2016 Estimated Water Use

in the

Northwest Florida Water Management District

SUMMARY REPORT



November 2018

TRS-19-2

Background and Methods

Pursuant to Florida Statutes,¹ quantifying existing legal uses of water or estimating water use is foundational data for Northwest Florida Water Management District (NWFWMD or District) strategic water management plans, water supply assessments, and regional water supply planning; and is needed in groundwater modeling, 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 consumptive use 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 of permitted allocation, or that have permit conditions requiring annual water use reporting. These special permit conditions may be due to location within a Water Resource Caution Area or Area of Resource Concern. Estimates include water withdrawals from six different groundwater aquifer systems and from surface water sources. Public supply estimates include water production, water transfers, and water demand; and estimates of populations served and per capita water use rates. Domestic self-supply (DSS) is estimated with population and per capita rates. Agriculture estimates are a combination of reported use and the Florida Department of Agriculture and Consumer Services (DACS) Florida Statewide Agricultural Irrigation Demand (FSAID) estimates. Recreational irrigation estimates are also a combination of reported pumpage and additional estimating methods. Industrial-commercial-institutional (ICI) and power generation water use is 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 include migrant workers and are estimated to affect both public supply and DSS water use in all sixteen counties. Therefore, population estimates for public supply, county, and DSS include seasonal resident adjustments.

This report summarizes the District's reported and estimated water use in calendar year 2016. An overview of District land use and water supply planning regions (I - VII) are illustrated in Figure 1, below.

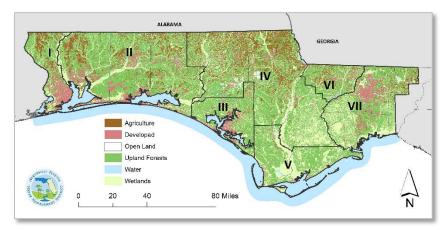


Figure 1. Land Use Overview and Planning Regions

¹ Sections 373.036 and 373.709, Florida Statutes (F.S.).

2016 Water Use Summary

As illustrated on the previous page 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 Jefferson (NWF portion) counties

District water use in 2016 totaled about 327 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 over one-fourth of all District water in 2016 (about 85 mgd). Rapidly growing and developing Region II follows with 70 mgd or 22 percent. Bay County, Region III, is the third largest in water use and regions IV and VII are closely tied for fourth. Regions V and VI have smaller water demands but also unique hydrogeology. Public supply, industrial-commercialinstitutional (ICI) and power water use is concentrated in urbanized areas, with ICI and power self-suppliers focused in regions I and III.

Table 1. NWFMWD 2016 Estimated Water Use

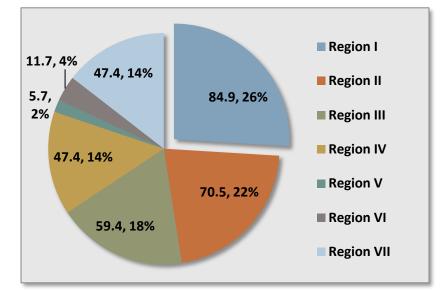


Figure 2. Estimated Water Use 2016 by Planning Region

Although regions I and III appear to use about 84 percent of all ICI water, many public supply utilities also supply to ICI water users. Regions I and III comprise 77 percent of all power generation water use, primarily due to Gulf Power's James F. Crist and Lansing Smith generating plants. About 63 percent of Region IV water use is agricultural. Thirty-six percent of all domestic self-supply is in Region IV. Region II had over half of all districtwide recreational water use.

Planning Region	1. Public Supply	2. Domestic Self-Supply	3. Agriculture	4. Recreation	5. ICI	6. Power Generation	TOTAL WATER USE (mgd)
Region I	37.680	1.060	3.348	2.271	29.747	10.839	84.945
Region II	48.842	2.828	2.798	11.105	4.905	-	70.478
Region III	26.509	1.451	0.880	3.173	22.190	5.174	59.378
Region IV	5.289	7.570	29.183	0.892	2.566	1.946	47.446
Region V	4.002	0.498	0.367	0.382	0.429	-	5.679
Region VI	4.108	1.521	5.370	0.140	0.575	-	11.715
Region VII	32.655	5.865	1.413	3.629	1.168	2.717	47.448
TOTALS	159.084	20.794	43.360	21.594	61.581	20.676	327.089

Close to half of all water use, or 49 percent, was in the public supply water use category, followed by about 62 mgd or 19 percent in ICI. Agriculture is the third largest water use category, followed by recreation and power generation.

More detailed water use tables are at the end of this summary report. See list of tables on Page 7.

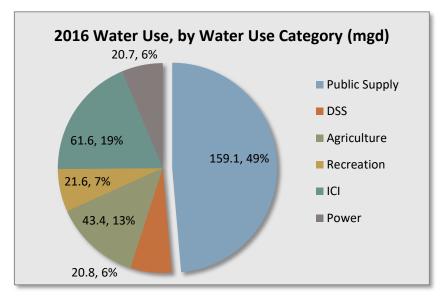


Figure 3. Estimated 2016 Water Use by Category (mgd)

Population Estimates

In 2016 the University of Florida, Bureau of Business and Economic Research (BEBR), estimated District population² to be 1,433,967.

REGION	BEBR Permanent Populations	Seasonal Adjustments	TOTAL Population Estimates	% Public Supply	% DSS
Region I	309,986	9,920	319,906	96%	4%
Region II	422,877	55,404	478,281	93%	7%
Region III	176,016	21,122	197,138	92%	8%
Region IV	118,552	3,681	122,233	30%	70%
Region V	28,544	8,305	36,849	85%	15%
Region VI	48,486	1,164	49,650	65%	35%
Region VII	329,506	3,377	332,883	80%	20%
TOTALS	1,433,967	102,972	1,536,939	85%	15%

Table 2. NWFWMD 2016 Population Estimates

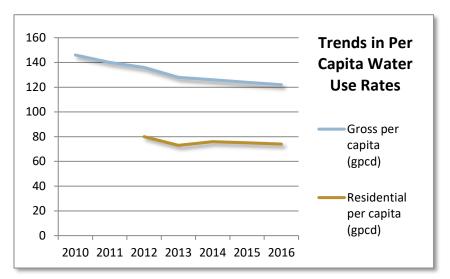
² NWFWMD share of Jefferson County only.

2016 NWFWMD Water Use Summary Report

Permanent and total 2016 population estimates with seasonal adjustments are summarized in Table 2. The effects of seasonal residents are estimated to add an equivalent of 102,972 for a total adjusted 2016 population estimate of 1,536,939. About 85 percent of District residents are estimated to be served by public supply.

Per Capita Water Use Rates

Per capita rates are used in statewide metrics reporting and to estimate future public supply water demand projections. The 2016 districtwide public supply per capita water use rates were 122 gpcd³ gross and 74 gpcd residential. Per capita rates have been in a general downward trend, as illustrated in the chart below.



Rainfall and Drought

Agriculture and recreational irrigation are the two water use categories most affected by precipitation and drought. Water use in public supply and DSS typically increases by about seven percent in a drought year. The past few years 2014-2016 were considered normal or average rainfall years. The most recent drought year is 2011.

³ Gallons per capita per day (gpcd).

Public Supply and Domestic Self-Supply

Reported and estimated public supply water use in 2016 was 159.1 mgd, about half of all water use districtwide. Close to 60 percent of all public supply water use was in the District's three most urbanized counties: Bay, Escambia, and Leon. Ninety-one percent of public supply water use was in regions I, II, III and VII. Estimated domestic self-supply (DSS) water use was about 20.8 mgd. Public supply and DSS comprised about 55 percent of all 2016 water use districtwide.

Public supply service area populations are estimated from multiple sources, including utility-submitted data of populations served and number of service connections. Estimates of seasonal residents help refine population estimates. Populations served are required in order to estimate DSS populations and per capita metrics.



Photo: http://cdn.pcwallart.com/images/drinking-water-wallpaper-1.jpg

Seasonal populations are defined by the US Census, American Community Survey (ACS), and include migratory farm workers. Seasonal population estimating exercises conducted between 2014 and 2016 determined that there are seasonal populations in all District counties - in both public supply service areas and among DSS water users - but counties with the greatest percentage of seasonal residents were estimated in Walton, Franklin, Gulf, Bay, and Okaloosa; followed by Liberty and Wakulla.

Due to the interrelationship between county, public supply and DSS populations, BEBR county population estimates are seasonally adjusted before calculating net DSS populations. Estimates of DSS water use are the product of these net populations and a District average per capita DSS water use rate provided by the U.S. Geological Survey (USGS 2017) of 77 gpcd.

Agriculture and Recreational Irrigation

The total estimated agricultural water use in 2016 was 43.4 mgd. This total represents the Florida Statewide Agricultural Irrigation Demand (FSAID IV) estimate from 2015 data, but updated with 2016 pumpage values. FSAID estimates include cropland irrigation, livestock and aquaculture, and freeze protection. The reported agriculture water use in 2016 was 26.1 mgd, about 60 percent of the total. About 92 percent of reported agricultural water withdrawals are from groundwater aquifers. Most of the reported surface water withdrawals are in Gadsden, Leon, and Calhoun counties.

Jackson County continues to be the dominate agricultural producer, representing 56 percent of all districtwide agricultural water use in 2016. Two-thirds of all agricultural water use was in Region IV and 80 percent was in regions IV and VI. In 2016 there was no reported water use in Escambia County but 3.35 mgd estimated by FSAID.



<u>Photo</u>: Gadsden County Agriculture. By District staff, 2015.

The total estimated recreational irrigation water use in 2016 was 21.6 mgd. Reported recreational irrigation water use was 13.4 mgd, about 62 percent of the total. Over half of all District recreational water use is in Region II: Okaloosa, Walton and Santa Rosa counties. About 59 percent of reported and 71 percent of the total estimated recreational water use was from groundwater withdrawals.

The three primary types of District recreational water use are golf course irrigation, landscape irrigation, and water-based recreation. Total recreational water use includes estimates from wells with General Water Use Permits (GWUPs), including smaller golf courses with no IWUP. Recreational water use can often be a complex synthesis of groundwater and surface water co-mingled with stormwater run-off and sometimes also merged with reuse.

Collectively, agriculture and recreational irrigation comprised 20 percent of all 2016 water use districtwide.

ICI and Power Generation

Reported and estimated ICI water use in 2016 was 61.9 mgd, about 19 percent of all District water use. Reported and estimated power generation water use was 20.7 mgd. Collectively, ICI and power generation comprised one-fourth of all 2016 water use districtwide.



Photo: Arvah B. Hopkins Generating Station, https://www.bing.com/images/ (2017).

Thermoelectric power generation and ICI estimated water use is that which is consumptively used. Water that is used for once-through cooling processes and returned to source is not considered consumptive use. Over four-fifths of ICI water use is from the Sandand-Gravel aquifer in Escambia County and from surface water Deer Point Lake Reservoir in Bay County. After adjusting for net consumptive use, about 72 percent of power generation water use is from surface water sources in Regions I, III, IV and VII.

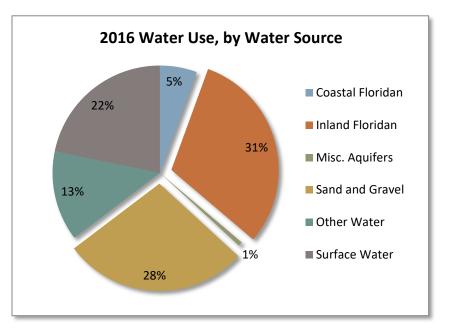
Water Withdrawals by Water Source

Groundwater resources in northwest Florida include the Coastal Floridan Aquifer System (FAS), Inland FAS, Intermediate, Claiborne, Sand-and-Gravel, and Surficial aquifers. A major surface water resource is Deer Point Lake Reservoir in Bay County.



Photo: Deer Point Lake Reservoir, Bay County. By District staff, 2017.

Sixty-five percent of known water withdrawals are from groundwater aquifers and 22 percent from surface waters. "Other Water" is water use where the source of water is not clearly identified. Ninety percent of groundwater withdrawals are from the Inland Floridan and Sandand-Gravel aquifer systems. Water withdrawn from the Coastal FAS was about five percent and less than one percent was from the Intermediate, Claiborne, and Surficial aquifers (Misc. Aquifers).



"Other Water" is attributed to DSS, and to additional agriculture and recreational water use estimates, further described below:

- <u>Domestic Self-Supply</u>. About 42 percent of "other water." All assumed to be groundwater wells. Specific locations, depths, and aquifer systems not identified.
- <u>Agriculture</u>. About 41 percent of "other water." FSAID's Irrigated Lands Geodatabase (ILG) locates agricultural lands using water but specific water sources are not identified.
- <u>Recreational Irrigation</u>. About 17 percent of "other water." May be a complex synthesis of ground and surface water co-mingled with stormwater run-off and/or reuse.

Detailed water use data tables by county and by planning region, and a list of tables, are on the following pages.

2016 Water Use Data Tables

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NWFWMD 2016 Total Estimated Water Use by Category (mgd)

Planning Region	County / Region	1. Public Supply	2. Domestic Self-Supply	3. Agriculture (FSAID IV)	4. Recreation	5. ICI	6. Power Generation	TOTAL ESTIMATED WATER USE (mgd)
	Escambia	37.680	1.060	3.348	2.271	29.747	10.839	84.945
I	Region I Total	37.680	1.060	3.348	2.271	29.747	10.839	84.945
	Okaloosa	22.424	1.649	0.393	5.096	1.820	-	31.382
п	Santa Rosa	15.912	0.159	1.801	1.885	3.055	-	22.812
	Walton	10.505	1.020	0.604	4.124	0.030	-	16.283
	Region II Total	48.842	2.828	2.798	11.105	4.905	-	70.478
111	Вау	26.509	1.451	0.880	3.173	22.190	5.174	59.378
111	Region III Total	26.509	1.451	0.880	3.173	22.190	5.174	59.378
	Calhoun	0.415	0.996	3.008	0.005	0.210	-	4.635
	Holmes	1.132	1.300	1.159	0.215	-	-	3.806
IV	Jackson	2.392	3.125	24.227	0.386	1.428	1.432	32.990
IV	Liberty	0.440	0.484	0.072	0.002	0.431	0.514	1.942
	Washington	0.910	1.664	0.717	0.285	0.497	-	4.073
	Region IV Total	5.289	7.570	29.183	0.892	2.566	1.946	47.446
	Franklin	1.973	0.163	0.006	0.285	0.014	-	2.441
V	Gulf	2.029	0.335	0.361	0.097	0.416	-	3.238
	Region V Total	4.002	0.498	0.367	0.382	0.429	-	5.679
VI	Gadsden	4.108	1.521	5.370	0.140	0.575	0.000	11.715
VI	Region VI Total	4.108	1.521	5.370	0.140	0.575	-	11.715
	Jefferson ^(NWF Only)	0.686	0.463	0.774	1.032	-	-	2.954
VII	Leon	29.684	4.559	0.446	2.393	0.102	2.500	39.684
VII	Wakulla	2.285	0.844	0.194	0.205	1.066	0.217	4.810
	Region VII Total	32.655	5.865	1.413	3.629	1.168	2.717	47.448
	TOTALS	159.084	20.794	43.360	21.594	61.581	20.676	327.089

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

Planning Region	County / Region	a. Coastal Floridan	b. Inland Floridan	c. Inter- mediate	d. Claiborne	e. Sand and Gravel	f. Surficial	Total Groundwater	Total Other Water ⁽¹⁾	Total Surface Water
	Escambia	-	-	-	-	69.161	-	69.161	5.509	10.275
I	Region Totals	-	-	-	-	69.161	-	69.161	5.509	10.275
	Okaloosa	13.188	8.645	-	-	1.787	-	23.620	3.564	1.727
	Santa Rosa	0.908	0.360	-	-	18.297	-	19.564	2.865	0.384
П	Walton	1.331	12.046	0.049	-	1.283	0.142	14.851	2.249	1.654
-	Region Totals	15.427	21.051	0.049	-	21.367	0.142	58.035	8.678	3.765
	Вау	0.216	3.732	-	-	-	0.777	4.725	2.572	52.082
111		0.046					0 777	4 705		

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0.034

0.034

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0.083

NWFWMD 2016 Total Estimated Water Withdrawals by Source (mgd)

3.732

1.806

0.665

23.294

1.262

1.772

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0.931

0.931

6.408

6.408

1.660

2.953

38.851

99.772

34.238

28.799

(1) "Other Water" refers to estimated withdrawals, but source is unknown or uncertain. Domestic Self-Supply (DSS) water use is estimated from county population estimates; therefore, groundwater is assumed but no specific water source is identified. Additional estimating methods for Agriculture and Recreational Irrigation also are presumed to be primarily groundwater but specific water sources are uncertain. Over 43 percent of reported agricultural water use in Gadsden County is from surface water withdrawals.

0.777

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0.088

-

0.088

0.030

0.030

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1.036

4.725

1.806

1.105

23.553

1.349

1.772

29.585

1.987

1.430

3.416

6.408

6.408

1.660

34.238

2.953

38.851

210.181

2.572

2.578

2.657

8.119

0.558

2.329

16.240

0.224

0.372

0.595

3.962

3.962

1.293

5.263

1.242

7.798

45.354

2016 NWFWMD Water Use Summary Report

Region Totals

Region Totals

Region Totals

Region Totals

Region Totals

DISTRICT TOTALS

Jefferson^(NWF Only)

Calhoun

Holmes

Jackson

Liberty

Franklin

Gadsden

Gulf

Leon

Wakulla

Washington

IV

V

VI

VII

0.216

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-

-

-

-

-

1.987

0.434

2.421

-

-

-

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-

-

18.064

Page|9

TOTAL

ESTIMATED

WATER USE (mgd)

52.082

0.251

0.017

1.319

0.035

-

1.622

0.231

1.436

1.668

1.345

1.345

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0.581

0.217

0.799

71.554

84.945

84.945

28.912

22.812

18.754

70.478

59.378

59.378

4.635

3.779

1.942

4.100

47.446

2.441

3.238

5.679

11.715

11.715

2.954

40.082

4.412

47.448

327.089

32.990

Planning Region	County / Region	BEBR ⁽¹⁾ Permanent Populations	Seasonal ⁽²⁾ Adjustments	TOTAL Population Estimates	Public Supply Populations Served ⁽³⁾	% of Total	DSS Population Estimates ⁽⁴⁾	% of Total
	Escambia	309,986	9,920	319,906	307,947	96.3%	11,958	3.7%
	Region I Total	309,986	9,920	319,906	307,947	96.3%	11,958	3.7%
	Okaloosa	192,925	21,222	214,147	195,552	91.3%	18,595	8.7%
n	Santa Rosa	167,009	3,340	170,349	168,555	98.9%	1,794	1.1%
	Walton	62,943	30,842	93,785	82,277	87.7%	11,508	12.3%
	Region II Total	422,877	55,404	478,281	446,384	93.3%	31,897	6.7%
	Вау	176,016	21,122	197,138	180,774	91.7%	16,364	8.3%
	Region III Total	176,016	21,122	197,138	180,774	91.7%	16,364	8.3%
	Calhoun	14,580	437	15,017	3,780	25.2%	11,237	74.8%
	Holmes	20,003	200	20,203	5,544	27.4%	14,659	72.6%
IV	Jackson	50,345	1,510	51,855	16,611	32.0%	35,244	68.0%
	Liberty	8,736	786	9,522	4,062	42.7%	5,460	57.3%
	Washington	24,888	747	25,635	6,869	26.8%	18,765	73.2%
	Region IV Total	118,552	3,681	122,233	36,867	30.2%	85,366	69.8%
	Franklin	11,916	4,647	16,563	14,720	88.9%	1,843	11.1%
V	Gulf	16,628	3,658	20,286	16,512	81.4%	3,774	18.6%
	Region V Total	28,544	8,305	36,849	31,232	84.8%	5,617	15.2%
VI	Gadsden	48,486	1,164	49,650	32,495	65.4%	17,155	34.6%
VI	Region VI Total	48,486	1,164	49,650	32,495	65.4%	17,155	34.6%
	Jefferson ^(NWF Only)	10,236	358	10,594	5,378	50.8%	5,216	49.2%
VII	Leon	287,671	1,438	289,109	237,695	82.2%	51,414	17.8%
	Wakulla	31,599	1,580	33,179	23,663	71.3%	9,516	28.7%
	Region VII Total	329,506	3,377	332,883	266,736	80.1%	66,147	19.9%

NWFWMD 2016 Population Estimates - County, Public Supply Utility, and Domestic Self-Supply

(1) UF Bureau of Economic and Business Research (BEBR), Vol. 50, Bulletin 177, April 2017. Permanent population estimates only.

1,433,967

(2) Total county populations adjusted by adding the estimated percentage rate of half (0.50) of all seasonal populations in each county to BEBR estimates.

102,972

(3) The population of each public supply utility service area is estimated from review of all available data. This includes data reported by utilities, number of meter or service connections, and estimated seasonal populations.

1,536,939

1,302,435

84.7%

(4) Net Domestic Self-Supply (DSS) population estimates are derived by subtracting public supply utility populations from adjusted county totals.

TOTALS

15.3%

234,504

1.1 Public Supply 2016 Water Demand, Populations Served, and Per Capita Water Use

		Withdray	wals and Wa	ter Demand	(mgd)	Populations an	d Per Capita Wa	iter Use (gpcd)
Planning Region	County / Region	Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted ⁽¹⁾ Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
1	Escambia	37.68	-	-	37.68	307,947	122.36	74.47
I	Totals/Average Per Capita	37.68	0.00	0.00	37.68	307,947	122.36	74.47
	Okaloosa	19.91	4.42	1.90	22.42	195,552	114.67	84.54
Ш	Santa Rosa	15.91	5.11	5.11	15.91	168,555	94.40	72.27
	Walton	13.02	2.83	5.34	10.50	82,277	127.67	96.84
	Totals/Average Per Capita	48.84	12.35	12.35	48.84	446,384	109.42	83.11
ш	Вау	26.51	24.67	24.67	26.51	180,774	146.64	80.00
	Totals/Average Per Capita	26.51	24.67	24.67	26.51	180,774	146.64	80.00
	Calhoun	0.42	-	-	0.42	3,780	109.80	37.80
	Holmes	1.10	0.03	-	1.13	5,544	204.23	105.48
IV	Jackson	2.39	-	-	2.39	16,611	144.02	82.96
IV	Liberty	0.44	-	-	0.44	4,062	108.21	78.65
	Washington	0.94	-	0.03	0.91	6,869	132.47	84.36
	Totals/Average Per Capita	5.29	0.03	0.03	5.29	36,867	143.47	82.98
	Franklin	1.97	0.08	0.08	1.97	14,720	134.03	99.69
V	Gulf	2.03	-	-	2.03	16,512	122.89	48.99
	Totals/Average Per Capita	4.00	0.08	0.08	4.00	31,232	128.14	81.20
VI	Gadsden	4.11	-	-	4.11	32,495	126.42	68.61
VI	Totals/Average Per Capita	4.11	0.00	0.00	4.11	32,495	126.42	68.61
	Jefferson ^(NWF Only)	0.69	-	-	0.69	5,378	127.49	111.43
VII	Leon	30.08	-	0.40	29.68	237,695	124.88	67.77
VII	Wakulla	1.89	0.40	-	2.28	23,663	96.56	82.04
	Totals/Average Per Capita	32.65	0.40	0.40	32.65	266,736	122.42	70.69
	DISTRICT TOTALS/AVERAGE	159.08	37.53	37.53	159.08	1,302,435	122.14	74.08

(1) Populations served include seasonal resident adjustments.

1.2 Public Supply 2016 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 Groundwater	Total Surface Water	TOTAL REPORTED WATER USE
I	Escambia	-	-	-	-	37.68	-	37.68	-	37.68
I	Region Totals	-	-	-	-	37.68	-	37.68	-	37.68
	Okaloosa	12.76	7.15	-	-	-	-	19.91	-	19.91
П	Santa Rosa	0.91	0.24	-	-	14.77	-	15.91	-	15.91
	Walton	1.33	11.69	-	-	-	-	13.02	-	13.02
	Region Totals	15.00	19.08	-	-	14.77	-	48.84	-	48.84
	Bay ⁽¹⁾	-	1.84	-	-	-	-	1.84	24.67	26.51
	Region Totals	-	1.84	-	-	-	-	1.84	24.67	26.51
	Calhoun	-	0.42	-	-	-	-	0.42	-	0.42
	Holmes	-	0.67	-	0.44	-	-	1.10	-	1.10
IV	Jackson	-	2.13	-	0.26	-	-	2.39	-	2.39
IV	Liberty	-	0.44	-	-	-	-	0.44	-	0.44
	Washington	-	0.94	-	-	-	-	0.94	-	0.94
	Region Totals	-	4.59	-	0.70	-	-	5.29	-	5.29
	Franklin	1.97	-	-	-	-	-	1.97	-	1.97
V	Gulf	0.43	0.16	0.00	-	-	-	0.59	1.44	2.03
	Region Totals	2.41	0.16	0.00	-	-	-	2.57	1.44	4.00
VI	Gadsden	-	4.11	-	-	-	-	4.11	-	4.11
VI	Region Totals	-	4.11	-	-	-	-	4.11	-	4.11
	Jefferson ^(NWF Only)	-	0.69	-	-	-	-	0.69	-	0.69
VII	Leon	-	30.08	-	-	-	-	30.08	-	30.08
VII	Wakulla	-	1.89	-	-	-	-	1.89	-	1.89
	Region Totals	-	32.65	-	-	-	-	32.65	-	32.65
	DISTRICT TOTALS	17.40	62.43	0.00	0.70	52.44	-	132.98	26.11	159.08

(1) Bay County Board of County Commissioners (BCBOCC) surface water withdrawals from Deer Point Lake Reservoir exclude exports to large industrial uses.

1.3 Public Supply 2016 Water Demand, Populations Served, and Per Capita Water Use - by Utility

		Withdra	wals and Wa	ater Demand	d (mgd)	Populations an	d Per Capita Wa	iter Use (gpcd)
Planning Region	Public Supply Utility / County / Region	Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted ⁽¹⁾ Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
	Escambia County	37.68	-	-	37.68	307,947	122.36	74.47
	Bratt-Davisville Water System (EREC)	0.20	-	-	0.20	1,963	101.12	57.79
	Central Water Works, Inc.	0.24	-	-	0.24	2,485	98.21	58.93
	Century, Town of	0.49	-	-	0.49	2,113	232.50	58.22
	Cottage Hill Water Works, Inc.	0.33	-	-	0.33	3,508	92.76	83.48
	Emerald Coast Utilities Authority	32.03	-	-	32.03	255,884	125.19	74.90
1	Farm Hill Utilities, Inc.	0.57	-	-	0.57	4,191	137.14	123.43
	Gonzalez Utilities Association, Inc.	0.52	-	-	0.52	4,455	116.65	69.95
	Gulf Islands National Seashore	0.05	-	-	0.05	-	-	0.00
	Molino Utilities, Inc	0.72	-	-	0.72	5,455	131.27	68.38
	People's Water Service Company	2.29	-	-	2.29	26,203	87.57	58.06
	Walnut Hill Water Works (EREC)	0.23	-	-	0.23	1,690	133.63	59.78
	REGION I - Totals/Average Per Capita	37.68	-	-	37.68	307,947	122.36	74.47
	Okaloosa County	19.91	4.42	1.90	22.42	195,552	114.67	84.54
	Auburn Water System	1.89	-	-	1.89	15,411	122.75	84.71
	Baker Water System	0.21	-	-	0.21	2,293	93.11	86.34
	Blackman Community Water System, Inc.	0.03	-	-	0.03	789	40.70	40.70
	Crestview, City of	2.42	-	-	2.42	23,762	101.70	89.85
	Destin Water Users	1.79	2.27	-	4.06	-	155.13	98.70
	Fort Walton Beach, City of	2.59	-	-	2.59	,	124.94	63.91
	Holt Water Works, Inc.	0.14	-	-	0.14		66.71	54.47
II	Laurel Hill, City of	0.11	-	-	0.11	1,436	80.02	64.43
	Mary Esther, City of	0.41	-	-	0.41	3,950	102.76	102.15
	Milligan Water System	0.13	-	-	0.13	1,600	81.08	72.97
	Niceville, City of	2.41	-	-	2.41	19,344	124.67	83.77
	OCW&S - Bluewater (Raintree)	1.18	-	-	1.18		95.38	79.59
	OCW&S - Main (Garniers) Office Well Plant	3.83	1.27	0.64	4.46	-	102.92	82.25
	OCW&S - Mid-County (Crestview) Antioch	2.21	0.64	1.27	1.58		109.74	82.48
	SWUC (Okaloosa County portion)	0.00	0.25	-	0.25		70.09	88.68
	Valparaiso, City of	0.53	-	-	0.53	4,154	128.69	67.85

Table 1.3,	continued	Withdra	wals and Wa	iter Demand	l (mgd)	Populations an	d Per Capita Wa	ater Use (gpcd)
Planning Region	Public Supply Utility / County / Region	Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted ⁽¹⁾ Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
	Santa Rosa County	15.91	5.11	5.11	15.91	168,555	94.40	72.27
	Bagdad-Garcon Point Water System	0.54	-	-	0.54	5,908	90.71	88.27
	Berrydale Water System	0.27	-	-	0.27	2,199	123.83	101.04
	Chumuckla Water System	0.26	-	-	0.26	4,175	63.07	63.91
	East Milton Water System	1.56	-	-	1.56	11,295	138.05	58.43
	Fairpoint Regional Utility System (FRUS)	5.09	-	5.09	-	-	-	-
	Gulf Breeze Water Department	-	0.92	-	0.92	5,771	160.28	136.20
П	Holley-Navarre Water System, Inc.	0.66	2.15	-	2.81	37,422	75.20	59.16
- 11	Jay, Town of	0.18	-	-	0.18	1,373	129.57	116.61
	Midway Water System	0.59	0.76	0.03	1.32	15,372	86.10	56.51
	Milton, City of	1.74	-	-	1.74	19,600	88.61	58.93
	Moore Creek-Mt. Carmel Utilities, Inc.	0.24	-	-	0.24	3,193	74.71	56.24
	Pace Water System, Inc.	3.97	-	-	3.97	37,168	106.70	69.98
	Point Baker Water System, Inc.	0.81	-	-	0.81	9,105	88.55	71.13
	Navarre Beach - Santa Rosa BOCC	0.02	0.37	-	0.39	4,206	92.23	90.58
	South Santa Rosa Utilities	-	0.91	-	0.91	11,768	76.94	0.00
	Walton County	13.02	2.83	5.34	10.50	82,277	127.67	96.84
	Argyle Water System	0.07	-	-	0.07	774	84.24	80.03
	DeFuniak Springs, City of	1.26	-	-	1.26	9,684	130.36	44.61
	FCSWC / Regional Utilities	3.76	0.58	0.01	4.34	38,990	111.19	83.67
	Freeport, City of	1.41	-	0.58	0.83	8,508	97.08	149.18
	Freeport, North Bay Water System	0.13	-	-	0.13	1,773	73.60	73.82
II	Inlet Beach Water System, Inc.	0.15	0.01	-	0.16	1,603	101.03	63.21
	Mossy Head Water Works, Inc.	0.28	-	-	0.28	3,162	88.94	56.48
	Paxton, City of	0.18	-	-	0.18	1,457	125.97	127.42
	SWUC - Rockhill Inland Well Field	4.72	-	4.49	0.23	-	-	0.00
	SWUC - Coastal Well Field	1.05	2.23	0.25	3.03	16,327	185.69	101.72
	REGION II - Totals/Average Per Capita	48.84	12.35	12.35	48.84	446,384	109.42	83.11

Table 1.3,	continued	Withdra	wals and Wa	iter Demand	l (mgd)	Populations an	id Per Capita Wa	ater Use (gpcd)
Planning Region	Public Supply Utility / County / Region	Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted ⁽¹⁾ Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
	Bay County	26.51	24.67	24.67	26.51	180,774	146.64	80.00
	Bay County BOCC (Public Supply; no ICI)	24.67	-	-	-	7,305	-	
	- Cedar Grove (separate BOCC service area)	-	0.49	-	0.49	4,782	102.22	
	- GCEC (North Bay, Lake Merial)	-	0.64	-	0.64	6,237	102.22	
	- Bay Co. (other county areas)	-	1.36	-	1.36	9,034	-	
	Bay County BOCC - Total Exports	-	-	24.67	-	-	-	
ш	Callaway	-	1.63	-	1.63	15,625	104.18	
111	Lynn Haven, City of	1.84	0.54	-	2.38	20,894	153.57	
	Mexico Beach	-	0.40	-	0.40	2,488	158.88	
	Panama City Water System	-	5.68	-	5.68	36,909	153.91	
	Panama City Beach	-	12.67	-	12.67	63,693	198.93	
	Parker	-	0.39	-	0.39	4,317	90.72	
	Springfield	-	0.88	-	0.88	9,490	93.03	
	REGION III - Totals/Average Per Capita	26.51	24.67	24.67	26.51	180,774	146.64	80.00

Table 1.3,	, continued	Withdra	wals and Wa	ater Demand	l (mgd)	Populations an	d Per Capita Wa	ater Use (gpcd)
Planning Region	Public Supply Utility / County / Region	Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted ⁽¹⁾ Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
	Franklin County	1.97	0.08	0.08	1.97	14,720	134.03	99.69
	Alligator Point Water Resources District	0.10	-	-	0.10	1,398	72.95	47.09
	Apalachicola, City of	0.53	-	-	0.53	3,959	136.12	54.44
v	Carrabelle, City of	0.44	-	0.08	0.36	2,500	142.42	117.10
v	Carrabelle, City of (Lanark Village)	0.00	0.08	-	0.08	1,625	49.70	0.00
	Eastpoint Water and Sewer District	0.30	-	-	0.30	2,452	120.44	89.72
	St. James Island (Summercamp, FRWA)	0.01	-	-	0.01	25	582.08	5.68
	Water Management (St. George Island)	0.59	-	-	0.59	2,761	213.47	128.57
	Gulf County	2.03	0.00	0.00	2.03	16,512	122.89	48.99
v	Lighthouse Utilities Company, Inc.	0.43	-	-	0.43	4,365	97.45	63.54
v	Port St. Joe	1.45	-	-	1.45	10,198	141.86	38.57
	Wewahitchka, City of	0.16	-	-	0.16	1,949	80.65	49.61
	REGION V - Totals/Average Per Capita	4.00	0.08	0.08	4.00	31,232	128.14	81.20

able 1.5,	continued	withdra	wais and Wa	ater Demand		-	d Per Capita Wa	
Planning		Reported			Finished	Public Supply	Average GROSS	Average
Region	Public Supply Utility / County / Region	Pumpage	Imports	Exports	Water	Adjusted ⁽¹⁾	Per Capita Water	RESIDENTIAL Per
					Demand	Population Served	Use	Capita Water Use
	Calhoun County	0.42	0.00	0.00	0.42	3,780	109.80	37.8
IV	Altha, Town of	0.10	-	-	0.10	668	148.70	25.0
	Blountstown	0.32	-	-	0.32	3,112	101.45	50.5
	Holmes County	1.10	0.03	0.00	1.13	5,544	204.23	105.4
	Bonifay, City of	0.87	-	-	0.87	3,673	238.06	51.8
	Caryville, Town of (Holmes County portion)	-	0.03	-	0.03	123	223.14	168.0
IV	Esto Water Works	0.04	-	-	0.04	340	129.03	100.0
IV	Joyce E. Snare Waterworks	0.03	-	-	0.03	319	105.39	105.3
	Noma, Town of	0.04	-	-	0.04	246	170.31	153.2
	Ponce de Leon, Town of	0.07	-	-	0.07	546	130.11	73.0
	Westville, Town of	0.04	-	-	0.04	298	134.76	86.8
	Jackson County	2.39	0.00	0.00	2.39	16,611	144.02	82.9
	Alford, Town of	0.06	-	-	0.06	500	120.04	33.5
	Campbellton, Town of	0.02	-	-	0.02	267	84.49	76.0
	Cottondale	0.15	-	-	0.15	1,223	119.19	107.2
IV.	Graceville, City of	0.32	-	-	0.32	2,830	113.90	102.5
	Grand Ridge, Town of	0.09	-	-	0.09	892	100.02	57.7
IV	Greenwood, Town of	0.07	-	-	0.07	693	99.33	64.7
	Jackson Utilities, Plant 1, JCBOCC	0.23	-	-	0.23	523	435.99	58.8
	Jacob, City of	0.02	-	-	0.02	202	104.02	93.6
	Malone, Town of	0.06	-	-	0.06	875	67.03	21.6
	Marianna, City of	1.11	-	-	1.11	6,500	171.05	40.1
	Sneads, Town of	0.26	-	-	0.26	2,106	125.37	112.8
	Liberty County	0.44	0.00	0.00	0.44	4,062	108.21	78.6
	Bristol, City of	0.18	-	-	0.18	1,724	106.48	55.8
	Liberty Co. BOCC, Estiffanulga	0.02	-	-	0.02	281	81.59	79.9
IV	Liberty Co. BOCC, Hosford-Telogia	0.12	-	-	0.12	1,290	96.51	86.8
IV	Liberty Co. BOCC, Lake Mystic	0.04	-	-	0.04	314	113.23	110.9
	Liberty Co. BOCC, Rock Bluff	0.05	-	-	0.05	225	224.02	55.1
	Sumatra Water System (Liberty Co. BOCC)	0.02	-	-	0.02	163	96.22	94.3
	Talquin Electric - Sweetwater System	0.01	-	-	0.01	65	106.12	104.0
	Washington	0.94	0.00	0.03	0.91	6,869	132.47	84.3
	Sunny Hills (formerly Aqua Utilities)	0.12	-	-	0.12	1,439	86.48	86.0
	Caryville, Town of	0.10	-	0.03	0.07	315	223.14	168.0
IV	Chipley, City of	0.61	-	-	0.61	3,829	160.56	56.0
	Vernon, City of	0.06	_	_	0.06	736	78.23	41.7
	Wausau, Town of	0.04	-	-	0.04	550	77.81	70.0
	REGION IV - Totals/Average Per Capita	5.29	0.03	0.03	5.29	36,867	143.47	82.9

2016 NWFWMD Water Use Summary Report

(1) Populations served include seasonal resident adjustments.

Table 1.3,	continued	Withdra	wals and Wa	ater Demand	l (mgd)	Populations ar	nd Per Capita Wa	ater Use (gpcd)
Planning Region	Public Supply Utility / County / Region	Reported Pumpage	Imports	Exports	Finished Water Demand	Public Supply Adjusted ⁽¹⁾ Population Served	Average GROSS Per Capita Water Use	Average RESIDENTIAL Per Capita Water Use
	Gadsden County	4.11	0.00	0.00	4.11	32,495	126.42	68.61
	Chattahoochee, City of	0.39	-	-	0.39	3,885	100.20	0.00
	Greensboro, Town of	0.06	-	-	0.06	633	91.79	68.38
	Gretna, City of	0.42	-	-	0.42	1,566	267.54	45.70
	Havana, Town of	0.42	-	-	0.42	3,977	106.73	63.33
VI	Quincy, City of	1.26	-	-	1.26	9,241	143.28	69.19
	Talquin Electric - Gadsden County Regional	1.53	-	-	1.53	12,984	117.58	71.44
	Talquin Electric - Hammock Creek	0.01	-	-	0.01	40	169.95	0.00
	Talquin Electric - Jamieson Water	0.01	-	-	0.01	71	182.21	0.00
	Talquin Electric - St. James	0.01	-	-	0.01	98	80.04	0.00
	REGION VI - Totals/Average Per Capita	4.11	0.00	0.00	4.11	32,495	126.42	68.61
	Jefferson County ^(NWF Only)	0.69	0.00	0.00	0.69	5,378	127.49	111.43
	Jefferson Communities Water System, Inc.	0.29	-	-	0.29	1,454	202.38	133.09
	Monticello, City of	0.39	-	-	0.39	3,924	99.75	89.77
	Leon County	30.08	0.00	0.40	29.68	237,695	124.88	67.77
	Seminole Waterworks (total all service areas)	0.13	-	-	0.13	1,616	80.28	67.77
	Tallahassee, City of	26.49	-	0.40	26.10	203,783	128.06	64.15
	Talquin Electric Coop (total all service areas)	3.25	-	0.40	3.25	30,481	110.35	81.96
VII	Miscellaneous Small Public Systems (total)	0.22	-	-	0.22	1,815	138.48	67.77
	Wakulla County	1.89	0.40	0.00	2.28	23,663	96.56	82.04
	Panacea Area Water System, Inc.	0.20	-	-	0.20	2,796	72.78	42.87
	Sopchoppy, Town of	0.83	-	-	0.83	9,242	90.12	88.61
	St. Marks, City of, Water Sys. (Booster Plant)	-	0.09	-	0.09	643	140.61	126.55
	Tallahassee, City of (Wakulla County portion)	-	0.31	-	0.31	2,605	117.96	76.43
	Wakulla Regional (Gulf Coast / Spring Creek)	0.82	-	-	0.82	8,031	102.18	76.71
	Wakulla County, River Sink Subdivision	0.03	-	-	0.03	346	87.12	85.38
	REGION VII - Totals/Average Per Capita	32.65	0.40	0.40	32.65	266,736	122.42	70.69

Planning Region	County / Region	DSS ⁽¹⁾ Population Estimate 2016	Estimated Water Use ⁽²⁾	Estimated DSS Well Count	BEBR 2016 PPH ⁽³⁾	Estimated Water Use ⁽⁴⁾	Estimated Persons Per Well
	Escambia	11,958	1.060	1,360	2.42	0.29	8.79
•	Region I Total	11,958	1.060	1,360	2.42	0.29	8.79
	Okaloosa	18,595	1.649	2,630	2.45	0.57	7.07
П	Santa Rosa	1,794	0.159	3,366	2.59	0.77	0.53
	Walton	11,508	1.020	7,779	2.38	1.64	1.48
	Region II Total	31,897	2.828	13,775	2.47	2.99	3.03
	Вау	16,364	1.451	13,036	2.44	2.82	1.26
	Region III Total	16,364	1.451	13,036	2.44	2.82	1.26
	Calhoun	11,237	0.996	3,524	2.52	0.79	3.19
	Holmes	14,659	1.300	4,413	2.47	0.97	3.32
IV	Jackson	35,244	3.125	10,385	2.40	2.21	3.39
IV	Liberty	5,460	0.484	1,269	2.57	0.29	4.30
	Washington	18,765	1.664	7,123	2.51	1.59	2.63
	Region IV Total	85,366	7.570	26,714	2.49	5.84	3.37
	Franklin	1,843	0.163	1,040	2.27	0.21	1.77
V	Gulf	3,774	0.335	1,725	2.32	0.35	2.19
	Region V Total	5,617	0.498	2,765	2.30	0.56	1.98
VI	Gadsden	17,155	1.521	3,742	2.61	0.87	4.58
VI	Region VI Total	17,155	1.521	3,742	2.61	0.87	4.58
	Jefferson ^(NWF Only)	5,216	0.463	2,207	2.38	0.47	2.36
VII	Leon	51,414	4.559	9,474	2.35	1.97	5.43
VII	Wakulla	9,516	0.844	3,968	2.61	0.92	2.40
	Region VII Total	66,147	5.865	15,649	2.45	3.36	3.40
	TOTALS	234,504	20.794	77,041	2.46	16.73	3.04

2.1 Domestic Self-Supply 2016 Population, Well Counts and Water Use Estimates (mgd)

(1) Domestic Self-Supply (DSS) includes small limited public supply systems, and is the only water use category that relies solely on population estimates, which are seasonally adjusted. Well counts and additional data provided for information and reference only.

(2) Estimated water use based on DSS population estimate times 2015 residential per capita districtwide rate of 88.67 gpcd (USGS 2014).

(3) County-wide average persons per household (PPH) based on UF Bureau of Economic and Business Research (BEBR) 2016 population estimates.

(4) 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.

Planning	Country / Decion	WSA 2013			District	Annual W	/ater Use R	eports		
Region	County / Region	2010	2011	2012	2013	2014	2015 ⁽¹⁾	2016 ⁽¹⁾	2017	2018
1	Escambia	16,606		19,133	17,720	18,809	12,017	11,958		
I	Region I Total	16,606	-	19,133	17,720	18,809	12,017	11,958	-	-
	Okaloosa	12,367		13,885	11,731	12,224	23,940	18,595		
П	Santa Rosa	22,402		11,584	11,772	8,907	2,890	1,794		
	Walton	4,218		14,117	13,106	16,009	17,616	11,508		
	Region II Total	38,987	-	39,586	36,609	37,140	44,446	31,897	-	-
ш	Вау	17,892		18,436	17,930	18,538	17,743	16,364		
	Region III Total	17,892	-	18,436	17,930	18,538	17,743	16,364	-	-
	Calhoun	10,423		10,435	10,415	10,311	10,417	11,237		
	Holmes	13,929		14,275	14,328	14,316	14,554	14,659		
IV	Jackson	33,022		34,163	34,666	34,491	35,409	35,244		
IV	Liberty	5,092		4,410	4,407	4,584	5,478	5,460		
	Washington	16,420		17,642	17,255	17,501	18,814	18,765		
	Region IV Total	78,886	-	80,925	81,071	81,203	84,672	85,366	-	-
	Franklin	1,785		2,967	1,772	1,611	1,821	1,843		
V	Gulf	2,487		2,071	2,005	475	3,629	3,774		
	Region V Total	4,272	-	5,038	3,777	2,086	5,450	5,617	-	-
VI	Gadsden	15,173		16,119	15,095	16,286	17,085	17,155		
VI	Region VI Total	15,173	-	16,119	15,095	16,286	17,085	17,155	-	-
	Jefferson ^(NWF Only)	9,350		5,588	10,237	7,800	5,160	5,216		
VII	Leon	59,552		75,085	74,538	57,952	51,884	51,414		
VII	Wakulla	24,872		9,110	7,987	8,007	9,591	9,516		
	Region VII Total	93,774	-	89,783	92,762	73,759	66,635	66,147	-	-
	TOTALS	265,590	-	269,020	264,964	247,821	248,048	234,504	-	-

2.2 Domestic Self-Supply Population Estimates Over Time

(1) Domestic self-supply (DSS) population estimates in 2015 and 2016 include seasonal population adjustments. Year 2014 also included seasonal population adjustments, but only in public supply utility population estimates and only in Walton and Franklin counties.

3.1 Agriculture 2016 Water Use - Reported and Total Estimates (mgd)

			porteu water	0.00		
Planning Region	County / Region	Groundwater	Surface Water	Total REPORTED Water Use	Additional FSAID ⁽¹⁾ Estimated Water Use	FSAID ⁽¹⁾ 2015 Estimated TOTAL Water Use
1	Escambia	-	-	0.00	3.35	3.35
	Region I Total	0.00	0.00	0.00	3.35	3.35
	Okaloosa	0.12	-	0.12	0.27	0.39
п	Santa Rosa	0.29	0.00	0.29	1.51	1.80
- 11	Walton	0.02	-	0.02	0.58	0.60
	Region II Total	0.43	0.00	0.43	2.36	2.80
	Вау	0.58	-	0.58	0.30	0.88
111	Region III Total	0.58	0.00	0.58	0.30	0.88
	Calhoun	1.18	0.25	1.43	1.58	3.01
	Holmes	-	0.02	0.02	1.14	1.16
IV	Jackson	19.58	0.04	19.62	4.61	24.23
IV	Liberty	0.00	-	0.00	0.07	0.07
	Washington	0.07	-	0.07	0.65	0.72
	Region IV Total	20.82	0.31	21.13	8.05	29.18
	Franklin	-	-	0.00	0.01	0.01
V	Gulf	0.36	-	0.36	0.00	0.36
	Region V Total	0.36	0.00	0.36	0.01	0.37
VI	Gadsden	1.72	1.32	3.04	2.33	5.37
VI	Region VI Total	1.72	1.32	3.04	2.33	5.37
	Jefferson ^(NWF Only)	0.13	-	0.13	0.64	0.77
VII	Leon	0.06	0.34	0.40	0.04	0.45
VII	Wakulla	-	-	0.00	0.19	0.19
	Region VII Total	0.19	0.34	0.54	0.88	1.41
	TOTALS	24.10	1.98	26.08	17.28	43.36

Reported Water Use

(1) <u>Reference</u>: Florida Statewide Agricultural Irrigation Demand (FSAID), Florida Department of Agriculture and Consumer Services (FDACS), Office of Agricultural Water Policy. FSAID estimates of 2015 water use contain 2016 updates to total and irrigated agricultural lands and were published in June 2017. The 2015 estimates are replicated for this 2016 table except in Gulf County where reported pumpage exceeds the FSAID estimate.

Dlanning		l	Nater Use	e by Grou	Indwater	Aquifer(s)			Total Surface	TOTAL
Planning Region	County / Region	Coastal Floridan	Inland Florida	Inter- mediate	Claiborne	Sand-and- Gravel	Surficial	Total Groundwater		REPORTED WATER USE
1	Escambia	-	-	-	-	-	-	-	-	-
I	Region I Total	-	-	-	-	-	-	-	-	-
	Okaloosa	-	0.12	-	-	-	-	0.12	-	0.12
П	Santa Rosa	-	0.12	-	-	0.16	-	0.29	0.00	0.29
11	Walton	-	0.02	-	-	-	-	0.02	-	0.02
	Region II Total	-	0.26	-	-	0.16	-	0.43	0.00	0.43
	Вау	-	0.58	-	-	-	-	0.58	-	0.58
111	Region III Total	-	0.58	-	-	-	-	0.58	-	0.58
	Calhoun	-	1.18	-	-	-	-	1.18	0.25	1.43
	Holmes	-	-	-	-	-	-	0.00	0.02	0.02
IV	Jackson	-	19.58	-	-	-	-	19.58	0.04	19.62
IV	Liberty	-	-	-	-	-	-	0.00	-	0.00
	Washington	-	0.07	-	-	-	-	0.07	-	0.07
	Region IV Total	-	20.82	-	-	-	-	20.82	0.31	21.13
	Franklin	-	-	-	-	-	-	-	-	0.00
V	Gulf	-	0.36	-	-	-	-	0.36	-	0.36
	Region V Total	-	0.36	-	-	-	-	0.36	-	0.36
VI	Gadsden	-	1.72	-	-	-	-	1.72	1.32	3.04
VI	Region VI Total	-	1.72	-	-	-	-	1.72	1.32	3.04
	Jefferson ^(NWF Only)	-	0.13	-	-	-	-	0.13	-	0.13
VII	Leon	-	0.06	-	-	-	-	0.06	0.34	0.40
VII	Wakulla	-	-	-	-	-	-	0.00	-	0.00
	Region VII Total	-	0.19	-	-	-	-	0.19	0.34	0.54
	TOTALS	-	23.94	-	-	0.16	-	24.10	1.98	26.08

3.2 Agriculture 2016 Reported Water Use by Source (mgd)

4.1 Recreational Irrigation 2016 Water Use - Reported and Total Estimates (mgd)

		Reported Water Use Additional Water Use Estimates							
Planning Region	County / Region	Groundwater	Surface Water	Total District REPORTED Water Use	Groundwater	Surface Water	Total Additional Estimates ⁽¹⁾	Estimated TOTAL Water Use	
1	Escambia	0.40	0.77	1.17	1.10	0.00	1.10	2.27	
	Region I Total	0.40	0.77	1.17	1.10	0.00	1.10	2.27	
	Okaloosa	1.77	1.73	3.40	1.70	0.00	1.70	5.10	
Ш	Santa Rosa	0.31	0.00	0.32	1.19	0.37	1.57	1.89	
	Walton	1.78	1.47	3.25	0.69	0.19	0.88	4.12	
	Region II Total	3.86	3.20	6.96	3.58	0.56	4.14	11.11	
ш	Вау	0.99	1.37	2.35	0.82	0.00	0.82	3.17	
	Region III Total	0.99	1.37	2.35	0.82	0.00	0.82	3.17	
	Calhoun	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Holmes	0.00	0.00	0.00	0.21	0.00	0.21	0.21	
IV	Jackson	0.00	0.00	0.00	0.39	0.00	0.39	0.39	
IV	Liberty	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Washington	0.27	0.00	0.27	0.01	0.00	0.01	0.28	
	Region IV Total	0.27	-	0.27	0.62	0.00	0.62	0.89	
	Franklin	0.00	0.23	0.23	0.05	0.00	0.05	0.29	
V	Gulf	0.06	0.00	0.06	0.04	0.00	0.04	0.10	
	Region V Total	0.06	0.23	0.29	0.09	0.00	0.09	0.38	
VI	Gadsden	0.01	0.02	0.03	0.11	0.00	0.11	0.14	
VI	Region VI Total	0.01	0.02	0.03	0.11	0.00	0.11	0.14	
	Jefferson ^(NWF Only)	0.84	0.00	0.84	0.19	0.00	0.19	1.03	
VII	Leon	1.49	0.00	1.49	0.66	0.24	0.90	2.39	
VII	Wakulla	0.00	0.00	0.00	0.20	0.00	0.20	0.20	
	Region VII Total	2.33	-	2.33	1.05	0.24	1.29	3.63	
	TOTALS	7.92	5.59	13.41	7.38	0.80	8.18	21.59	

(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 smallscale recreational wells with General Water Use Permits (GWUPs).

Planning		V	Vater Use	e by Grou	ndwater	Aquifer(s)		Tatal	Net Surface	TOTAL
Region	County / Region	Coastal Floridan	Inland Florida	Inter- mediate	Claiborne	Sand-and- Gravel	Surficial	Total Groundwater	Water ⁽¹⁾	REPORTED WATER USE ⁽¹⁾
	Escambia	-	-	-	-	0.40	-	0.40	0.77	1.17
	Region I Total	-	-	-	-	0.40	-	0.40	0.77	1.17
	Okaloosa	-	0.07	-	-	1.69	-	1.77	1.73	3.40
п	Santa Rosa	-	-	-	-	0.31	-	0.31	0.00	0.32
	Walton	-	0.31	0.05	-	1.28	0.14	1.78	1.47	3.25
	Region II Total	-	0.38	0.05	-	3.29	0.14	3.86	3.20	6.96
ш	Вау	0.20	0.01	-	-	-	0.78	0.99	1.37	2.35
	Region III Total	0.20	0.01	-	-	-	0.78	0.99	1.37	2.35
	Calhoun	-	-	-	-	-	-	-	-	-
	Holmes	-	-	-	-	-	-	-	-	-
IV	Jackson	-	-	-	-	-	-	-	-	-
10	Liberty	-	-	-	-	-	-	-	-	-
	Washington	-	0.27	-	-	-	-	0.27	-	0.27
	Region IV Total	-	0.27	-	-	-	-	0.27	-	0.27
	Franklin	-	-	-	-	-	-	0.00	0.23	0.23
V	Gulf	-	-	0.03	-	-	0.03	0.06	-	0.06
	Region V Total	-	-	0.03	-	-	0.03	0.06	0.23	0.29
VI	Gadsden	-	0.01	-	-	-	-	0.01	0.02	0.03
VI	Region VI Total	-	0.01	-	-	-	-	0.01	0.02	0.03
	Jefferson ^(NWF Only)	-	0.84	-	-	-	-	0.84	-	0.84
VII	Leon	-	1.49	-	-	-	-	1.49	-	1.49
VII	Wakulla	-	-	-	-	-	-	0.00	-	-
	Region VII Total	-	2.33	-	-	-	-	2.33	-	2.33
	TOTALS	0.20	3.00	0.08	-	3.69	0.95	7.92	5.59	13.41

4.2 Recreational Irrigation 2016 Reported Water Use by Source (mgd)

(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, co-mingled with reclaimed water. Net surface water, and total water use, are adjusted and estimated accordingly.

Dlanning		L	Vater Use	e by Grou	ndwater	Aquifer(s)		Tetel	Tabal Confere	TOTAL WATER	
Planning Region	County / Region	Coastal Floridan	Inland Florida	Inter- mediate	Claiborne	Sand-and- Gravel	Surficial	Total Groundwater	Total Surface Water	USE ⁽¹⁾	
i	Escambia	-	-	-	-	29.34	-	29.34	0.41	29.75	
I	Region I Total	-	-	-	-	29.34	-	29.34	0.41	29.75	
	Okaloosa	0.43	1.30	-	-	0.09	-	1.82	-	1.82	
П	Santa Rosa	-	-	-	-	3.05	-	3.05	-	3.05	
	Walton	-	0.03	-	-	-	-	0.03	-	0.03	
	Region II Total	0.43	1.33	-	-	3.15	-	4.91	-	4.91	
	Bay	0.02	0.47	-	-	-	-	0.48	21.71	22.19	
	Region III Total	0.02	0.47	-	-	-	-	0.48	21.71	22.19	
	Calhoun	-	0.21	-	-	-	-	0.21	-	0.21	
	Holmes	-	-	-	-	-	-	-	-	-	
IV	Jackson	-	1.43	-	-	-	-	1.43	-	1.43	
IV	Liberty	-	0.31	-	-	-	0.09	0.40	0.03	0.43	
	Washington	-	0.50	-	-	-	-	0.50	-	0.50	
	Region IV Total	-	2.44	-	-	-	0.09	2.53	0.03	2.57	
	Franklin	0.01	-	-	-	-	-	0.01	-	0.01	
V	Gulf	-	0.41	0.00	-	-	-	0.42	-	0.42	
	Region V Total	0.01	0.41	0.00	-	-	-	0.43	-	0.43	
VI	Gadsden	-	0.57	-	-	-	-	0.57	-	0.57	
VI	Region VI Total	-	0.57	-	-	-	-	0.57	-	0.57	
	Jefferson ^(NWF Only)	-	-	-	-	-	-	-	-	-	
VII	Leon	-	0.10	-	-	-	-	0.10	-	0.10	
VII	Wakulla	-	1.07	-	-	-	-	1.07	-	1.07	
	Region VII Total	-	1.17	-	-	-	-	1.17	-	1.17	
	TOTALS	0.46	6.40	0.00	-	32.48	0.09	39.43	22.15	61.58	

5.1 Industrial-Commercial-Institutional 2016 Water Use by Source (mgd)

(1) Where applicable, water use adjusted for net consumptive use.

Planning		l	Nater Use	e by Grou	ndwater	Aquifer(s)		Tatal	Total (Net Adjusted) Surface Water	TOTAL WATER
Region	County / Region	Coastal Floridan	Inland Florida	Inter- mediate	Claiborne	Sand-and- Gravel	Surficial	Total Groundwater		USE ⁽¹⁾
	Escambia	-	-	-	-	1.74	-	1.74	9.10	10.84
I	Region I Total	-	-	-	-	1.74	-	1.74	9.10	10.84
	Okaloosa	-	-	-	-	-	-	-	-	-
II	Santa Rosa	-	-	-	-	-	-	-	-	-
	Walton	-	-	-	-	-	-	-	-	-
	Region II Total	-	-	-	-	-	-	-	-	0.00
Ш	Вау	-	0.84	-	-	-	-	0.84	4.34	5.17
111	Region III Total	-	0.84	-	-	-	-	0.84	4.34	5.17
	Calhoun	-	-	-	-	-	-	-	-	-
	Holmes	-	-	-	-	-	-	-	-	-
IV	Jackson	-	0.16	-	-	-	-	0.16	1.28	1.43
IV	Liberty	-	0.51	-	-	-	-	0.51	-	0.51
	Washington	-	-	-	-	-	-	-	-	-
	Region IV Total	-	0.67	-	-	-	-	0.67	1.28	1.95
	Franklin	-	-	-	-	-	-	-	-	-
V	Gulf	-	-	-	-	-	-	-	-	-
	Region V Total	-	-	-	-	-	-	-	-	0.00
VI	Gadsden	-	-	-	-	-	-	-	-	-
VI	Region VI Total	-	-	-	-	-	-	-	-	0.00
	Jefferson ^(NWF Only)	-	-	-	-	-	-	-	-	-
VII	Leon	-	2.50	-	-	-	-	2.50	-	2.50
VII	Wakulla	-	-	-	-	-		-	0.22	0.22
	Region VII Total	-	2.50	-	-	-	-	2.50	0.22	2.72
	TOTALS	-	4.01	-	-	1.74	-	5.75	14.93	20.68

6.1 Thermoelectric Power Generation 2016 Water Use by Source (mgd)

(1) Where applicable, reported water use adjusted for net consumptive use.



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