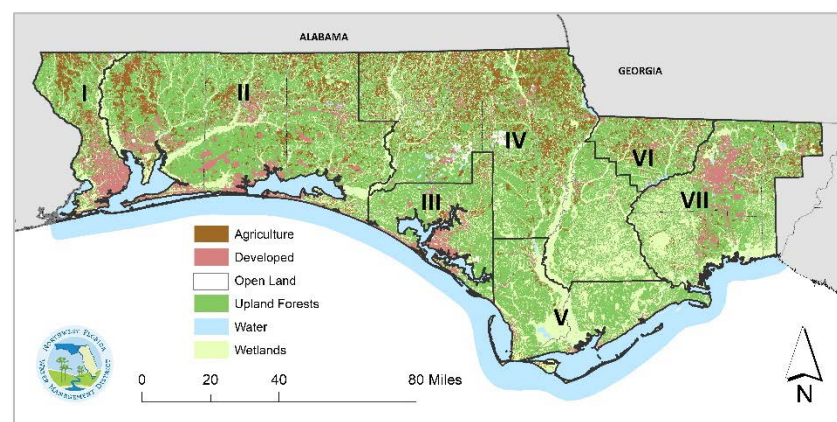
Estimates are based on best available data, and primarily rely on audited reports from permittees with Individual Water Use Permits (IWUPs) that have an average daily rate equal to or greater than 0.1 mgd of water use or permitted allocation, or that have permit conditions requiring annual water use reporting, for example, due to being within a Water Resource Caution Area or Area of Resource Concern. In 2018, about 31 percent of IWUPs in NFWFMD were 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 2018. 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)**

# 2018 Water Use Summary

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

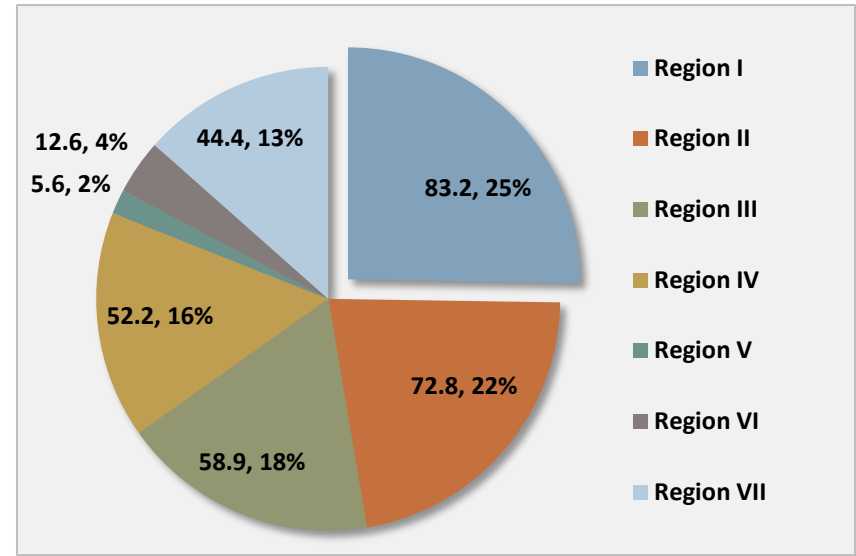
- I. Escambia County
- II. Santa Rosa, Okaloosa, and Walton counties
- III. Bay County
- IV. Washington, Holmes, Jackson, Calhoun, and Liberty counties
- V. Gulf and Franklin counties
- VI. Gadsden County
- VII. Leon, Wakulla, and (NWF portion of) Jefferson counties

District water use in 2018 totaled about 330 mgd and is summarized by region and by water use category in Table 1 and Figure 2.

Escambia County (Region I) is estimated to have used one-fourth of all District water in 2018 (about 83 mgd). Rapidly growing Region II was the second largest user with 73 mgd or 22 percent. Bay County was third largest in water use, followed by regions IV and VII.

Public supply is concentrated in urbanized regions I, II, III, and VII. Region IV, predominately rural and agricultural, had 35 percent of all DSS and 70 percent of all agricultural water use. Region II had 57 percent of all recreational water use. Escambia County had over half

of all industrial-commercial-institutional (ICI) self-supplied water use and 45 percent of power generation water use. Bay County (Region III) also had large shares of ICI and power generation water use.



**Figure 2. Estimated Water Use 2018 by Planning Region (mgd)**

Public supply has consistently been the largest water use category in the NWFWMMD since 1995 (see Appendix, page A.20). In 2018, public supply was close to half of all water use (160 mgd), followed by the second largest water use category ICI at 63 mgd, and then agriculture at 49 mgd. Recreation, DSS and power ranged from 5-6 percent of total water use (Figure 3).

More detailed water use data is in the Appendix. Contents of the Appendix are available [here](#). Click [here](#) for 2018 water use by source.

**Table 1. NWFWMMD 2018 Estimated Water Use by Category and by Region (mgd)**

Planning Region	1. Public Supply	2. Domestic Self-Supply	3. Agriculture	4. Recreation	5. ICI	6. Power Generation	TOTAL WATER USE (mgd)
Region I	37.18	1.34	2.58	2.19	32.74	7.20	83.23
Region II	50.37	3.74	2.74	11.04	4.95	0.00	72.84
Region III	27.52	1.93	1.20	2.28	21.72	4.27	58.92
Region IV	5.99	7.48	34.35	0.81	1.75	1.83	52.22
Region V	3.90	0.64	0.37	0.36	0.34	0.00	5.62
Region VI	4.14	1.66	6.09	0.20	0.47	0.00	12.57
Region VII	31.21	4.71	1.93	2.64	1.09	2.80	44.38
<b>TOTALS</b>	<b>160.32</b>	<b>21.50</b>	<b>49.26</b>	<b>19.52</b>	<b>63.06</b>	<b>16.10</b>	<b>329.76</b>

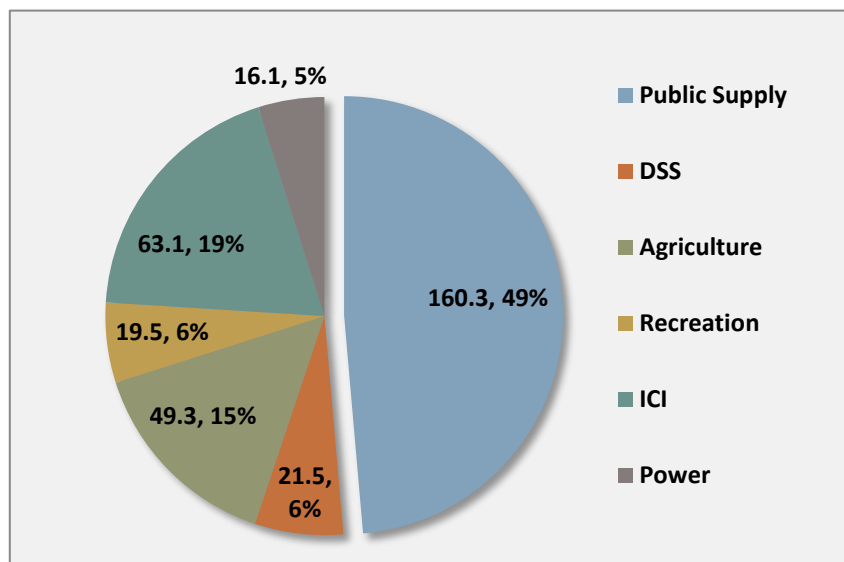


Figure 3. Estimated Water Use 2018 by Category (mgd)

## Population Estimates

In 2018 the University of Florida, Bureau of Business and Economic Research (BEBR), estimated District population to be 1,471,167.

Table 2. NFWFMD 2018 Population Estimates

REGION	BEBR Permanent Populations	Seasonal Adjustments	TOTAL <sup>(b)</sup> Population Estimates	% Public Supply	% DSS
Region I	318,560	10,194	328,754	95%	5%
Region II	440,695	58,446	499,141	92%	8%
Region III	181,199	21,744	202,943	89%	11%
Region IV	119,705	3,723	123,428	32%	68%
Region V	28,508	8,313	36,821	80%	20%
Region VI	47,828	1,148	48,976	62%	38%
Region VII <sup>(a)</sup>	334,672	3,423	338,095	84%	16%
<b>TOTALS</b>	<b>1,471,167</b>	<b>106,991</b>	<b>1,578,158</b>	<b>85%</b>	<b>15%</b>

<sup>(a)</sup> Estimated NFWFMD 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 106,991 residents for a total adjusted 2018 population estimate of 1,578,158. About 85 percent of District residents are estimated to be served by public supply utilities (Table 2).

## 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, as illustrated in Figure 4, below.

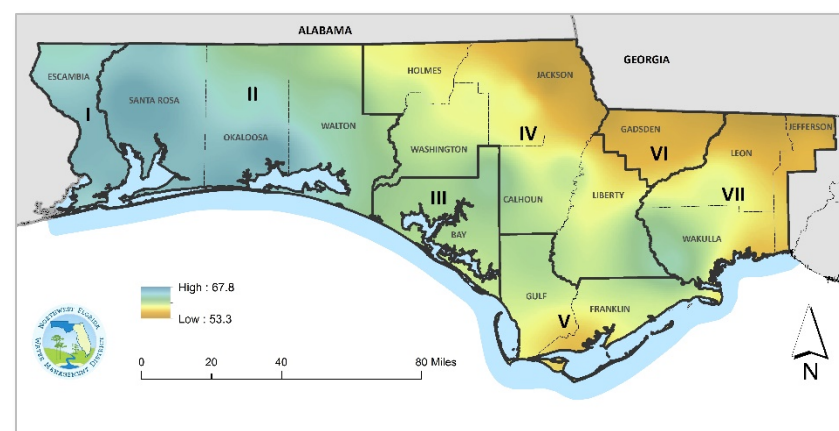


Figure 4. Normal Average Annual Precipitation (1981-2010) In/Yr<sup>2</sup>

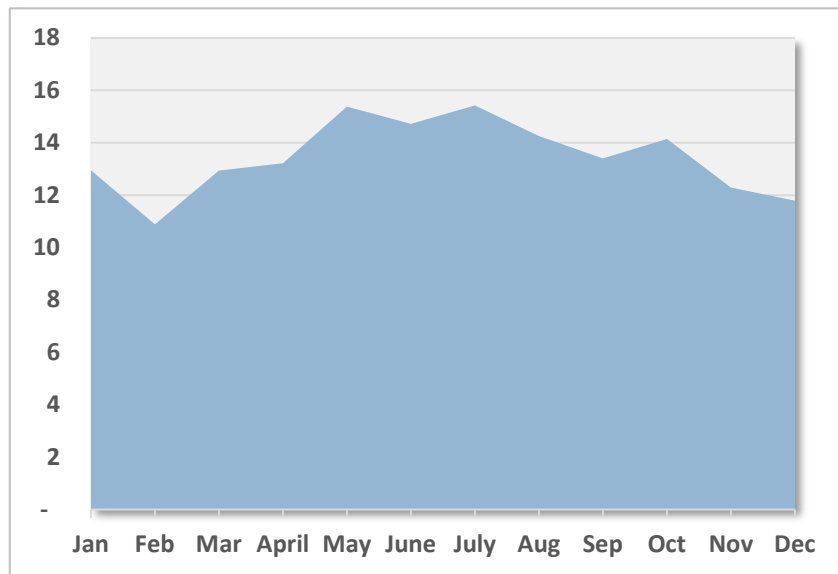
Agriculture and recreation are the two water use categories most affected by rainfall and drought. More precipitation information is in the [Agriculture and Recreational Irrigation](#) section.

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 2018 was estimated to be 160.3 mgd, close to half of all water use Districtwide. Nearly 60 percent of all public supply water use was in the District's three most urbanized counties: Escambia, Bay, and Leon; and over 91 percent was in regions I, II, III and VII. With seasonal adjustments, estimated public supply populations served totaled 1.34 million in 2018.



**Figure 5. 2018 Monthly Average Public Supply Water Use (mgd)**

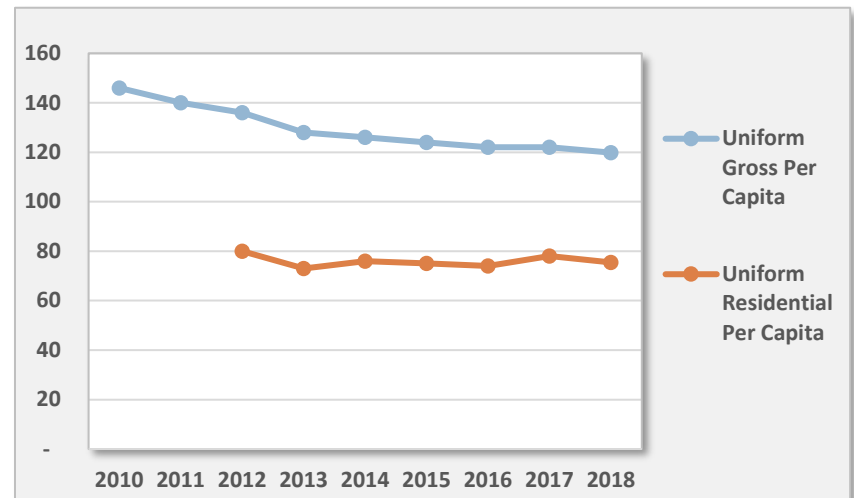
In 2018, the Districtwide monthly average public supply water use peaked in May and July (Figure 5). The lowest water use was in February and December. Utilities with May and July peak water use were Districtwide, including those serving coastal communities with seasonal residents. The October spike in water use may have been related to Hurricane Michael and infrastructure damages.

The estimated 2018 DSS population was 242,518. 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 21.5 mgd.

Together, public supply and DSS comprised approximately 55 percent of all water use Districtwide in 2018.

## Per Capita Water Use Rates

The 2018 Districtwide public supply per capita water use rates were 120 gpcd gross and 75 gpcd residential. Gross per capita rates have been in a general downward trend and residential rates relatively constant (Figure 6). See Appendix, page A.19, for more information.



**Figure 6. Trends in Per Capita Water Use Rates 2010-2018 (gpcd)**

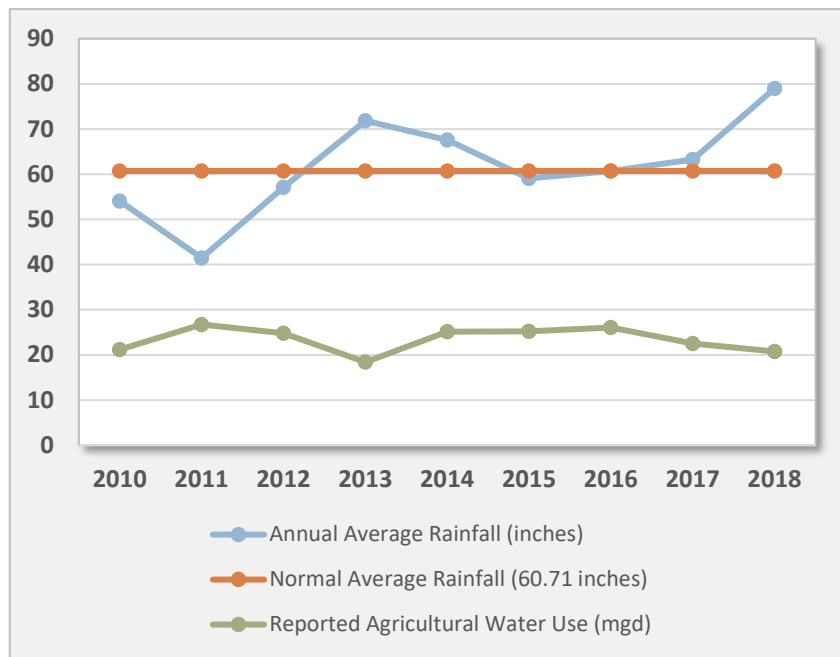
Five-year average per capita rates over the period 2014-2018 are:

- Average Uniform Gross Per Capita: 122.8 gpcd
- Average Uniform Residential Per Capita: 75.7 gpcd

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

# Agriculture and Recreational Irrigation

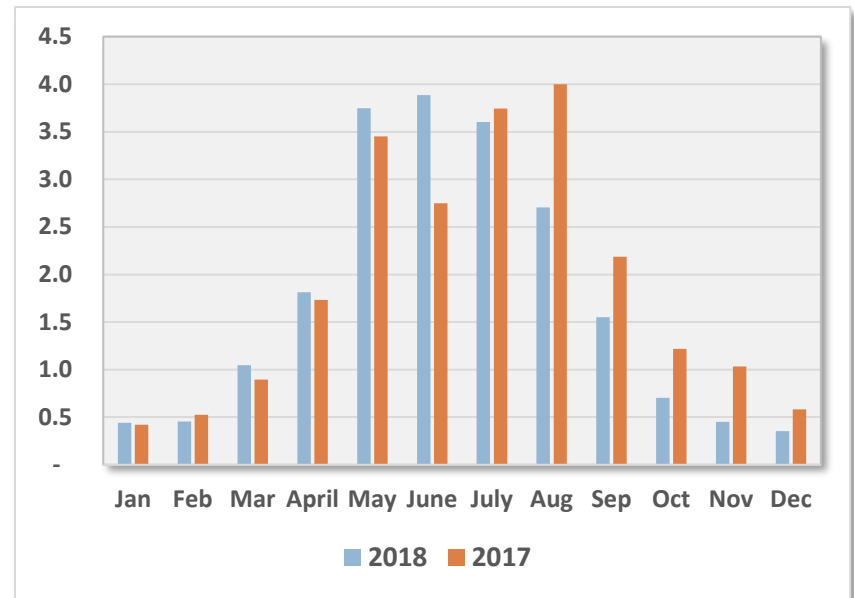
The Districtwide annual average rainfall in 2018 was one of the wettest on record (Figure 7). From 2010 to 2018, the data appears to indicate that reported agriculture water use generally has an inverse relationship to annual average precipitation.



**Figure 7. Rainfall and Agricultural Reported Water Use 2010-2018**

The reported agricultural water use in 2018 was 20.7 mgd, about 42 percent of the most recent FSAID total agricultural estimate of 49.3 mgd (2017 data). Ninety-three percent of reported agricultural water withdrawals are from groundwater. Most of the reported surface water withdrawals were in Gadsden County, where surface water was over half of reported agricultural water use.

In 2017 and 2018, reported agriculture monthly average water use peaked in the May to August summer months (Figure 8).



**Figure 8. 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 NFWFMD are estimated to be in Region II. Also, Region II had 60 percent of the reported and 57 percent of the total estimated recreational water use Districtwide.

The total estimated recreational water use in 2018 was 19.5 mgd. Reported recreational water use was 11.1 mgd; about 57 percent of the total. The sources of reported recreational water use are about 54-46 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.

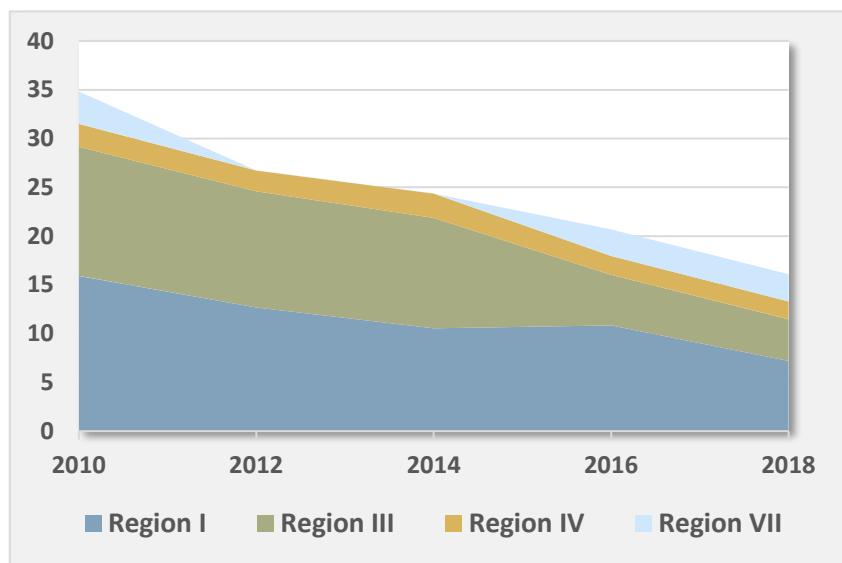
Collectively, agriculture and recreational irrigation were estimated to comprise about 21 percent of all water use Districtwide in 2018.



## Power Generation and ICI

Thermoelectric power generation and ICI self-supplied water use estimates in 2018, adjusted for recirculation, were about 16.1 mgd and 63.1 mgd respectively. Power generation and ICI together were about 24 percent of all 2018 water use Districtwide.

Eighty-six percent of ICI self-supply water use was in Escambia and Bay counties. Of the total ICI self-supplied water use, 65 percent was groundwater and 35 percent surface waters.



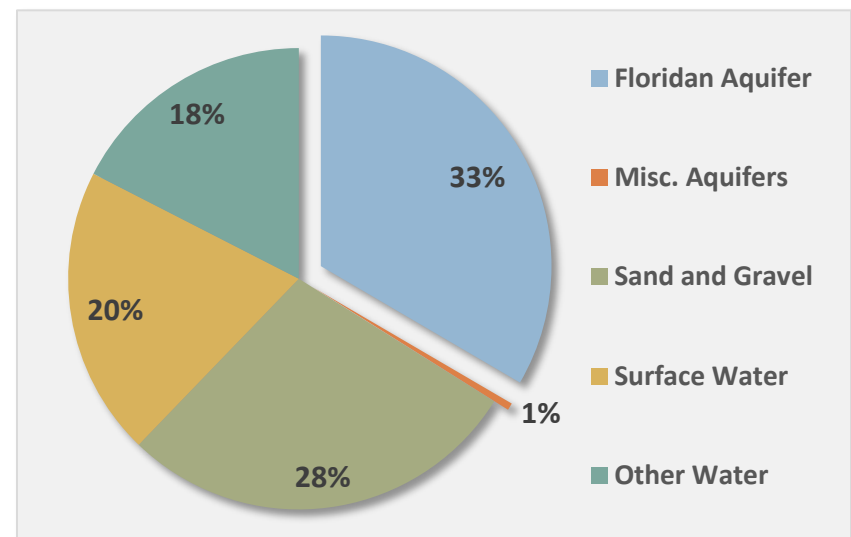
**Figure 9. Trends in Power Water Use 2010-2018 (mgd)**

Figure 9 illustrates trends in power water use from 2010 to 2018 in regions that have thermoelectric power generation facilities. Outreach surveys collected during the District's 2018 Water Supply Assessment indicate that water conservation, system efficiencies, and expanded reuse of reclaimed water may be contributing to declining power water use. Estimates of Region VII power water use were not available during preparation of the 2012 or 2014 water use reports.

## 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 62 percent of water withdrawals in 2018 were from groundwater aquifers, 20 percent from surface waters, and 18 percent "Other Water" – which are unknown or uncertain sources of water attributed to DSS and to additional agriculture and recreational water use estimates (Figure 10). Withdrawals from the Floridan aquifer accounted for an estimated third of all 2018 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 10. Share of Water Use 2018 by Water Source**

# Data Quality and Uncertainty Analysis

In 2018, about 82 percent (270 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 – About 43 percent of the total agriculture estimate prepared by the FDACS/FSAID project is NFWFMD reported and audited compliance data.
- Recreation – About 57 percent of the total recreational estimate was reported and audited. 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.

Inmate populations are included in BEBR estimates and can have a notable impact on population and per capita rate estimates. In 2018, BEBR estimated that NFWFMD had seven percent of the total state population and 31 percent of Florida's inmate population. Inmates were estimated to comprise about 15 percent of Jackson County populations, 17 percent of Gulf County, and about one-fifth of the total Liberty County population estimate.

The District is continually in a process of 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.

Another factor in data uncertainty that affected many District counties in 2018 was Hurricane Michael. Following the storm, emergency orders were issued extending timeframes for certain regulatory requirements. As a result, as of the end of October 2019 water use pumping reports for 2018 were not available from about 60 permittees and other types of compliance submissions were incomplete or not available. Where appropriate, 2017 data was used as a proxy for 2018 estimates.



## Acronyms

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BEBR	Bureau of Business and Economic Research
DACS	Florida Department of Agriculture and Consumer Services
DSS	Domestic Self-Supply
F.A.C.	Florida Administrative Code
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
USGS	United States Geological Survey

## References and Additional Information

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- Bureau of Business and Economic Research (BEBR). 2019. *Florida Estimates of Population 2018*. University of Florida, College of Liberal Arts and Sciences, Population Studies Program. <https://www.bebr.ufl.edu/population>.
- Florida Department of Agriculture and Consumer Services (FDACS) and The Balmoral Group (TBG). June 28, 2019. *Florida Statewide Agricultural Irrigation Demand 2017-2040 Agricultural Water Demands* (FSAID VI). <https://www.freshfromflorida.com/Business-Services/Water/Agricultural-Water-Supply-Planning>.
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## NFWWMD 2018 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	37.184	1.341	2.584	2.191	32.736	7.199	83.234
	<b>Region I Total</b>	<b>37.184</b>	<b>1.341</b>	<b>2.584</b>	<b>2.191</b>	<b>32.736</b>	<b>7.199</b>	<b>83.234</b>
II	Okaloosa	22.674	1.145	0.419	4.936	1.929	-	31.104
	Santa Rosa	16.892	1.173	1.804	2.233	2.989	-	25.090
	Walton	10.806	1.420	0.518	3.866	0.032	-	16.642
	<b>Region II Total</b>	<b>50.372</b>	<b>3.739</b>	<b>2.740</b>	<b>11.035</b>	<b>4.950</b>	-	<b>72.836</b>
III	Bay	27.515	1.930	1.197	2.285	21.716	4.273	58.916
	<b>Region III Total</b>	<b>27.515</b>	<b>1.930</b>	<b>1.197</b>	<b>2.285</b>	<b>21.716</b>	<b>4.273</b>	<b>58.916</b>
IV	Calhoun	0.479	1.047	3.191	0.005	0.245	-	4.967
	Holmes	1.138	1.280	1.155	0.215	-	-	3.788
	Jackson	2.942	2.956	29.134	0.386	0.821	1.378	37.616
	Liberty	0.447	0.504	0.079	0.002	0.337	0.449	1.817
	Washington	0.988	1.692	0.794	0.207	0.344	-	4.026
	<b>Region IV Total</b>	<b>5.994</b>	<b>7.479</b>	<b>34.353</b>	<b>0.815</b>	<b>1.747</b>	<b>1.827</b>	<b>52.216</b>
V	Franklin	1.858	0.180	0.005	0.216	0.017	-	2.277
	Gulf	2.043	0.459	0.366	0.143	0.327	-	3.338
	<b>Region V Total</b>	<b>3.901</b>	<b>0.640</b>	<b>0.371</b>	<b>0.358</b>	<b>0.345</b>	-	<b>5.615</b>
VI	Gadsden	4.143	1.663	6.090	0.198	0.474	-	12.567
	<b>Region VI Total</b>	<b>4.143</b>	<b>1.663</b>	<b>6.090</b>	<b>0.198</b>	<b>0.474</b>	-	<b>12.567</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.539	0.531	1.162	0.511	-	-	2.742
	Leon	28.208	3.383	0.471	1.922	0.113	2.500	36.597
	Wakulla	2.466	0.800	0.293	0.205	0.977	0.297	5.038
	<b>Region VII Total</b>	<b>31.213</b>	<b>4.714</b>	<b>1.926</b>	<b>2.638</b>	<b>1.090</b>	<b>2.797</b>	<b>44.377</b>
	<b>TOTALS</b>	<b>160.323</b>	<b>21.505</b>	<b>49.261</b>	<b>19.521</b>	<b>63.058</b>	<b>16.095</b>	<b>329.762</b>
	<b>Percent of Total Water Use:</b>	<b>48.6%</b>	<b>6.5%</b>	<b>14.9%</b>	<b>5.9%</b>	<b>19.1%</b>	<b>4.9%</b>	<b>100%</b>

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

(1) FSAID VI - 2017 estimated water use based on average hypothetical precipitation; adjusted in Bay County to actual reported pumpage (greater than FSAID estimate).

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

## NFWWMD 2018 Total Estimated 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 Ground-water	Total Other Water <sup>(1)</sup>	Total Surface Water	TOTAL ESTIMATED WATER USE
I	Escambia	-	-	-	-	71.520	0.157	71.676	5.018	6.540	83.234
	<b>Region Totals</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>71.520</b>	<b>0.157</b>	<b>71.676</b>	<b>5.018</b>	<b>6.540</b>	<b>83.234</b>
II	Okaloosa	12.940	8.421	-	-	1.395	-	22.756	3.308	1.864	27.928
	Santa Rosa	1.143	0.374	-	-	19.263	-	20.780	3.929	0.381	25.090
	Walton	0.953	13.147	0.126	-	1.094	0.162	15.482	2.658	1.678	19.819
	<b>Region Totals</b>	<b>15.035</b>	<b>21.942</b>	<b>0.126</b>	<b>-</b>	<b>21.752</b>	<b>0.162</b>	<b>59.018</b>	<b>9.895</b>	<b>3.923</b>	<b>72.836</b>
III	Bay	0.300	4.148	-	-	0.015	0.621	5.083	2.774	51.059	58.916
	<b>Region Totals</b>	<b>0.300</b>	<b>4.148</b>	<b>-</b>	<b>-</b>	<b>0.015</b>	<b>0.621</b>	<b>5.083</b>	<b>2.774</b>	<b>51.059</b>	<b>58.916</b>
IV	Calhoun	-	1.206	-	-	-	-	1.206	3.708	0.054	4.967
	Holmes	-	0.802	-	0.300	-	-	1.102	2.650	-	3.753
	Jackson	-	18.915	-	0.175	-	-	19.089	17.164	1.363	37.616
	Liberty	-	1.203	-	-	-	-	1.203	0.584	0.030	1.817
	Washington	-	1.567	-	-	-	-	1.567	2.495	-	4.062
	<b>Region Totals</b>	<b>-</b>	<b>23.694</b>	<b>-</b>	<b>0.474</b>	<b>-</b>	<b>-</b>	<b>24.168</b>	<b>26.601</b>	<b>1.447</b>	<b>52.216</b>
V	Franklin	1.876	-	-	-	-	-	1.876	0.243	0.158	2.277
	Gulf	0.429	0.643	0.053	-	-	0.050	1.175	0.673	1.490	3.338
	<b>Region Totals</b>	<b>2.305</b>	<b>0.643</b>	<b>0.053</b>	<b>-</b>	<b>-</b>	<b>0.050</b>	<b>3.051</b>	<b>0.916</b>	<b>1.649</b>	<b>5.615</b>
VI	Gadsden	-	5.805	-	-	-	-	5.805	5.326	1.435	12.567
	<b>Region Totals</b>	<b>-</b>	<b>5.805</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5.805</b>	<b>5.326</b>	<b>1.435</b>	<b>12.567</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	1.442	-	-	-	-	1.442	1.301	-	2.742
	Leon	-	31.899	-	-	-	-	31.899	4.504	0.637	37.040
	Wakulla	-	3.000	-	-	-	-	3.000	1.298	0.297	4.595
	<b>Region Totals</b>	<b>-</b>	<b>36.341</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>36.341</b>	<b>7.103</b>	<b>0.934</b>	<b>44.377</b>
<b>DISTRICT TOTALS</b>		<b>17.641</b>	<b>92.573</b>	<b>0.179</b>	<b>0.474</b>	<b>93.287</b>	<b>0.989</b>	<b>205.143</b>	<b>57.633</b>	<b>66.986</b>	<b>329.762</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 2018 Population Estimates - County, Public Supply Utility, and Domestic Self-Supply

Planning Region	County / Region	2010-2018 Population Change % <sup>(1)</sup>	BEBR 2018 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 Population Estimates <sup>(6)</sup>	% of TOTAL
I	Escambia	7.0%	318,560	3.2%	10,194	328,754	313,636	95.4%	15,118	4.6%
	<b>Total/Average</b>	<b>7.0%</b>	<b>318,560</b>	<b>3.2%</b>	<b>10,194</b>	<b>328,754</b>	<b>313,636</b>	<b>95.4%</b>	<b>15,118</b>	<b>4.6%</b>
II	Okaloosa	9.6%	198,152	11.0%	21,797	219,949	207,033	94.1%	12,916	5.9%
	Santa Rosa	15.5%	174,887	2.0%	3,498	178,385	165,156	92.6%	13,228	7.4%
	Walton	22.9%	67,656	49.0%	33,151	100,807	84,789	84.1%	16,019	15.9%
	<b>Total/Average</b>	<b>13.8%</b>	<b>440,695</b>	<b>20.7%</b>	<b>58,446</b>	<b>499,140</b>	<b>456,978</b>	<b>91.6%</b>	<b>42,163</b>	<b>8.4%</b>
III	Bay	7.3%	181,199	12.0%	21,744	202,943	181,176	89.3%	21,767	10.7%
	<b>Total/Average</b>	<b>7.3%</b>	<b>181,199</b>	<b>12.0%</b>	<b>21,744</b>	<b>202,943</b>	<b>181,176</b>	<b>89.3%</b>	<b>21,767</b>	<b>10.7%</b>
IV	Calhoun	3.2%	15,093	3.0%	453	15,546	3,737	24.0%	11,808	76.0%
	Holmes	1.0%	20,133	1.0%	201	20,334	5,898	29.0%	14,436	71.0%
	Jackson	1.4%	50,435	3.0%	1,513	51,948	18,615	35.8%	33,333	64.2%
	Liberty	6.6%	8,915	9.0%	802	9,717	4,038	41.6%	5,679	58.4%
	Washington	0.9%	25,129	3.0%	754	25,883	6,796	26.3%	19,087	73.7%
	<b>Total/Average</b>	<b>1.8%</b>	<b>119,705</b>	<b>3.8%</b>	<b>3,723</b>	<b>123,429</b>	<b>39,084</b>	<b>31.7%</b>	<b>84,344</b>	<b>68.3%</b>
V	Franklin	4.0%	12,009	39.0%	4,684	16,693	14,659	87.8%	2,034	12.2%
	Gulf	4.0%	16,499	22.0%	3,630	20,129	14,947	74.3%	5,182	25.7%
	<b>Total/Average</b>	<b>4.0%</b>	<b>28,508</b>	<b>30.5%</b>	<b>8,313</b>	<b>36,822</b>	<b>29,606</b>	<b>80.4%</b>	<b>7,216</b>	<b>19.6%</b>
VI	Gadsden	3.1%	47,828	2.4%	1,148	48,976	30,226	61.7%	18,750	38.3%
	<b>Total/Average</b>	<b>3.1%</b>	<b>47,828</b>	<b>2.4%</b>	<b>1,148</b>	<b>48,976</b>	<b>30,226</b>	<b>61.7%</b>	<b>18,750</b>	<b>38.3%</b>
VII	Jefferson <sup>(NWF Only)</sup>	-0.2%	10,397	3.5%	364	10,761	4,772	44.3%	5,989	55.7%
	Leon	6.1%	292,332	0.5%	1,462	293,794	255,639	87.0%	38,154	13.0%
	Wakulla	3.8%	31,943	5.0%	1,597	33,540	24,522	73.1%	9,018	26.9%
	<b>Total/Average</b>	<b>5.7%</b>	<b>334,672</b>	<b>3.0%</b>	<b>3,423</b>	<b>338,095</b>	<b>284,933</b>	<b>84.3%</b>	<b>53,161</b>	<b>15.7%</b>
	<b>TOTALS/AVERAGES</b>	<b>8.0%</b>	<b>1,471,167</b>	<b>7.3%</b>	<b>106,991</b>	<b>1,578,158</b>	<b>1,335,640</b>	<b>84.6%</b>	<b>242,518</b>	<b>15.4%</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.

## 1.1 Public Supply 2018 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	37.184	-	-	37.184	313,636	118.56	72.67
	<b>Totals/Average Per Capita</b>	<b>37.184</b>	<b>0.000</b>	<b>0.000</b>	<b>37.184</b>	<b>313,636</b>	<b>118.56</b>	<b>72.67</b>
II	Okaloosa	19.498	4.457	1.280	22.674	207,033	109.52	66.65
	Santa Rosa	16.892	6.557	6.557	16.892	165,156	102.28	67.92
	Walton	13.983	3.073	6.249	10.806	84,789	127.45	79.13
	<b>Totals/Average Per Capita</b>	<b>50.372</b>	<b>14.086</b>	<b>14.086</b>	<b>50.372</b>	<b>456,978</b>	<b>110.23</b>	<b>69.43</b>
III	Bay	27.515	25.872	25.872	27.515	181,176	151.87	80.00
	<b>Totals/Average Per Capita</b>	<b>27.515</b>	<b>25.872</b>	<b>25.872</b>	<b>27.515</b>	<b>181,176</b>	<b>151.87</b>	<b>80.00</b>
IV	Calhoun	0.479	-	-	0.479	3,737	128.15	80.84
	Holmes	1.102	0.036	-	1.138	5,898	192.94	77.87
	Jackson	2.942	-	-	2.942	18,615	158.03	49.74
	Liberty	0.447	-	-	0.447	4,038	110.79	54.24
	Washington	1.024	-	0.036	0.988	6,796	145.44	96.88
	<b>Totals/Average Per Capita</b>	<b>5.994</b>	<b>0.036</b>	<b>0.036</b>	<b>5.994</b>	<b>39,084</b>	<b>153.37</b>	<b>65.62</b>
V	Franklin	1.858	0.107	0.107	1.858	14,659	126.78	80.76
	Gulf	2.043	-	-	2.043	14,947	136.67	53.89
	<b>Totals/Average Per Capita</b>	<b>3.901</b>	<b>0.107</b>	<b>0.107</b>	<b>3.901</b>	<b>29,606</b>	<b>131.77</b>	<b>67.20</b>
VI	Gadsden	4.143	-	-	4.143	30,226	137.07	71.29
	<b>Totals/Average Per Capita</b>	<b>4.143</b>	<b>0.000</b>	<b>0.000</b>	<b>4.143</b>	<b>30,226</b>	<b>137.07</b>	<b>71.29</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.539	-	-	0.539	4,772	112.94	65.56
	Leon	28.651	-	0.443	28.208	255,639	110.34	59.95
	Wakulla	2.023	0.443	-	2.466	24,522	100.58	77.04
	<b>Totals/Average Per Capita</b>	<b>31.213</b>	<b>0.443</b>	<b>0.443</b>	<b>31.213</b>	<b>284,933</b>	<b>109.55</b>	<b>61.51</b>
	<b>DISTRICT TOTALS/AVERAGE</b>	<b>160.323</b>	<b>40.543</b>	<b>40.543</b>	<b>160.323</b>	<b>1,335,640</b>	<b>120.03</b>	<b>75.44</b>

(1) Populations served include seasonal resident adjustments.

## 1.2 Public Supply 2018 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	-	-	-	-	37.184	-	37.184	-	37.184
	<b>Region Totals</b>	-	-	-	-	<b>37.184</b>	-	<b>37.184</b>	-	<b>37.184</b>
II	Okaloosa	12.464	7.034	-	-	-	-	19.498	-	19.498
	Santa Rosa	1.143	0.242	-	-	15.507	-	16.892	-	16.892
	Walton	0.953	12.936	0.094	-	-	-	13.983	-	13.983
	<b>Region Totals</b>	<b>14.559</b>	<b>20.212</b>	<b>0.094</b>	-	<b>15.507</b>	-	<b>50.372</b>	-	<b>50.372</b>
III	Bay <sup>(1)</sup>	-	1.643	-	-	-	-	1.643	25.872	27.515
	<b>Region Totals</b>	-	<b>1.643</b>	-	-	-	-	<b>1.643</b>	<b>25.872</b>	<b>27.515</b>
IV	Calhoun	-	0.479	-	-	-	-	0.479	-	0.479
	Holmes	-	0.802	-	0.300	-	-	1.102	-	1.102
	Jackson	-	2.818	-	0.124	-	-	2.942	-	2.942
	Liberty	-	0.447	-	-	-	-	0.447	-	0.447
	Washington	-	1.024	-	-	-	-	1.024	-	1.024
	<b>Region Totals</b>	-	<b>5.570</b>	-	<b>0.424</b>	-	-	<b>5.994</b>	-	<b>5.994</b>
V	Franklin	1.858	-	-	-	-	-	1.858	-	1.858
	Gulf	0.429	0.123	-	-	-	-	0.553	1.490	2.043
	<b>Region Totals</b>	<b>2.288</b>	<b>0.123</b>	-	-	-	-	<b>2.411</b>	<b>1.490</b>	<b>3.901</b>
VI	Gadsden	-	4.143	-	-	-	-	4.143	-	4.143
	<b>Region Totals</b>	-	<b>4.143</b>	-	-	-	-	<b>4.143</b>	-	<b>4.143</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	0.539	-	-	-	-	0.539	-	0.539
	Leon	-	28.651	-	-	-	-	28.651	-	28.651
	Wakulla	-	2.023	-	-	-	-	2.023	-	2.023
	<b>Region Totals</b>	-	<b>31.213</b>	-	-	-	-	<b>31.213</b>	-	<b>31.213</b>
<b>DISTRICT TOTALS</b>		<b>16.847</b>	<b>62.906</b>	<b>0.094</b>	<b>0.424</b>	<b>52.691</b>	-	<b>132.961</b>	<b>27.362</b>	<b>160.323</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.



### 1.3 Public Supply 2018 Water Demand, Populations Served, and Per Capita Water Use - by Utility

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
I	<b>Escambia County</b>	<b>37.184</b>	<b>0.000</b>	<b>0.000</b>	<b>37.184</b>	<b>313,636</b>	<b>118.56</b>	<b>72.67</b>
	Bratt-Davisville Water System (EREC)	0.178	-	-	0.178	1,864	95.40	59.42
	Central Water Works, Inc.	0.279	-	-	0.279	2,525	110.41	58.24
	Century, Town of	0.501	-	-	0.501	3,205	156.22	72.82
	Cottage Hill Water Works, Inc.	0.334	-	-	0.334	3,889	85.86	74.20
	Emerald Coast Utilities Authority (ECUA)	31.611	-	-	31.611	256,757	123.12	75.12
	Farm Hill Utilities, Inc.	0.550	-	-	0.550	4,760	115.45	63.12
	Gonzalez Utilities Association, Inc.	0.472	-	-	0.472	4,460	105.78	63.51
	Molino Utilities, Inc.	0.720	-	-	0.720	5,496	131.05	81.25
	People's Water Service Company	2.366	-	-	2.366	28,929	81.78	55.12
	Walnut Hill Water Works (EREC)	0.174	-	-	0.174	1,752	99.47	58.11
	<b>REGION I - Totals/Average Per Capita</b>	<b>37.184</b>	<b>0.000</b>	<b>0.000</b>	<b>37.184</b>	<b>313,636</b>	<b>118.56</b>	<b>72.67</b>
II	<b>Okaloosa County</b>	<b>19.498</b>	<b>4.457</b>	<b>1.280</b>	<b>22.674</b>	<b>207,033</b>	<b>109.52</b>	<b>66.65</b>
	Auburn Water System	1.650	-	-	1.650	16,457	100.25	76.71
	Baker Water System	0.206	-	-	0.206	2,417	85.14	66.52
	Blackman Community Water System, Inc.	0.030	-	-	0.030	585	51.04	45.94
	Crestview, City of	2.375	-	-	2.375	29,071	81.69	29.94
	Destin Water Users	1.701	2.638	-	4.309	26,477	162.75	103.91
	Fort Walton Beach, City of	2.509	-	-	2.509	21,895	114.59	57.54
	Holt Water Works, Inc.	0.173	-	-	0.173	2,086	82.74	12.18
	Laurel Hill, City of	0.124	-	-	0.124	1,447	85.79	64.88
	Mary Esther, City of	0.456	-	-	0.456	3,971	114.95	57.09
	Milligan Water System	0.124	-	-	0.124	1,680	73.99	62.04
	Niceville, City of	2.353	-	-	2.353	19,979	117.76	78.31
	OCW&S - Bluewater (Raintree)	1.173	-	-	1.173	13,560	86.49	62.85
	OCW&S - Main (Garniers) Office Well Plant	3.819	0.640	-	4.459	44,379	100.48	52.88
	OCW&S - Mid-County (Crestview) Antioch	2.353	-	1.280	1.073	7,274	147.50	139.03
	OCW&S - County West	-	0.640	-	0.640	8,542	74.93	74.93
	SWUC (Okaloosa County portion)	-	0.569	-	0.569	3,020	188.35	107.54
	Valparaiso, City of	0.452	-	-	0.452	4,193	107.81	66.04

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>16.892</b>	<b>6.557</b>	<b>6.557</b>	<b>16.892</b>	<b>165,156</b>	<b>102.28</b>	<b>67.92</b>
	Bagdad-Garcon Point Water System	0.575	-	-	0.575	5,993	96.03	64.34
	Berrydale Water System	0.248	-	-	0.248	2,226	111.28	52.31
	Chumuckla Water System	0.313	-	-	0.313	3,965	79.06	67.71
	East Milton Water System	1.583	-	-	1.583	11,778	134.38	60.00
	Fairpoint Regional Utility System (FRUS)	5.473	-	5.473	-	-	-	0.00
	Gulf Breeze Water Department (Service Area)	-	2.085	1.042	1.042	5,849	178.22	119.41
	Holley-Navarre Water System, Inc.	0.700	2.153	-	2.852	38,956	73.22	59.06
	Jay, Town of	0.175	0.008	-	0.183	1,336	137.11	69.16
	Midway Water System	0.747	0.835	0.032	1.550	15,317	101.18	63.17
	Milton, City of	1.781	-	-	1.781	19,600	90.87	67.94
	Moore Creek-Mt. Carmel Utilities, Inc.	0.255	-	0.008	0.247	3,114	79.22	53.08
	Pace Water System, Inc.	4.205	-	-	4.205	38,176	110.14	67.12
	Point Baker Water System, Inc.	0.813	-	-	0.813	9,580	84.81	67.13
	Navarre Beach - Santa Rosa BOCC	0.024	0.401	-	0.425	4,294	98.88	60.26
	South Santa Rosa Utilities (Service Area)	-	1.075	-	1.075	4,973	216.13	144.81
II	<b>Walton County</b>	<b>13.983</b>	<b>3.073</b>	<b>6.249</b>	<b>10.806</b>	<b>84,789</b>	<b>127.45</b>	<b>79.13</b>
	Argyle Water System	0.061	-	-	0.061	770	79.78	75.79
	DeFuniak Springs, City of	1.201	-	-	1.201	9,719	123.60	41.67
	FCSWC / Regional Utilities	4.446	0.261	0.009	4.697	41,172	114.09	74.20
	Freeport, City of	1.391	-	0.261	1.131	8,508	132.89	106.31
	Freeport, City of, North Bay Water System	0.132	-	-	0.132	1,785	74.08	73.16
	Inlet Beach Water System, Inc.	0.162	0.009	-	0.172	1,951	87.93	71.39
	Mossy Head Water Works, Inc.	0.279	-	-	0.279	3,511	79.41	63.37
	Paxton, City of	0.146	-	-	0.146	1,517	96.48	58.99
	SWUC - Rockhill Inland Well Field	5.411	-	5.411	0.000	-	-	-
	SWUC - Coastal Well Field	0.752	2.803	0.569	2.987	15,856	188.35	107.54
	<b>REGION II - Totals/Average Per Capita</b>	<b>50.372</b>	<b>14.086</b>	<b>14.086</b>	<b>50.372</b>	<b>456,978</b>	<b>110.23</b>	<b>69.43</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>27.515</b>	<b>25.872</b>	<b>25.872</b>	<b>27.515</b>	<b>181,176</b>	<b>151.87</b>	<b>80.00</b>
	Bay County BOCC (Public Supply ONLY)	25.872	-	-	-	20,807	-	
	- Cedar Grove (separate BOCC service area)	-	0.519	-	0.519	-	-	
	- GCEC (North Bay, Lake Merial)	-	0.649	-	0.649	-	-	
	- Bay Co. (excludes North Bay, Lk Merial, SE)	-	1.074	-	1.074	-	-	
	Bay County BOCC - Total Exports	-	-	25.872	-	-	-	
	Callaway	-	1.606	-	1.606	17,729	90.60	
	Lynn Haven, City of	1.643	0.496	-	2.140	21,201	100.92	
	Mexico Beach	-	0.470	-	0.470	2,488	189.09	
	Panama City Water System	-	5.948	-	5.948	41,170	144.46	
	Panama City Beach	-	13.707	-	13.707	63,693	215.20	
	Parker	-	0.403	-	0.403	4,467	90.11	
	Springfield	-	1.000	-	1.000	9,621	103.91	
	<b>REGION III - Totals/Average Per Capita</b>	<b>27.515</b>	<b>25.872</b>	<b>25.872</b>	<b>27.515</b>	<b>181,176</b>	<b>151.87</b>	<b>80.00</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>1.858</b>	<b>0.107</b>	<b>0.107</b>	<b>1.858</b>	<b>14,659</b>	<b>126.78</b>	<b>80.76</b>
	Alligator Point Water Resources District	0.089	-	-	0.089	671	133.31	102.19
	Apalachicola, City of	0.479	-	-	0.479	3,400	142.14	53.86
	Carrabelle, City of	0.430	-	0.107	0.324	3,731	86.74	73.70
	- Carrabelle, City of (Lanark Village)	0.000	0.107	-	0.107	1,625	65.75	37.27
	Eastpoint Water and Sewer District	0.277	-	-	0.277	2,409	114.80	91.32
	St. James Island (Summercamp, FRWA)	0.008	-	-	0.008	57	147.61	64.34
	Water Management (St. George Island)	0.558	-	-	0.558	2,796	199.39	133.98
V	<b>Gulf County</b>	<b>2.043</b>	<b>0.000</b>	<b>0.000</b>	<b>2.043</b>	<b>14,947</b>	<b>136.67</b>	<b>53.89</b>
	Lighthouse Utilities Company, Inc.	0.429	-	-	0.429	4,025	106.70	71.50
	Port St. Joe, City of	1.490	-	-	1.490	8,973	166.07	47.31
	Wewahitchka, City of	0.123	-	-	0.123	1,949	63.22	47.84
	<b>REGION V - Totals/Average Per Capita</b>	<b>3.901</b>	<b>0.107</b>	<b>0.107</b>	<b>3.901</b>	<b>29,606</b>	<b>131.77</b>	<b>67.20</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>0.479</b>	<b>0.000</b>	<b>0.000</b>	<b>0.479</b>	<b>3,737</b>	<b>128.15</b>	<b>80.84</b>
	Altha, Town of	0.111	-	-	0.111	694	159.63	67.68
	Blountstown	0.368	-	-	0.368	3,043	120.97	83.85
IV	<b>Holmes County</b>	<b>1.102</b>	<b>0.036</b>	<b>0.000</b>	<b>1.138</b>	<b>5,898</b>	<b>192.94</b>	<b>77.87</b>
	Bonifay, City of	0.952	-	-	0.952	4,048	235.18	53.35
	Caryville, Town of (Holmes County portion)	-	0.036	-	0.036	107	332.44	907.56
	Esto Water Works	0.017	-	-	0.017	385	44.92	88.31
	Joyce E. Snare Waterworks	0.021	-	-	0.021	319	66.81	66.81
	Noma, Town of	0.003	-	-	0.003	187	18.10	16.29
	Ponce de Leon, Town of	0.074	-	-	0.074	554	132.81	97.89
	Westville, Town of	0.035	-	-	0.035	298	116.82	112.42
IV	<b>Jackson County</b>	<b>2.942</b>	<b>0.000</b>	<b>0.000</b>	<b>2.942</b>	<b>18,615</b>	<b>158.03</b>	<b>49.74</b>
	Alford, Town of	0.149	-	-	0.149	566	263.02	121.54
	Campbellton, Town of	0.020	-	-	0.020	215	92.37	83.14
	Cottondale, City of	0.116	-	-	0.116	889	129.97	116.98
	Graceville, City of	0.403	-	-	0.403	2,745	146.75	45.06
	Grand Ridge, Town of	0.330	-	-	0.330	981	335.99	53.04
	Greenwood, Town of	0.064	-	-	0.064	696	92.41	58.50
	Jackson Utilities, Plant 1, JCBOCC	0.278	-	-	0.278	574	483.53	114.11
	Jacob, City of	0.020	-	-	0.020	242	83.35	75.02
	Malone, Town of	0.058	-	-	0.058	2,193	26.27	8.28
	Marianna, City of	1.251	-	-	1.251	7,621	164.20	40.86
	Sneads, Town of	0.254	-	-	0.254	1,893	134.17	55.79
IV	<b>Liberty County</b>	<b>0.447</b>	<b>0.000</b>	<b>0.000</b>	<b>0.447</b>	<b>4,038</b>	<b>110.79</b>	<b>54.24</b>
	Bristol, City of	0.205	-	-	0.205	1,724	118.73	19.35
	Liberty Co. BOCC, Estiffanulga	0.026	-	-	0.026	281	92.80	90.94
	Liberty Co. BOCC, Hosford-Telogia	0.107	-	-	0.107	1,257	85.31	67.32
	Liberty Co. BOCC, Lake Mystic	0.036	-	-	0.036	314	115.79	115.92
	Liberty Co. BOCC, Rock Bluff	0.052	-	-	0.052	234	222.36	79.02
	Sumatra Water System (Liberty Co. BOCC)	0.015	-	-	0.015	163	89.79	87.99
	Talquin Electric - Sweetwater System	0.006	-	-	0.006	65	98.26	96.30
IV	<b>Washington</b>	<b>1.024</b>	<b>0.000</b>	<b>0.036</b>	<b>0.988</b>	<b>6,796</b>	<b>145.44</b>	<b>96.88</b>
	Sunny Hills (formerly Aqua Utilities)	0.103	-	-	0.103	1,495	68.93	69.00
	Caryville, Town of	0.119	-	0.036	0.083	250	332.44	907.56
	ChIPLEY, City of	0.656	-	-	0.656	3,775	173.75	56.98
	Vernon, City of	0.091	-	-	0.091	726	125.94	87.96
	Wausau, Town of	0.055	-	-	0.055	550	99.93	89.94
	<b>REGION IV - Totals/Average Per Capita</b>	<b>5.994</b>	<b>0.036</b>	<b>0.036</b>	<b>5.994</b>	<b>39,084</b>	<b>153.37</b>	<b>65.62</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>4.143</b>	<b>0.000</b>	<b>0.000</b>	<b>4.143</b>	<b>30,226</b>	<b>137.07</b>	<b>71.29</b>
	Chattahoochee, City of	0.443	-	-	0.443	3,784	117.07	56.48
	Greensboro, Town of	0.059	-	-	0.059	663	88.70	63.15
	Gretna, City of	0.231	0.102	-	0.332	1,501	221.49	61.98
	Havana, Town of	0.430	-	-	0.430	2,869	149.75	81.29
	Quincy, City of	1.365	-	0.102	1.263	8,385	158.74	71.19
	Talquin Electric - Gadsden County Regional	1.589	-	-	1.589	13,241	119.99	74.06
	Talquin Electric - Hammock Creek	0.006	-	-	0.006	40	140.25	133.24
	Talquin Electric - Jamieson Water	0.013	-	-	0.013	71	189.25	183.37
	Talquin Electric - St. James	0.008	-	-	0.008	98	80.04	76.04
	<b>REGION VI - Totals/Average Per Capita</b>	<b>4.143</b>	<b>0.000</b>	<b>0.000</b>	<b>4.143</b>	<b>30,226</b>	<b>137.07</b>	<b>71.29</b>
VII	<b>Jefferson County</b> <sup>(NWF Only)</sup>	<b>0.539</b>	<b>0.000</b>	<b>0.000</b>	<b>0.539</b>	<b>4,772</b>	<b>112.94</b>	<b>65.56</b>
	Jefferson Communities Water System, Inc.	0.174	-	-	0.174	1,658	105.07	87.10
	Monticello, City of	0.365	-	-	0.365	3,114	117.14	54.09
	<b>Leon County</b>	<b>28.651</b>	<b>0.000</b>	<b>0.443</b>	<b>28.208</b>	<b>255,639</b>	<b>110.34</b>	<b>59.95</b>
	Seminole-Rowe (total all service areas)	0.126	-	-	0.126	1,721	73.34	55.18
	Tallahassee, City of	25.198	-	0.443	24.755	223,983	110.52	55.18
	Talquin Electric - Bradfordville Regional	1.195	-	-	1.195	10,641	112.32	101.20
	Talquin Electric - Lake Jackson Regional	0.900	-	-	0.900	9,804	91.75	69.51
	Talquin Electric - Leon County East Regional	0.281	-	-	0.281	1,654	169.62	108.50
	Talquin Electric - Leon County West Regional	0.276	-	-	0.276	2,026	136.10	86.00
	Talquin Electric - Meadows Regional	0.439	-	-	0.439	3,545	123.72	79.59
	Talquin Electric Coop Small Systems (total)	0.072	-	-	0.072	1,182	61.26	55.14
	Miscellaneous Small Public Systems (total)	0.165	-	-	0.165	1,083	152.54	137.28
	<b>Wakulla County</b>	<b>2.023</b>	<b>0.443</b>	<b>0.000</b>	<b>2.466</b>	<b>24,522</b>	<b>100.58</b>	<b>77.04</b>
	Panacea Area Water System, Inc.	0.209	-	-	0.209	2,786	75.08	58.33
	Sopchoppy, City of	0.890	-	-	0.890	9,792	90.91	86.12
	St. Marks, City of, Water Sys. (COT Booster Plant)	-	0.100	-	0.100	666	150.09	150.09
	Tallahassee, City of (Wakulla County portion)	-	0.343	-	0.343	2,970	115.50	62.43
	Talquin Electric - Wakulla Regional	0.903	-	-	0.903	7,962	113.38	73.26
	Wakulla County, River Sink Subdivision	0.021	-	-	0.021	346	61.78	42.83
	<b>REGION VII - Totals/Average Per Capita</b>	<b>31.213</b>	<b>0.443</b>	<b>0.443</b>	<b>31.213</b>	<b>284,933</b>	<b>109.55</b>	<b>61.51</b>
<b>NFWFMD Districtwide TOTALS / Averages -</b>		<b>160.323</b>	<b>40.543</b>	<b>40.543</b>	<b>160.323</b>	<b>1,335,640</b>	<b>120.03</b>	<b>75.44</b>

## 2.1 Domestic Self-Supply 2018 Population, Water Use Estimates, and DSS Wells Estimates

Planning Region	County / Region	DSS <sup>(1)</sup> Population Estimate	Estimated DSS Water Use <sup>(2)</sup> (mgd)	GROSS DSS <sup>(3)</sup> Well Count	BEBR 2018 PPH <sup>(4)</sup>	Estimated Persons Per Well	Estimated Water Use <sup>(5)</sup> (mgd)
I	Escambia	15,118	1.341	1,424	2.38	10.62	0.301
	<b>Total/Average</b>	<b>15,118</b>	<b>1.341</b>	<b>1,424</b>	<b>2.38</b>	<b>10.62</b>	<b>0.301</b>
II	Okaloosa	12,916	1.145	2,721	2.40	4.75	0.579
	Santa Rosa	13,228	1.173	3,590	2.55	3.68	0.812
	Walton	16,019	1.420	7,943	2.37	2.02	1.669
	<b>Total/Average</b>	<b>42,163</b>	<b>3.739</b>	<b>14,254</b>	<b>2.44</b>	<b>3.48</b>	<b>3.060</b>
III	Bay	21,767	1.930	13,364	2.39	1.63	2.832
	<b>Total/Average</b>	<b>21,767</b>	<b>1.930</b>	<b>13,364</b>	<b>2.39</b>	<b>1.63</b>	<b>2.832</b>
IV	Calhoun	11,808	1.047	3,623	2.48	3.26	0.797
	Holmes	14,436	1.280	4,507	2.45	3.20	0.979
	Jackson	33,333	2.956	10,645	2.36	3.13	2.228
	Liberty	5,679	0.504	1,311	2.54	4.33	0.295
	Washington	19,087	1.692	7,326	2.49	2.61	1.618
	<b>Total/Average</b>	<b>84,344</b>	<b>7.479</b>	<b>27,412</b>	<b>2.46</b>	<b>3.31</b>	<b>5.916</b>
V	Franklin	2,034	0.180	1,081	2.26	1.88	0.217
	Gulf	5,182	0.459	1,789	2.27	2.90	0.360
	<b>Total/Average</b>	<b>7,216</b>	<b>0.640</b>	<b>2,870</b>	<b>2.27</b>	<b>2.39</b>	<b>0.577</b>
VI	Gadsden	18,750	1.663	3,810	2.51	4.92	0.848
	<b>Total/Average</b>	<b>18,750</b>	<b>1.663</b>	<b>3,810</b>	<b>2.51</b>	<b>4.92</b>	<b>0.848</b>
VII	Jefferson <sup>(NWF Only)</sup>	5,989	0.531	2,253	2.30	2.66	0.459
	Leon	38,154	3.383	9,611	2.33	3.97	1.986
	Wakulla	9,018	0.800	4,077	2.58	2.21	0.933
	<b>Total/Average</b>	<b>53,161</b>	<b>4.714</b>	<b>15,941</b>	<b>2.40</b>	<b>2.95</b>	<b>3.378</b>
<b>TOTALS/AVERAGES</b>		<b>242,518</b>	<b>21.505</b>	<b>79,075</b>	<b>2.41</b>	<b>3.07</b>	<b>16.912</b>

(1) Domestic Self-Supply (DSS) includes small limited public supply systems 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) Estimates of all known DSS (DO) and limited public supply (LP) wells in NFWFMD wells inventory ArcGIS database as of 8/30/2019.

(4) County-wide average persons per household (PPH) based on UF Bureau of Economic and Business Research (BEBR) 2018 population estimate data.

(5) 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	NFWMD Annual Water Use Reports <sup>(1)</sup>								
		2010	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	
	<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>	
II	Okaloosa	12,367		13,885	11,731	12,224	23,940	18,595	9,375	12,916	
	Santa Rosa	22,402		11,584	11,772	8,907	2,890	1,794	10,368	13,228	
	Walton	4,218		14,117	13,106	16,009	17,616	11,508	15,896	16,019	
	<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>	
III	Bay	17,892		18,436	17,930	18,538	17,743	16,364	19,142	21,767	
	<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>	
IV	Calhoun	10,423		10,435	10,415	10,311	10,417	11,237	11,699	11,808	
	Holmes	13,929		14,275	14,328	14,316	14,554	14,659	14,502	14,436	
	Jackson	33,022		34,163	34,666	34,491	35,409	35,244	36,528	33,333	
	Liberty	5,092		4,410	4,407	4,584	5,478	5,460	5,485	5,679	
	Washington	16,420		17,642	17,255	17,501	18,814	18,765	19,285	19,087	
	<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>84,344</b>	
V	Franklin	1,785		2,967	1,772	1,611	1,821	1,843	3,668	2,034	
	Gulf	2,487		2,071	2,005	475	3,629	3,774	5,512	5,182	
	<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>	
VI	Gadsden	15,173		16,119	15,095	16,286	17,085	17,155	18,731	18,750	
	<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>	
VII	Jefferson <sup>(NWF Only)</sup>	9,350		5,588	10,237	7,800	5,160	5,216	5,421	5,989	
	Leon	59,552		75,085	74,538	57,952	51,884	51,414	32,616	38,154	
	Wakulla	24,872		9,110	7,987	8,007	9,591	9,516	8,886	9,018	
	<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>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>	

(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, but only in public supply utility populations served and only in Walton and Franklin counties.



### 3.1 Agriculture Water Use - 2018 Reported and Total Estimates (mgd)

#### 2018 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 VI - 2017 Estimated TOTAL Water Use	FSAID V - 2016 Estimated TOTAL Water Use <sup>(4)</sup>
I	Escambia	0.032	-	0.032	1.2%	2.552	2.584	3.196
	<b>Region I Total</b>	<b>0.032</b>	<b>0.000</b>	<b>0.032</b>	<b>1.2%</b>	<b>2.552</b>	<b>2.584</b>	<b>3.196</b>
II	Okaloosa	0.000	-	0.000	0.0%	0.419	0.419	0.402
	Santa Rosa	0.333	0.006	0.339	18.8%	1.464	1.804	1.805
	Walton	0.012	-	0.012	2.3%	0.506	0.518	0.576
	<b>Region II Total</b>	<b>0.345</b>	<b>0.006</b>	<b>0.351</b>	<b>12.8%</b>	<b>2.389</b>	<b>2.740</b>	<b>2.783</b>
III	Bay <sup>(3)</sup>	1.197	-	1.197	100.0%	0.000	1.197	0.648
	<b>Region III Total</b>	<b>1.197</b>	<b>0.000</b>	<b>1.197</b>	<b>100.0%</b>	<b>0.000</b>	<b>1.197</b>	<b>0.648</b>
IV	Calhoun	0.482	0.054	0.535	16.8%	2.656	3.191	2.768
	Holmes	-	0.000	0.000	0.0%	1.155	1.155	1.131
	Jackson	15.245	0.067	15.312	52.6%	13.822	29.134	24.892
	Liberty	-	-	0.000	0.0%	0.079	0.079	0.073
	Washington	0.005	-	0.005	0.7%	0.789	0.794	0.779
	<b>Region IV Total</b>	<b>15.732</b>	<b>0.121</b>	<b>15.852</b>	<b>46.1%</b>	<b>18.501</b>	<b>34.353</b>	<b>29.643</b>
V	Franklin	-	-	0.000	0.0%	0.005	0.005	0.006
	Gulf	0.196	-	0.196	53.4%	0.170	0.366	0.465
	<b>Region V Total</b>	<b>0.196</b>	<b>0.000</b>	<b>0.196</b>	<b>52.7%</b>	<b>0.176</b>	<b>0.371</b>	<b>0.471</b>
VI	Gadsden	1.179	1.358	2.537	41.7%	3.553	6.090	5.123
	<b>Region VI Total</b>	<b>1.179</b>	<b>1.358</b>	<b>2.537</b>	<b>41.7%</b>	<b>3.553</b>	<b>6.090</b>	<b>5.123</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.581	-	0.581	50.0%	0.580	1.162	0.922
	Leon	0.011	-	0.011	2.3%	0.460	0.471	0.490
	Wakulla	-	-	0.000	0.0%	0.293	0.293	0.190
	<b>Region VII Total</b>	<b>0.592</b>	<b>0.000</b>	<b>0.592</b>	<b>30.7%</b>	<b>1.334</b>	<b>1.926</b>	<b>1.602</b>
	<b>TOTALS</b>	<b>19.272</b>	<b>1.485</b>	<b>20.757</b>	<b>42.1%</b>	<b>28.504</b>	<b>49.261</b>	<b>43.466</b>

(1) Agricultural water use in calendar year 2018 reported to NFWFMD.

(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) The FSAID Bay County estimate for 2017 was 0.906 mgd; but adjusted to 1.197 to match the 2018 reported use.

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

### 3.2 Agriculture 2018 Reported Water Use by Source (mgd)

Planning Region	County / Region	<i>Water Use by Groundwater Aquifer(s)</i>						Total Ground-water	Total Surface Water	TOTAL 2018 REPORTED WATER USE	TOTAL 2017 <sup>(1)</sup> REPORTED WATER USE
		Coastal Floridan	Inland Floridan	Inter-mediate	Claiborne	Sand-and-Gravel	Surficial				
I	Escambia	-	-	-	-	0.032	-	0.032	-	0.032	0.016
	<b>Region I Total</b>	-	-	-	-	<b>0.032</b>	-	<b>0.032</b>	-	<b>0.032</b>	<b>0.016</b>
II	Okaloosa	-	0.000	-	-	-	-	0.000	-	0.000	0.065
	Santa Rosa	-	0.132	-	-	0.202	-	0.333	0.006	0.339	0.352
	Walton	-	0.012	-	-	-	-	0.012	-	0.012	0.019
	<b>Region II Total</b>	-	<b>0.144</b>	-	-	<b>0.202</b>	-	<b>0.345</b>	<b>0.006</b>	<b>0.351</b>	<b>0.436</b>
III	Bay	-	1.197	-	-	-	-	1.197	-	1.197	0.158
	<b>Region III Total</b>	-	<b>1.197</b>	-	-	-	-	<b>1.197</b>	-	<b>1.197</b>	<b>0.158</b>
IV	Calhoun	-	0.482	-	-	-	-	0.482	0.054	0.535	0.510
	Holmes	-	-	-	-	-	-	0.000	0.000	0.000	0.004
	Jackson	-	15.245	-	-	-	-	15.245	0.067	15.312	16.172
	Liberty	-	-	-	-	-	-	-	-	0.000	0.000
	Washington	-	0.005	-	-	-	-	0.005	-	0.005	0.092
	<b>Region IV Total</b>	-	<b>15.732</b>	-	-	-	-	<b>15.732</b>	<b>0.121</b>	<b>15.852</b>	<b>16.778</b>
V	Franklin	-	-	-	-	-	-	-	-	0.000	0.000
	Gulf	-	0.196	-	-	-	-	0.196	-	0.196	0.223
	<b>Region V Total</b>	-	<b>0.196</b>	-	-	-	-	<b>0.196</b>	-	<b>0.196</b>	<b>0.223</b>
VI	Gadsden	-	1.179	-	-	-	-	1.179	1.358	2.537	4.270
	<b>Region VI Total</b>	-	<b>1.179</b>	-	-	-	-	<b>1.179</b>	<b>1.358</b>	<b>2.537</b>	<b>4.270</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	0.581	-	-	-	-	0.581	-	0.581	0.591
	Leon	-	0.011	-	-	-	-	0.011	0.000	0.011	0.063
	Wakulla	-	-	-	-	-	-	0.000	-	0.000	0.000
	<b>Region VII Total</b>	-	<b>0.592</b>	-	-	-	-	<b>0.592</b>	-	<b>0.592</b>	<b>0.654</b>
	<b>TOTALS</b>	-	<b>19.039</b>	-	-	<b>0.233</b>	-	<b>19.272</b>	<b>1.485</b>	<b>20.757</b>	<b>22.535</b>

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

#### 4.1 Recreational Irrigation Water Use - 2018 Reported and Total Estimates (mgd)

Planning Region	County / Region	2018 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	0.487	0.579	1.066	1.125	0.000	1.125	1.612	0.579	2.191
	<b>Region I Total</b>	<b>0.487</b>	<b>0.579</b>	<b>1.066</b>	<b>1.125</b>	<b>0.000</b>	<b>1.125</b>	<b>1.612</b>	<b>0.579</b>	<b>2.191</b>
II	Okaloosa	1.329	1.864	3.193	1.744	0.000	1.744	3.072	1.864	4.936
	Santa Rosa	0.566	0.000	0.566	1.292	0.375	1.667	1.858	0.375	2.233
	Walton	1.456	1.491	2.946	0.732	0.187	0.920	2.188	1.678	3.866
	<b>Region II Total</b>	<b>3.350</b>	<b>3.355</b>	<b>6.705</b>	<b>3.768</b>	<b>0.562</b>	<b>4.330</b>	<b>7.118</b>	<b>3.917</b>	<b>11.035</b>
III	Bay	0.880	0.550	1.441	0.844	0.000	0.844	1.724	0.550	2.285
	<b>Region III Total</b>	<b>0.880</b>	<b>0.550</b>	<b>1.441</b>	<b>0.844</b>	<b>0.000</b>	<b>0.844</b>	<b>1.724</b>	<b>0.550</b>	<b>2.285</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	0.194	0.000	0.194	0.014	0.000	0.014	0.207	0.000	0.207
	<b>Region IV Total</b>	<b>0.194</b>	<b>0.000</b>	<b>0.194</b>	<b>0.621</b>	<b>0.000</b>	<b>0.621</b>	<b>0.815</b>	<b>0.000</b>	<b>0.815</b>
V	Franklin	0.000	0.158	0.158	0.058	0.000	0.058	0.058	0.158	0.216
	Gulf	0.100	0.000	0.100	0.043	0.000	0.043	0.143	0.000	0.143
	<b>Region V Total</b>	<b>0.100</b>	<b>0.158</b>	<b>0.258</b>	<b>0.100</b>	<b>0.000</b>	<b>0.100</b>	<b>0.200</b>	<b>0.158</b>	<b>0.358</b>
VI	Gadsden	0.014	0.074	0.087	0.111	0.000	0.111	0.125	0.074	0.198
	<b>Region VI Total</b>	<b>0.014</b>	<b>0.074</b>	<b>0.087</b>	<b>0.111</b>	<b>0.000</b>	<b>0.111</b>	<b>0.125</b>	<b>0.074</b>	<b>0.198</b>
VII	Jefferson <sup>(NWF Only)</sup>	0.321	0.000	0.321	0.189	0.000	0.189	0.511	0.000	0.511
	Leon	0.624	0.397	1.021	0.661	0.240	0.901	1.285	0.637	1.922
	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>0.946</b>	<b>0.397</b>	<b>1.343</b>	<b>1.055</b>	<b>0.240</b>	<b>1.295</b>	<b>2.001</b>	<b>0.637</b>	<b>2.638</b>
	<b>TOTALS</b>	<b>5.970</b>	<b>5.112</b>	<b>11.094</b>	<b>7.624</b>	<b>0.802</b>	<b>8.427</b>	<b>13.594</b>	<b>5.915</b>	<b>19.521</b>

(1) Additional non-reported estimates include estimates for 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, with current estimated number of wells.

## 4.2 Recreational Irrigation 2018 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	-	-	-	-	0.458	0.028	0.487	0.579	1.066
	<b>Region I Total</b>	-	-	-	-	<b>0.458</b>	<b>0.028</b>	<b>0.487</b>	<b>0.579</b>	<b>1.066</b>
II	Okaloosa	-	0.027	-	-	1.301	-	1.329	1.864	3.193
	Santa Rosa	-	-	-	-	0.566	-	0.566	-	0.566
	Walton	-	0.168	0.032	-	1.094	0.162	1.456	1.491	2.946
	<b>Region II Total</b>	-	<b>0.195</b>	<b>0.032</b>	-	<b>2.961</b>	<b>0.162</b>	<b>3.350</b>	<b>3.355</b>	<b>6.705</b>
III	Bay	0.232	0.024	-	-	0.015	0.621	0.880	0.550	1.441
	<b>Region III Total</b>	<b>0.232</b>	<b>0.024</b>	-	-	<b>0.015</b>	<b>0.621</b>	<b>0.880</b>	<b>0.550</b>	<b>1.441</b>
IV	Calhoun	-	-	-	-	-	-	-	-	-
	Holmes	-	-	-	-	-	-	-	-	-
	Jackson	-	-	-	-	-	-	-	-	-
	Liberty	-	-	-	-	-	-	-	-	-
	Washington	-	0.194	-	-	-	-	0.194	-	0.194
	<b>Region IV Total</b>	-	<b>0.194</b>	-	-	-	-	<b>0.194</b>	-	<b>0.194</b>
V	Franklin	-	-	-	-	-	-	0.000	0.158	0.158
	Gulf	-	-	0.050	-	-	0.050	0.100	-	0.100
	<b>Region V Total</b>	-	-	<b>0.050</b>	-	-	<b>0.050</b>	<b>0.100</b>	<b>0.158</b>	<b>0.258</b>
VI	Gadsden	-	0.014	-	-	-	-	0.014	0.074	0.087
	<b>Region VI Total</b>	-	<b>0.014</b>	-	-	-	-	<b>0.014</b>	<b>0.074</b>	<b>0.087</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	0.321	-	-	-	-	0.321	-	0.321
	Leon	-	0.624	-	-	-	-	0.624	0.397	1.021
	Wakulla	-	-	-	-	-	-	0.000	-	-
	<b>Region VII Total</b>	-	<b>0.946</b>	-	-	-	-	<b>0.946</b>	<b>0.397</b>	<b>1.343</b>
	<b>TOTALS</b>	<b>0.232</b>	<b>1.372</b>	<b>0.082</b>	-	<b>3.434</b>	<b>0.861</b>	<b>5.970</b>	<b>5.112</b>	<b>11.094</b>

(1) Recreational water use systems are often complex water flows between ground and surface waters. Groundwater withdrawals may only be used to 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.

## 5.1 Industrial-Commercial-Institutional (ICI) 2018 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	-	-	-	-	31.985	0.128	32.114	0.622	32.736
	<b>Region I Total</b>	-	-	-	-	<b>31.985</b>	<b>0.128</b>	<b>32.114</b>	<b>0.622</b>	<b>32.736</b>
II	Okaloosa	0.476	1.359	-	-	0.094	-	1.929	-	1.929
	Santa Rosa	-	-	-	-	2.989	-	2.989	-	2.989
	Walton	-	0.032	-	-	-	-	0.032	-	0.032
	<b>Region II Total</b>	<b>0.476</b>	<b>1.391</b>	-	-	<b>3.083</b>	-	<b>4.950</b>	-	<b>4.950</b>
III	Bay	0.068	0.374	-	-	-	-	0.443	21.274	21.716
	<b>Region III Total</b>	<b>0.068</b>	<b>0.374</b>	-	-	-	-	<b>0.443</b>	<b>21.274</b>	<b>21.716</b>
IV	Calhoun	-	0.245	-	-	-	-	0.245	-	0.245
	Holmes	-	-	-	-	-	-	-	-	-
	Jackson	-	0.770	-	0.050	-	-	0.821	-	0.821
	Liberty	-	0.307	-	-	-	-	0.307	0.030	0.337
	Washington	-	0.344	-	-	-	-	0.344	-	0.344
	<b>Region IV Total</b>	-	<b>1.667</b>	-	<b>0.050</b>	-	-	<b>1.717</b>	<b>0.030</b>	<b>1.747</b>
V	Franklin	0.017	-	-	-	-	-	0.017	-	0.017
	Gulf	-	0.324	0.003	-	-	-	0.327	-	0.327
	<b>Region V Total</b>	<b>0.017</b>	<b>0.324</b>	<b>0.003</b>	-	-	-	<b>0.345</b>	-	<b>0.345</b>
VI	Gadsden	-	0.470	-	-	-	-	0.470	0.004	0.474
	<b>Region VI Total</b>	-	<b>0.470</b>	-	-	-	-	<b>0.470</b>	<b>0.004</b>	<b>0.474</b>
VII	Jefferson <sup>(NWF Only)</sup>	-	-	-	-	-	-	-	-	-
	Leon	-	0.113	-	-	-	-	0.113	-	0.113
	Wakulla	-	0.977	-	-	-	-	0.977	-	0.977
	<b>Region VII Total</b>	-	<b>1.090</b>	-	-	-	-	<b>1.090</b>	-	<b>1.090</b>
	<b>TOTALS</b>	<b>0.562</b>	<b>5.316</b>	<b>0.003</b>	<b>0.050</b>	<b>35.068</b>	<b>0.128</b>	<b>41.128</b>	<b>21.930</b>	<b>63.058</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.

## 6.1 Thermoelectric Power Generation 2018 Reported Water Use by Source (mgd)

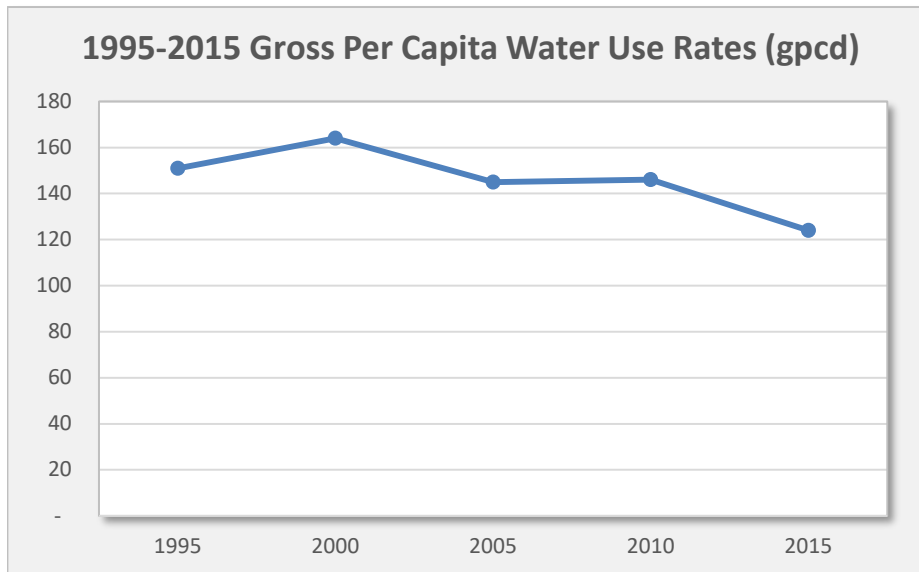
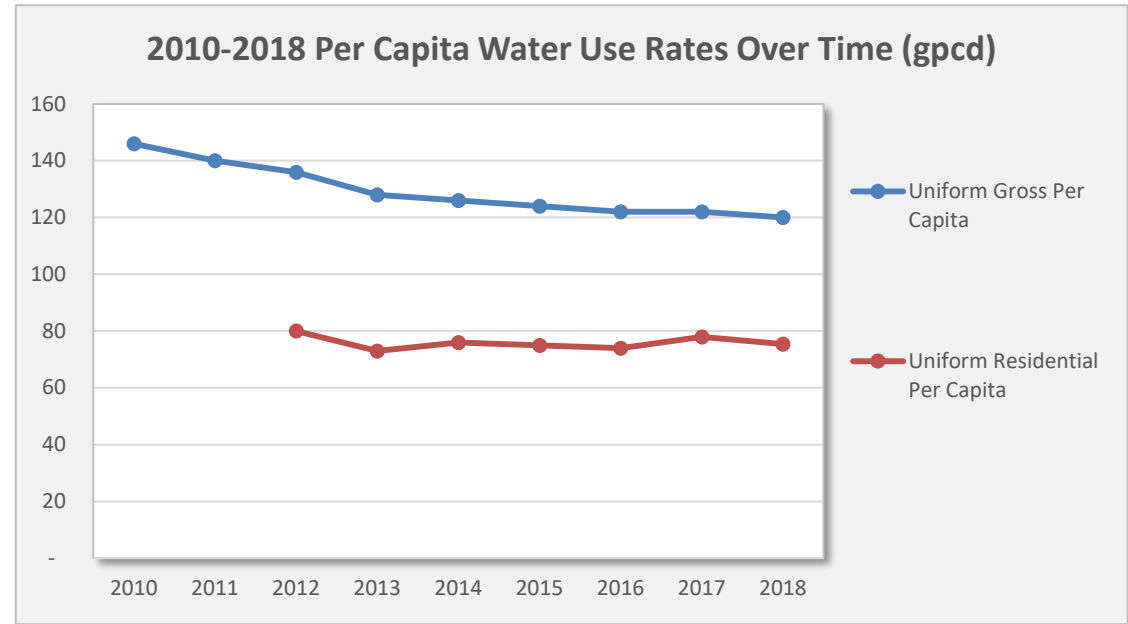
Planning Region	County / Region and Power Facility	Water Use by Groundwater Aquifer(s)						Total Groundwater	Total (Net Adjusted) Surface Water	TOTAL WATER USE <sup>(1)</sup>
		Coastal Floridan	Inland Floridan	Inter-mediate	Claiborne	Sand-and-Gravel	Surficial			
I	Escambia - Gulf / Crist	-	-	-	-	1.860	-	1.860	5.338	7.199
	Escambia - North Site	-	-	-	-	-	-	-	-	-
	<b>Region I Total</b>	-	-	-	-	<b>1.860</b>	-	<b>1.860</b>	<b>5.338</b>	<b>7.199</b>
II	Okaloosa	-	-	-	-	-	-	-	-	-
	Santa Rosa	-	-	-	-	-	-	-	-	-
	Walton	-	-	-	-	-	-	-	-	-
	<b>Region II Total</b>	-	-	-	-	-	-	-	-	<b>0.000</b>
III	Bay - BOCC Waste Energy	-	0.114	-	-	-	-	0.114	0.000	0.114
	Bay - Gulf / Lansing Smith	-	0.795	-	-	-	-	0.795	3.364	4.159
	<b>Region III Total</b>	-	<b>0.909</b>	-	-	-	-	<b>0.909</b>	<b>3.364</b>	<b>4.273</b>
IV	Calhoun	-	-	-	-	-	-	-	-	-
	Holmes	-	-	-	-	-	-	-	-	-
	Jackson - Gulf / Scholz	-	0.082	-	-	-	-	0.082	1.296	1.378
	Liberty - Telogia Power	-	0.449	-	-	-	-	0.449	-	0.449
	Washington	-	-	-	-	-	-	-	-	-
	<b>Region IV Total</b>	-	<b>0.531</b>	-	-	-	-	<b>0.531</b>	<b>1.296</b>	<b>1.827</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	-	-	-	-	-	-	-	0.297	0.297
	<b>Region VII Total</b>	-	<b>2.500</b>	-	-	-	-	<b>2.500</b>	<b>0.297</b>	<b>2.797</b>
	<b>TOTALS</b>	-	<b>3.940</b>	-	-	<b>1.860</b>	-	<b>5.801</b>	<b>10.295</b>	<b>16.095</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.

## NFWWMD 1995-2018 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	120	75



### Five-Year Per Capita Averages, 2014-2018

**Uniform Gross Per Capita (gpcd) 122.81**

**Uniform Residential Per Capita (gpcd) 75.69**

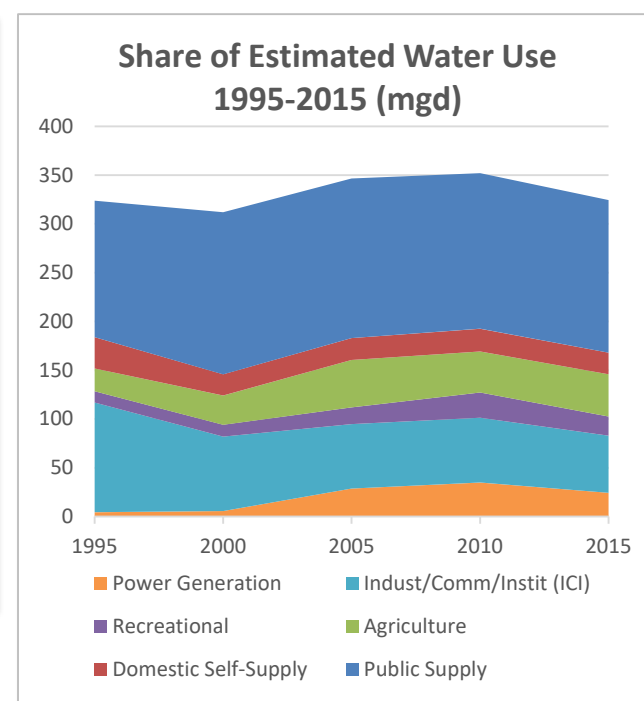
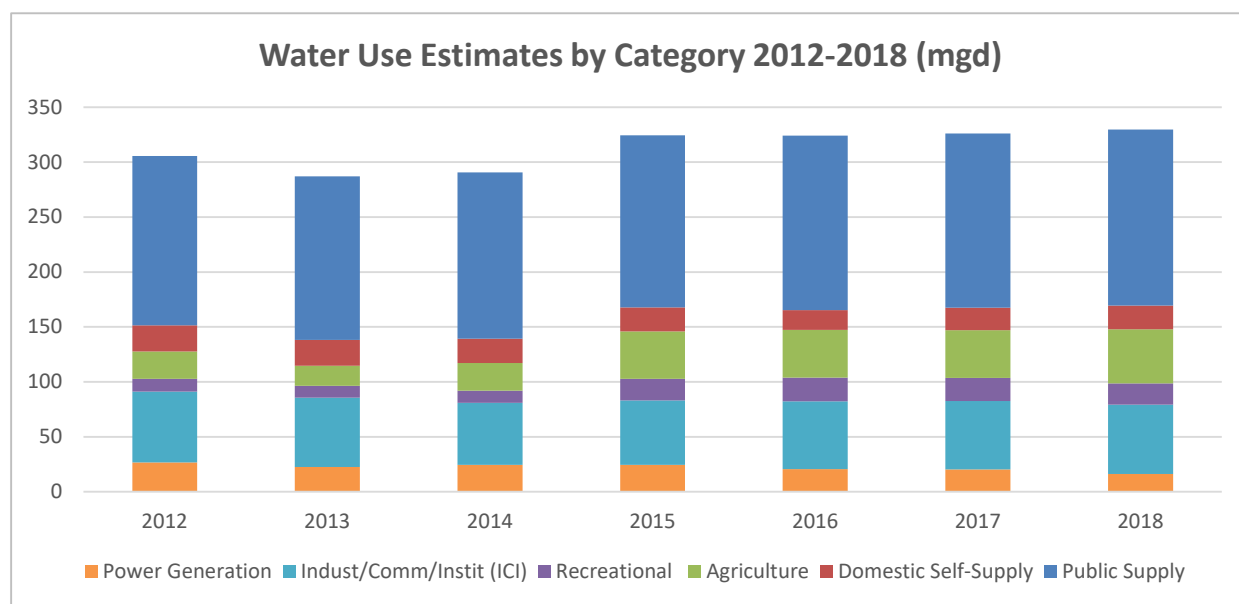
**NOTES.** Public supply per capita rates, in gallons per capita per day (gpcd), are calculated from public supply water use data and estimates of populations served. The sources of per capita rates are district water supply assessments and, since 2012, annual water use reports. Also since 2015, populations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



## NWFWMD 1995-2018 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
Public Supply	139.790	166.160	163.481	159.570		154.270	149.088	151.549	156.495	159.084	158.717	160.323
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
Agriculture	23.400	30.100	48.630	42.030		24.817	18.410	25.157	43.240	43.360	43.466	49.261
Recreational	11.500	12.060	17.310	25.905		11.777	10.698	10.846	19.595	21.594	21.032	19.521
Indust/Comm/Instit (ICI)	112.450	76.280	66.160	66.440		64.411	63.238	56.664	58.703	61.581	62.448	63.058
Power Generation	4.470	5.650	28.530	34.820		26.708	22.373	24.357	24.335	20.676	20.206	16.095
<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>

\*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 2015-2018). 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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