

**A**

# **Water Demand Projections**



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# POPULATION ESTIMATES AND PROJECTIONS

The South Florida Water Management District (SFWMD or District) develops water demand estimates and projections in coordination with stakeholder groups, other agencies, utilities, and local governments. **Chapter 2** of the *2023 Lower East Coast Water Supply Plan Update* (2023 LEC Plan Update) provides summary information, and this appendix describes the methods used to develop water demand estimates for 2020 and 2021 base year as well as projections through 2045 for the LEC Planning Area. Demands are developed for six water use categories: Public Supply (PS), Domestic Self-Supply (DSS), Agriculture (AG), Commercial/Industrial/Institutional (CII), Landscape/Recreational (L/R), and Power Generation (PG). Water demand estimates and projections are provided in 5-year increments through 2045 for average rainfall and 1-in-10-year drought conditions. In addition, demands are described and analyzed in two ways: gross (or raw) demand and net (or finished) demand.

This section presents the methodology used to develop the 2021 population estimates and 2045 population projections for the LEC Planning Area, which are essential to determining water demands for all six water use categories. The University of Florida’s Bureau of Economic and Business Research (BEBR) provides population estimates and projections at the county level; however, water supply planning requires projections at the sub-county level to delineate PS utility service areas and DSS populations. Section 373.709(2)(a)1., Florida Statutes (F.S.), prescribes the use of BEBR medium population projections in determining water supply needs in regional water supply plans.

In accordance with Section 373.709(2)(a)1., F.S., permanent resident estimates and projections for each county, published by BEBR (Rayer and Wang 2021), were used as the basis of population projections in this 2023 LEC Plan Update. BEBR county population estimates and projections are also used by local governments in their Comprehensive Plans. Adjustments were made to include only the portion of Hendry County within the planning area. The LEC Planning Area also includes unpopulated portions of Collier County within the Big Cypress Basin. The 2021 permanent resident populations within the LEC Planning Area were as follows:

◆ Broward County:	1,951,637 permanent residents
◆ Hendry County:	4,881 permanent residents
◆ Miami-Dade County:	2,702,740 permanent residents
◆ Monroe County:	78,267 permanent residents
◆ Palm Beach County:	1,485,183 permanent residents

## Utility Service Areas

To establish current and future PS and DSS populations, each PS utility’s 2021 and 2045 potable water service area was delineated. A utility service area refers to the area with water distribution infrastructure and water customers served by a particular PS utility. The SFWMD developed 2021 and 2045 utility service area maps based on information from utilities and SFWMD’s Water Use Permit database. Accuracy of the service area maps was verified through correspondence with all PS utilities.

## Population Projection Methodology

Census block populations from the 2020 Decennial United States Census (United States Census Bureau 2020) and 2021 PS service area maps were used to estimate the 2021 permanent resident populations for PS utilities and DSS areas. Each census block within the LEC Planning Area was assigned to a PS service area or a DSS area. The distribution of population in census blocks not entirely within a single PS service area or DSS area was based on visual comparison of residential land use coverage. PS service area and DSS area population estimates for 2017 through 2020 were calculated by applying annual county growth rates published by BEBR with 2021 population estimates (Rayer and Wang 2021) and the United States Census Bureau (2020).

When available, detailed sub-county population projections from county planning departments were assigned to PS utility service areas and DSS areas. In some cases, modifications were made to service area populations based on information from local land use planning maps and local government Comprehensive Plans. Population projections to 2045 were calculated using Future Utility Service Area distributions of population served with the 2020 Decennial Census data (United States Census Bureau 2020). Population growth rate was provided by the county population projections (BEBR medium) from BEBR 2021 (Rayer and Wang 2021). BEBR publishes low, medium, and high population projections to account for uncertainty in future population growth.

## Population Projection Results

**Table A-1** provides the results of the population distributions by county and PS utility from 2020 to 2045. The results were shared with and reviewed by utility, municipal, local government, and tribal staff.

Table A-1. Service area population projections in the LEC Planning Area.

PS Utility or DSS	Service Area Population Projections						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
BCWWS District 1	85,726	86,812	89,584	93,615	96,430	98,282	104,299
BCWWS District 2A	120,733	121,376	124,391	125,635	127,520	128,138	131,374
Cooper City	31,300	31,512	32,248	32,893	33,551	34,222	34,907
Coral Springs	63,996	64,604	69,116	71,268	74,832	76,329	77,092
CSID	40,026	40,227	40,626	41,236	41,442	41,649	41,774
Dania Beach	18,574	19,088	20,470	22,107	23,876	25,786	27,591
Davie	33,194	34,034	36,513	38,717	41,814	44,741	47,873
Deerfield Beach	54,651	55,047	56,838	59,111	61,475	63,934	65,213
Fort Lauderdale	239,084	243,077	253,429	271,169	284,492	301,362	305,742
Hallandale Beach	40,900	41,282	42,987	44,277	45,162	46,065	46,987
Hillsboro Beach	2,067	2,087	2,108	2,151	2,194	2,238	2,282
Hollywood <sup>a</sup>	207,808	210,299	220,276	229,087	233,846	236,045	240,838
Lauderhill	63,159	63,484	65,053	67,005	68,345	69,712	71,106
Margate	64,305	64,915	67,586	70,290	72,398	73,846	75,323
Miramar	127,400	128,539	132,496	137,796	141,930	144,768	146,216
North Lauderdale	36,607	36,893	38,494	39,263	40,049	40,441	41,667

Table A-1. Continued.

PS Utility or DSS	Service Area Population Projections						
	2020	2021	2025	2030	2035	2040	2045
Broward County (continued)							
NSID	38,683	39,134	41,075	42,718	43,573	44,444	45,333
Parkland	2,640	2,730	2,798	2,966	3,144	3,333	3,533
Pembroke Pines	163,119	163,564	166,381	168,045	169,725	171,422	173,137
Plantation	93,746	94,764	96,558	99,455	101,444	103,473	105,542
Pompano Beach	91,201	92,870	94,849	98,643	102,589	105,837	107,706
Royal Utility	3,566	3,596	3,602	3,638	3,674	3,711	3,748
STOF – Hollywood <sup>b</sup>	1,134	1,227	2,097	2,559	2,983	3,407	3,884
Sunrise	231,552	233,430	236,183	240,907	245,725	248,133	253,146
Tamarac	65,700	66,280	66,685	68,019	69,379	70,767	71,474
Tindall Hammock	3,314	3,437	3,480	3,654	3,837	4,029	4,230
<b>PS Total</b>	<b>1,924,183</b>	<b>1,944,306</b>	<b>2,005,924</b>	<b>2,076,224</b>	<b>2,135,429</b>	<b>2,186,114</b>	<b>2,232,016</b>
<b>DSS Total</b>	<b>8,029</b>	<b>7,331</b>	<b>7,876</b>	<b>7,576</b>	<b>6,871</b>	<b>6,586</b>	<b>5,784</b>
<b>Broward County Total</b>	<b>1,932,212</b>	<b>1,951,637</b>	<b>2,013,800</b>	<b>2,083,800</b>	<b>2,142,300</b>	<b>2,192,700</b>	<b>2,237,800</b>
Hendry County <sup>c</sup>							
STOF – Big Cypress <sup>b</sup>	864	948	1,004	1,178	1,398	1,558	1,729
<b>PS Total</b>	<b>864</b>	<b>948</b>	<b>1,004</b>	<b>1,178</b>	<b>1,398</b>	<b>1,558</b>	<b>1,729</b>
<b>DSS Total</b>	<b>3,952</b>	<b>3,933</b>	<b>3,860</b>	<b>3,735</b>	<b>3,564</b>	<b>3,429</b>	<b>3,357</b>
<b>Hendry County Total</b>	<b>4,816</b>	<b>4,881</b>	<b>4,864</b>	<b>4,913</b>	<b>4,962</b>	<b>4,987</b>	<b>5,086</b>
Miami-Dade County							
Americana Village	1,587	1,588	1,587	1,587	1,595	1,595	1,595
Florida City	13,787	14,191	16,680	18,962	19,531	20,100	22,110
Homestead	70,733	80,218	83,146	86,538	89,697	92,603	95,372
MDWASD	2,361,344	2,363,914	2,445,436	2,532,174	2,620,629	2,703,983	2,771,853
North Miami	71,140	69,994	71,852	74,007	76,227	77,752	78,081
North Miami Beach	162,838	163,784	165,964	181,448	190,520	198,141	210,647
<b>PS Total</b>	<b>2,681,429</b>	<b>2,693,688</b>	<b>2,784,664</b>	<b>2,894,715</b>	<b>2,998,200</b>	<b>3,094,173</b>	<b>3,179,658</b>
<b>DSS Total</b>	<b>20,338</b>	<b>9,052</b>	<b>15,821</b>	<b>20,069</b>	<b>23,075</b>	<b>24,933</b>	<b>33,021</b>
<b>Miami-Dade County Total</b>	<b>2,701,767</b>	<b>2,702,740</b>	<b>2,800,485</b>	<b>2,914,784</b>	<b>3,021,275</b>	<b>3,119,106</b>	<b>3,212,679</b>
Monroe County							
FCAA	77,823	78,267	78,800	79,400	79,800	80,000	80,200
<b>PS Total</b>	<b>77,823</b>	<b>78,267</b>	<b>78,800</b>	<b>79,400</b>	<b>79,800</b>	<b>80,000</b>	<b>80,200</b>
<b>DSS Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Monroe County Total</b>	<b>77,823</b>	<b>78,267</b>	<b>78,800</b>	<b>79,400</b>	<b>79,800</b>	<b>80,000</b>	<b>80,200</b>
Palm Beach County							
Boca Raton	118,603	119,994	122,126	124,569	126,437	127,702	131,533
Boynton Beach	115,935	119,413	122,995	126,601	131,665	135,615	136,890
Delray Beach	70,992	71,922	74,542	76,003	79,043	81,415	82,180
Golf	2,767	2,801	2,905	3,022	3,142	3,237	3,334
Highland Beach	4,080	4,143	4,467	4,645	4,738	4,881	4,978
Jupiter (Palm Beach)	73,826	74,581	79,099	80,586	83,820	85,443	87,133
Jupiter (Martin)	2,285	2,311	2,416	2,527	2,617	2,697	2,770
Lake Worth Beach	48,524	48,806	50,951	52,989	55,108	58,612	59,176
Lantana	10,560	10,656	11,088	11,532	11,993	12,353	12,723

Table A-1. Continued.

PS Utility or DSS	Service Area Population Projections						
	2020	2021	2025	2030	2035	2040	2045
Palm Beach County (continued)							
Manalapan	2,635	429	440	458	476	490	505
Mangonia Park	2,142	2,180	2,249	2,339	2,433	2,506	2,581
Maralago Cay	1,240	1,240	1,240	1,240	1,240	1,240	1,240
PBCWUD	538,596	545,848	577,044	611,385	635,840	655,340	678,344
PBCWUD Western Region	36,305	36,660	37,405	38,153	38,916	39,695	40,488
Palm Springs	51,866	52,857	53,422	55,024	56,675	58,375	60,127
Riviera Beach	42,749	43,485	44,442	45,898	48,069	50,501	53,531
Seacoast	96,113	96,473	97,911	102,856	103,569	105,683	106,537
Tequesta (Palm Beach)	9,633	9,777	9,922	10,220	10,424	10,633	10,805
Tequesta (Martin)	3,578	3,629	3,679	3,743	3,777	3,795	3,804
Wellington	56,539	56,777	57,105	63,116	65,640	68,266	70,314
West Palm Beach	131,384	132,402	136,361	140,247	146,885	151,045	156,033
<b>PS Total</b>	<b>1,420,353</b>	<b>1,436,386</b>	<b>1,491,809</b>	<b>1,557,152</b>	<b>1,612,509</b>	<b>1,659,522</b>	<b>1,705,025</b>
<b>DSS Total</b>	<b>46,141</b>	<b>48,797</b>	<b>53,091</b>	<b>55,048</b>	<b>56,091</b>	<b>57,478</b>	<b>53,475</b>
<b>Palm Beach County Total</b>	<b>1,466,494</b>	<b>1,485,183</b>	<b>1,544,900</b>	<b>1,612,200</b>	<b>1,668,600</b>	<b>1,717,000</b>	<b>1,758,500</b>
<b>LEC Planning Area Total</b>							
<b>PS Total</b>	<b>6,104,652</b>	<b>6,153,595</b>	<b>6,362,201</b>	<b>6,608,669</b>	<b>6,827,335</b>	<b>7,021,367</b>	<b>7,198,628</b>
<b>DSS Total</b>	<b>78,460</b>	<b>69,113</b>	<b>80,648</b>	<b>86,428</b>	<b>89,601</b>	<b>92,426</b>	<b>95,638</b>
<b>LEC Planning Area Total</b>	<b>6,183,112</b>	<b>6,222,708</b>	<b>6,442,849</b>	<b>6,695,097</b>	<b>6,916,937</b>	<b>7,113,793</b>	<b>7,294,265</b>

BCWWS = Broward County Water and Wastewater Services; CSID = Coral Springs Improvement District; DSS = Domestic Self-Supply; FKAA = Florida Keys Aqueduct Authority; LEC = Lower East Coast; MDWASD = Miami-Dade Water and Sewer Department; NSID = North Springs Improvement District; PBCWUD = Palm Beach County Water Utilities Department; PS = Public Supply; STOF = Seminole Tribe of Florida.

- a BCWWS District 3 population is included.
- b The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from Broward and Hendry counties. However, for discussion purposes, information relating to the Seminole Tribe of Florida Hollywood Reservation and the Seminole Tribe of Florida Big Cypress Basin Reservation is included in the calculations for Broward and Hendry counties, respectively.
- c Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

The populations shown in **Table A-1** indicate the LEC Planning Area will contain more than 1 million additional permanent residents by 2045, an increase of approximately 18%. Growth rates in Palm Beach, Broward, Miami-Dade, and Monroe counties are projected to gradually decline through 2045. The utilities with the largest populations served, both in 2021 and 2045, are the Miami-Dade Water and Sewer Department, Palm Beach County Water Utilities Department, and City of Fort Lauderdale.

Comparing this 2023 LEC Plan Update population projection to those published in the 2018 and 2013 LEC plan updates can provide insight into the importance of population growth rates based on BEBR medium projections. Prior to the national economic downturn in 2008, higher rates of development in the region pointed to substantial population growth (**Figure A-1**). The BEBR medium projections used in this 2023 LEC Plan Update compared to the 2018 and 2013 LEC plan updates share a more consistent view of future population based on estimates of lower growth rates following the 2008 recession.

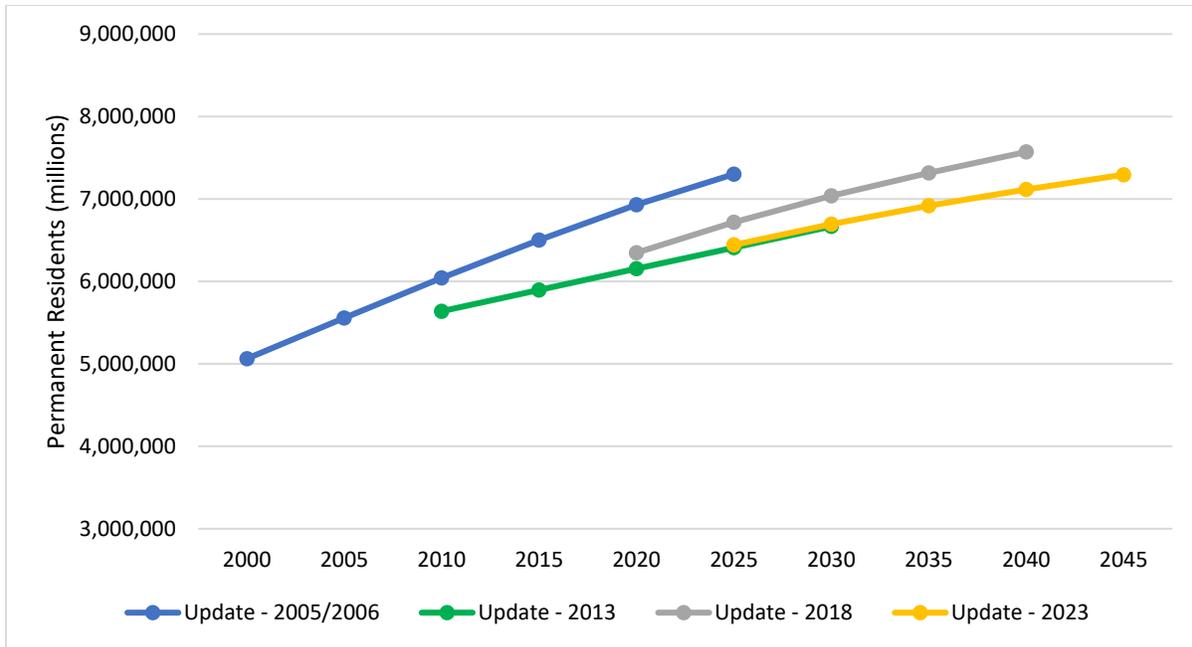


Figure A-1. Comparison of population projections from the 2005/2006, 2013, 2018, and 2023 LEC plan updates.

## PUBLIC SUPPLY

The PS category includes potable water supplied by water treatment plants with a current allocation of 0.10 mgd or greater. Developing PS demand projections in the LEC Planning Area was a multistep process that included determining PS utility service area and DSS populations, calculating per capita use rates (PCURs), and projecting future water needs.

### NOTE

Perceived discrepancies in table totals are due to rounding.

## PS Projection Methodology

### *Per Capita Use Rates*

For each PS utility, a net (finished) water PCUR was developed by dividing the annual net (finished) water volume for 2017 through 2021 by the corresponding service area populations (permanent residents) for each year. The five annual PCURs were then averaged (**Table A-2**). Net (finished) water volumes for 2017 through 2021 were obtained from the PS utility monthly operating reports submitted to the Florida Department of Environmental Protection (FDEP). The net (finished) water volume reported to the FDEP includes all water produced for permanent and seasonal residents; industrial, landscaping, and irrigation water supplied by PS utilities; and any water distribution losses. The resulting PCURs conform to guidance provided by the FDEP for consistent statewide water supply planning. Future water conservation savings were not factored into PCURs and demand projections due to water savings uncertainty. The average PCURs for each county were calculated by averaging PS and DSS PCURs, weighted by their respective permanent resident populations.

Table A-2. Average net (finished) water per capita use rates (in gallons per capita per day) in the LEC Planning Area.

PS Utility or DSS	2017-2021 Average PCUR
Broward County	
BCWWS District 1	83
BCWWS District 2A	110
Cooper City	97
Coral Springs	95
CSID	97
Dania Beach	113
Davie	138
Deerfield Beach	164
Fort Lauderdale	152
Hallandale Beach	150
Hillsboro Beach	327
Hollywood	107
Lauderhill	94
Margate	89
Miramar	105
North Lauderdale	73
NSID	109
Parkland	100
Pembroke Pines	80
Plantation	110
Pompano Beach	157
Royal Utility	91
STOF – Hollywood <sup>a</sup>	714
Sunrise	99
Tamarac	100
Tindall Hammock	145
<b>Broward County Average</b>	<b>112</b>
Hendry County <sup>b,c</sup>	
STOF – Big Cypress <sup>a</sup>	287
Hendry County DSS	93
<b>Hendry County Average</b>	<b>131</b>
Miami-Dade County	
Americana Village	145
Florida City	152
Homestead	166
MDWASD	130
North Miami	94
North Miami Beach	116
<b>Miami-Dade County Average</b>	<b>129</b>
Monroe County	
FKA	235
<b>Monroe County Average</b>	<b>235</b>

Table A-2. Continued.

PS Utility or DSS	2017-2021 Average PCUR
Palm Beach County	
Boca Raton	290
Boynton Beach	119
Delray Beach	204
Golf	145
Highland Beach	301
Jupiter (Palm Beach and Martin)	211
Lake Worth Beach	106
Lantana	184
Manalapan	418
Mangonia Park	189
Maralago Cay	205
PBCWUD	102
PBCWUD Western Region	176
Palm Springs	75
Riviera Beach	192
Seacoast	188
Tequesta (Palm Beach and Martin)	253
Wellington	104
West Palm Beach	230
<b>Palm Beach County Average</b>	<b>154</b>
<b>LEC Planning Area Average</b>	<b>131</b>

BCWWS = Broward County Water and Wastewater Services; CSID = Coral Springs Improvement District; DSS = Domestic Self-Supply; FKA = Florida Keys Aqueduct Authority; LEC = Lower East Coast; MDWASD = Miami-Dade Water and Sewer Department; NSID = North Springs Improvement District; PBCWUD = Palm Beach County Water Utilities Department; PCUR = per capita use rate; PS = Public Supply; STOF = Seminole Tribe of Florida.

- <sup>a</sup> The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from Broward and Hendry counties. However, for discussion purposes, information relating to the Seminole Tribe of Florida Hollywood Reservation and the Seminole Tribe of Florida Big Cypress Basin Reservation is included in the calculations for Broward and Hendry counties, respectively.
- <sup>b</sup> DSS and average PCUR are from the *2022 Lower West Coast Water Supply Plan Update* (SFWMD 2022).
- <sup>c</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

### *Finished-to-Raw Water Conversion*

Net (finished) demands (**Table A-3**) were calculated by multiplying the PS service area or DSS area population and the 5-year average PCUR. Gross (raw) water withdrawals are the volumes needed from the water source(s) to produce the required net (finished) water volumes considering water treatment process losses. Water use permit allocations are based on the gross (raw) water volume to meet service area demands. To determine gross (raw) water demand for each PS utility, net (finished) water projections were multiplied by finished-to-raw ratios (**Table A-4**), which are based on the treatment efficiency of each PS treatment plant. For example, if a typical reverse osmosis treatment facility withdraws a gross (raw) volume of 10.00 mgd and produces 8.00 mgd of net (finished) water, its treatment losses are 20%. Therefore, its finished-to-raw ratio would be 1.25 (10 mgd divided by 8 mgd).

Treatment efficiencies were determined from information supplied in the water use permit and from actual pumpage reports. The assumed losses are 0% for aeration/disinfection only, 3% for lime softening/flocculation, 15% for nanofiltration, and 25% for reverse osmosis. If a utility has more than one treatment method, the ratio reflects combined treatment efficiencies. Finished-to-raw adjustments for potable water treatment plants in the LEC Planning Area based on their treatment processes are shown in **Figures A-2, A-3, and A-4**.

Table A-3. PS net (finished) water demands under average rainfall conditions in the LEC Planning Area.

PS Utility	Net (Finished) Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
BCWWS District 1	7.12	7.21	7.44	7.77	8.00	8.16	8.66
BCWWS District 2A	13.28	13.35	13.68	13.82	14.03	14.10	14.45
Cooper City	3.04	3.06	3.13	3.19	3.25	3.32	3.39
Coral Springs	6.08	6.14	6.57	6.77	7.11	7.25	7.32
CSID	3.88	3.90	3.94	4.00	4.02	4.04	4.05
Dania Beach	2.10	2.16	2.31	2.50	2.70	2.91	3.12
Davie	4.58	4.70	5.04	5.34	5.77	6.17	6.61
Deerfield Beach	8.96	9.03	9.32	9.69	10.08	10.49	10.69
Fort Lauderdale	36.34	36.95	38.52	41.22	43.24	45.81	46.47
Hallandale Beach	6.14	6.19	6.45	6.64	6.77	6.91	7.05
Hillsboro Beach	0.68	0.68	0.69	0.70	0.72	0.73	0.75
Hollywood	22.24	22.50	23.57	24.51	25.02	25.26	25.77
Lauderhill	5.94	5.97	6.12	6.30	6.42	6.55	6.68
Margate	5.72	5.78	6.02	6.26	6.44	6.57	6.70
Miramar	13.38	13.50	13.91	14.47	14.90	15.20	15.35
North Lauderdale	2.67	2.69	2.81	2.87	2.92	2.95	3.04
NSID	4.22	4.27	4.48	4.66	4.75	4.84	4.94
Parkland	0.26	0.27	0.28	0.30	0.31	0.33	0.35
Pembroke Pines	13.05	13.09	13.31	13.44	13.58	13.71	13.85
Plantation	10.31	10.42	10.62	10.94	11.16	11.38	11.61
Pompano Beach	14.32	14.58	14.89	15.49	16.11	16.62	16.91
Royal Utility	0.32	0.33	0.33	0.33	0.33	0.34	0.34
STOF – Hollywood <sup>a</sup>	0.81	0.88	1.36	1.41	1.50	1.71	2.42
Sunrise	22.92	23.11	23.38	23.85	24.33	24.57	25.06
Tamarac	6.57	6.63	6.67	6.80	6.94	7.08	7.15
Tindall Hammock	0.48	0.49	0.50	0.53	0.55	0.58	0.61
<b>Broward County Total</b>	<b>215.40</b>	<b>217.86</b>	<b>225.33</b>	<b>233.79</b>	<b>240.97</b>	<b>247.58</b>	<b>253.35</b>
Hendry County <sup>b</sup>							
STOF – Big Cypress <sup>a</sup>	0.25	0.27	0.35	0.41	0.42	0.47	0.54
<b>Hendry County Total</b>	<b>0.25</b>	<b>0.27</b>	<b>0.35</b>	<b>0.41</b>	<b>0.42</b>	<b>0.47</b>	<b>0.54</b>

Table A-3. Continued.

PS Utility	Net (Finished) Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
<b>Miami-Dade County</b>							
Americana Village	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Florida City	2.10	2.16	2.54	2.88	2.97	3.06	3.36
Homestead	11.74	13.32	13.80	14.37	14.89	15.37	15.83
MDWASD	306.97	307.31	317.91	329.18	340.68	351.52	360.34
North Miami	6.69	6.58	6.75	6.96	7.17	7.31	7.34
North Miami Beach	18.89	19.00	19.25	21.05	22.10	22.98	24.44
<b>Miami-Dade County Total</b>	<b>346.62</b>	<b>348.59</b>	<b>360.48</b>	<b>374.66</b>	<b>388.04</b>	<b>400.47</b>	<b>411.54</b>
<b>Monroe County</b>							
FKAA	18.29	18.39	18.52	18.66	18.75	18.80	18.85
<b>Monroe County Total</b>	<b>18.29</b>	<b>18.39</b>	<b>18.52</b>	<b>18.66</b>	<b>18.75</b>	<b>18.80</b>	<b>18.85</b>
<b>Palm Beach County</b>							
Boca Raton	34.39	34.80	35.42	36.12	36.67	37.03	38.14
Boynton Beach	13.80	14.21	14.64	15.07	15.67	16.14	16.29
Delray Beach	14.48	14.67	15.21	15.50	16.12	16.61	16.76
Golf	0.40	0.41	0.42	0.44	0.46	0.47	0.48
Highland Beach	1.23	1.25	1.34	1.40	1.43	1.47	1.50
Jupiter <sup>c</sup>	16.06	16.22	17.20	17.54	18.24	18.60	18.97
Lake Worth Beach	5.14	5.17	5.40	5.62	5.84	6.21	6.27
Lantana	1.94	1.96	2.04	2.12	2.21	2.27	2.34
Manalapan	1.10	0.18	0.18	0.19	0.20	0.20	0.21
Mangonia Park	0.40	0.41	0.43	0.44	0.46	0.47	0.49
Maralago Cay	0.25	0.25	0.25	0.25	0.25	0.25	0.25
PBCWUD	55.48	56.22	59.44	62.97	65.49	67.50	69.87
PBCWUD Western Region	6.39	6.45	6.58	6.71	6.85	6.99	7.13
Palm Springs	3.89	3.96	4.01	4.13	4.25	4.38	4.51
Riviera Beach	8.21	8.35	8.53	8.81	9.23	9.70	10.28
Seacoast	18.07	18.14	18.41	19.34	19.47	19.87	20.03
Tequesta <sup>c</sup>	3.34	3.39	3.44	3.53	3.59	3.65	3.70
Wellington	5.88	5.90	5.94	6.56	6.83	7.10	7.31
West Palm Beach	30.22	30.45	31.36	32.26	33.78	34.74	35.89
<b>Palm Beach County Total</b>	<b>220.68</b>	<b>222.41</b>	<b>230.24</b>	<b>239.01</b>	<b>247.04</b>	<b>253.65</b>	<b>260.43</b>
<b>LEC Planning Area Total</b>	<b>801.24</b>	<b>807.52</b>	<b>834.91</b>	<b>866.54</b>	<b>895.22</b>	<b>920.97</b>	<b>944.70</b>

BCWWS = Broward County Water and Wastewater Services; CSID = Coral Springs Improvement District; FKAA = Florida Keys Aqueduct Authority; LEC = Lower East Coast; MDWASD = Miami-Dade Water and Sewer Department; mgd = million gallons per day; NSID = North Springs Improvement District; PBCWUD = Palm Beach County Water Utilities Department; PS = Public Supply.

- <sup>a</sup> The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from Broward and Hendry counties. However, for discussion purposes, information relating to the Seminole Tribe of Florida Hollywood Reservation and the Seminole Tribe of Florida Big Cypress Basin Reservation is included in the calculations for Broward and Hendry counties, respectively.
- <sup>b</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.
- <sup>c</sup> Values include Palm Beach and Martin counties.

Table A-4. Finished-to-raw water adjustment ratios for PS utilities in the LEC Planning Area.

PS Utility	Finished-to-Raw Ratio
<b>Broward County</b>	
BCWWS District 1	1.03
BCWWS District 2A	1.03
Cooper City	1.20
Coral Springs	1.03
CSID	1.24
Dania Beach	1.08
Davie	1.16
Deerfield Beach	1.13
Fort Lauderdale	1.06
Hallandale Beach	1.12
Hillsboro Beach	1.03
Hollywood	1.09
Lauderhill	1.03
Margate	1.17
Miramar	1.25
North Lauderdale	1.03
NSID	1.33
Parkland	1.03
Pembroke Pines	1.03
Plantation	1.25
Pompano Beach	1.12
Royal Utility	1.03
STOF – Hollywood <sup>a</sup>	1.33
Sunrise	1.11
Tamarac	1.03
Tindall Hammock	1.03
<b>Hendry County<sup>b</sup></b>	
STOF – Big Cypress <sup>a</sup>	1.03
<b>Miami-Dade County</b>	
Americana Village	1.03
Florida City	1.03
Homestead	1.03
MDWASD	1.08
North Miami	1.03
North Miami Beach	1.21
<b>Monroe County</b>	
FKAA	1.05
<b>Palm Beach County</b>	
Boca Raton	1.12
Boynton Beach	1.09
Delray Beach	1.03
Golf	1.18
Highland Beach	1.33
Jupiter (Palm Beach and Martin)	1.20

Table A-4. Continued.

PS Utility	Finished-to-Raw Ratio
Palm Beach County (continued)	
Lake Worth Beach	1.27
Lantana	1.18
Manalapan	1.33
Mangonia Park	1.03
Maralago Cay	1.03
PBCWUD	1.15
PBCWUD Western Region	1.33
Palm Springs	1.05
Riviera Beach	1.03
Seacoast	1.20
Tequesta (Palm Beach and Martin)	1.24
Wellington	1.15
West Palm Beach	1.03

BCWWS = Broward County Water and Wastewater Services; CSID = Coral Springs Improvement District; FKAA = Florida Keys Aqueduct Authority; LEC = Lower East Coast; MDWASD = Miami-Dade Water and Sewer Department; NSID = North Springs Improvement District; PBCWUD = Palm Beach County Water Utilities Department; PS = Public Supply.

- <sup>a</sup> The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from Broward and Hendry counties. However, for discussion purposes, information relating to the Seminole Tribe of Florida Hollywood Reservation and the Seminole Tribe of Florida Big Cypress Basin Reservation is included in the calculations for Broward and Hendry counties, respectively.
- <sup>b</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

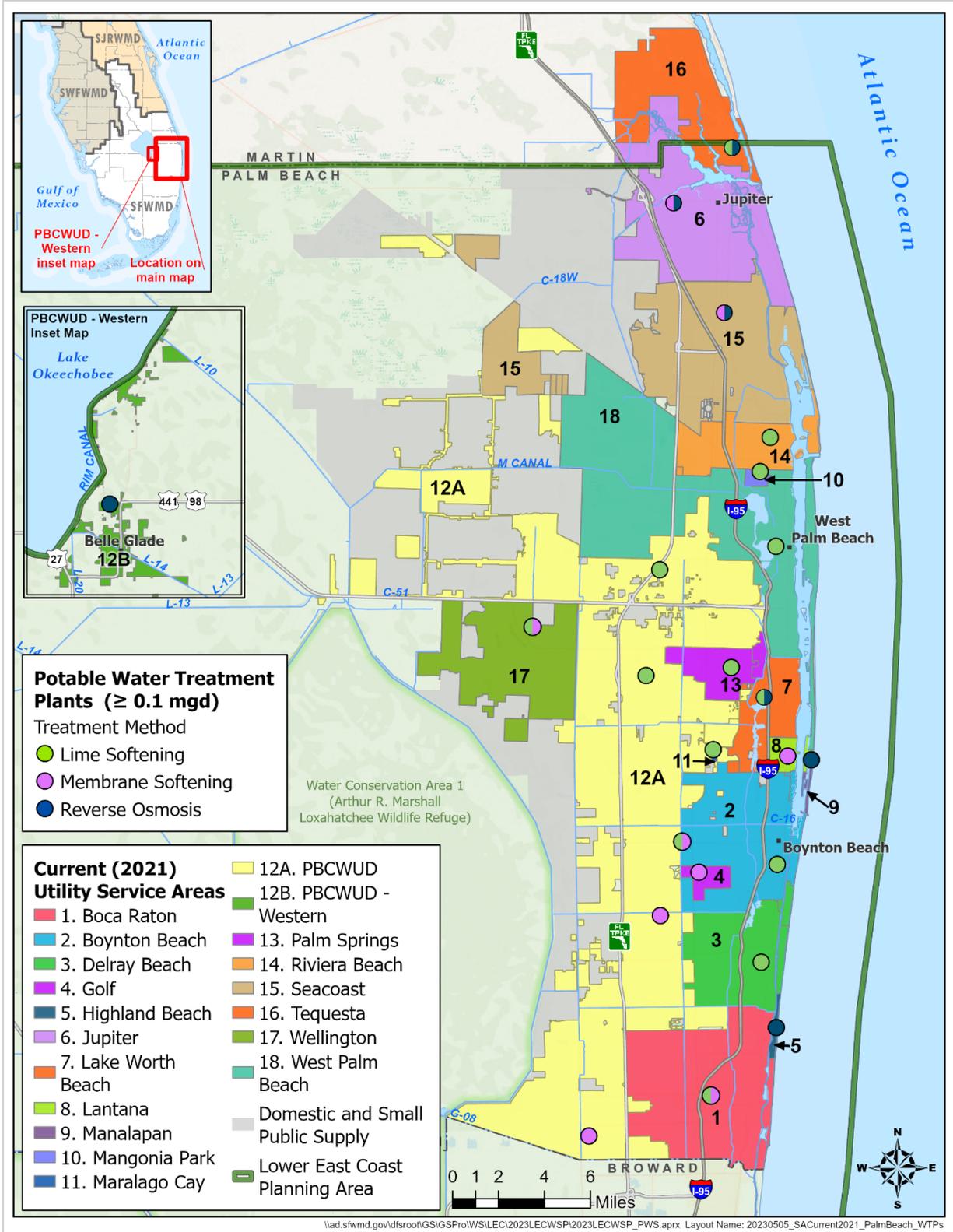


Figure A-2. Potable water treatment plants and 2021 Public Supply utility service areas in Palm Beach County.

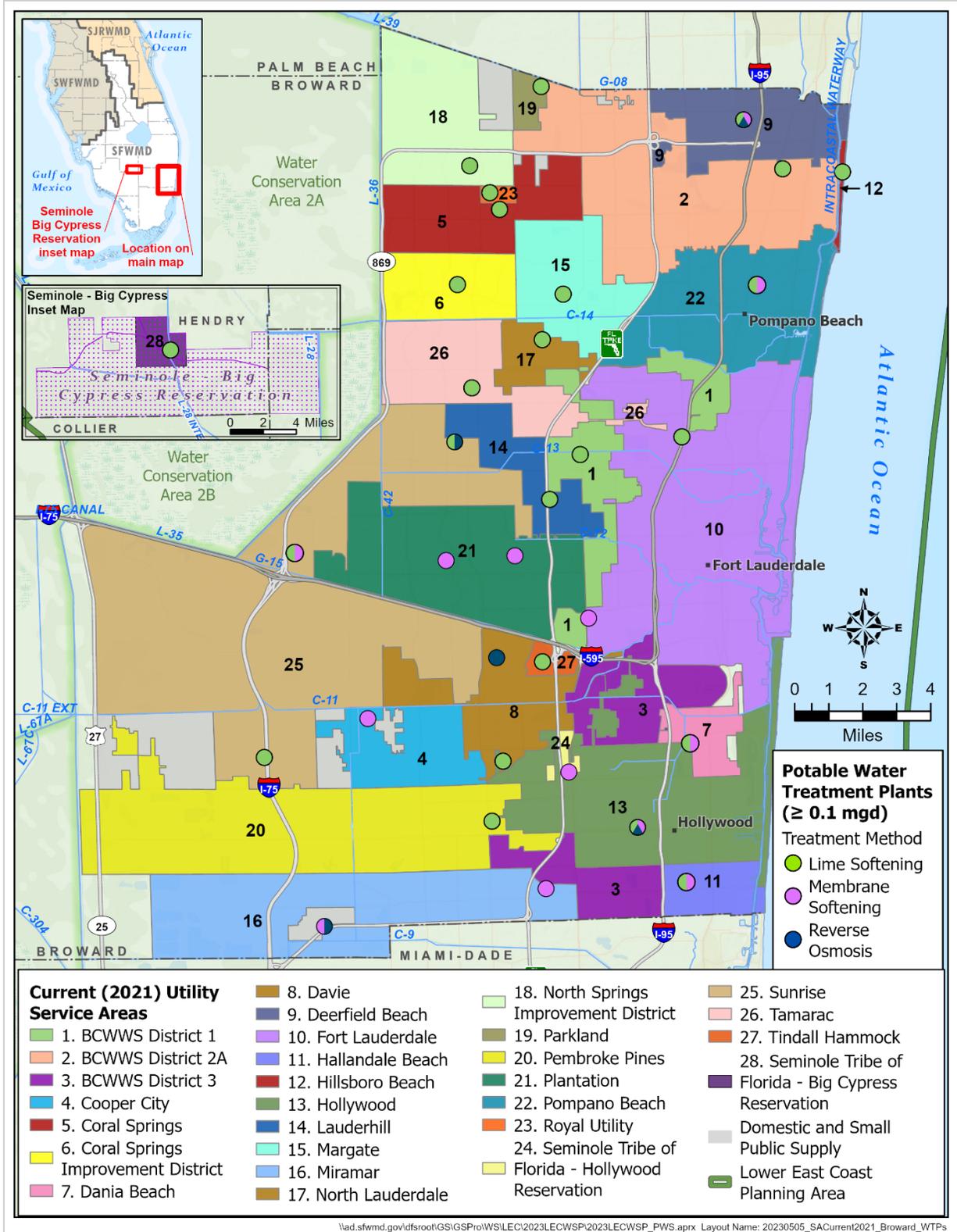


Figure A-3. Potable water treatment plants and 2021 Public Supply utility service areas in Broward County.

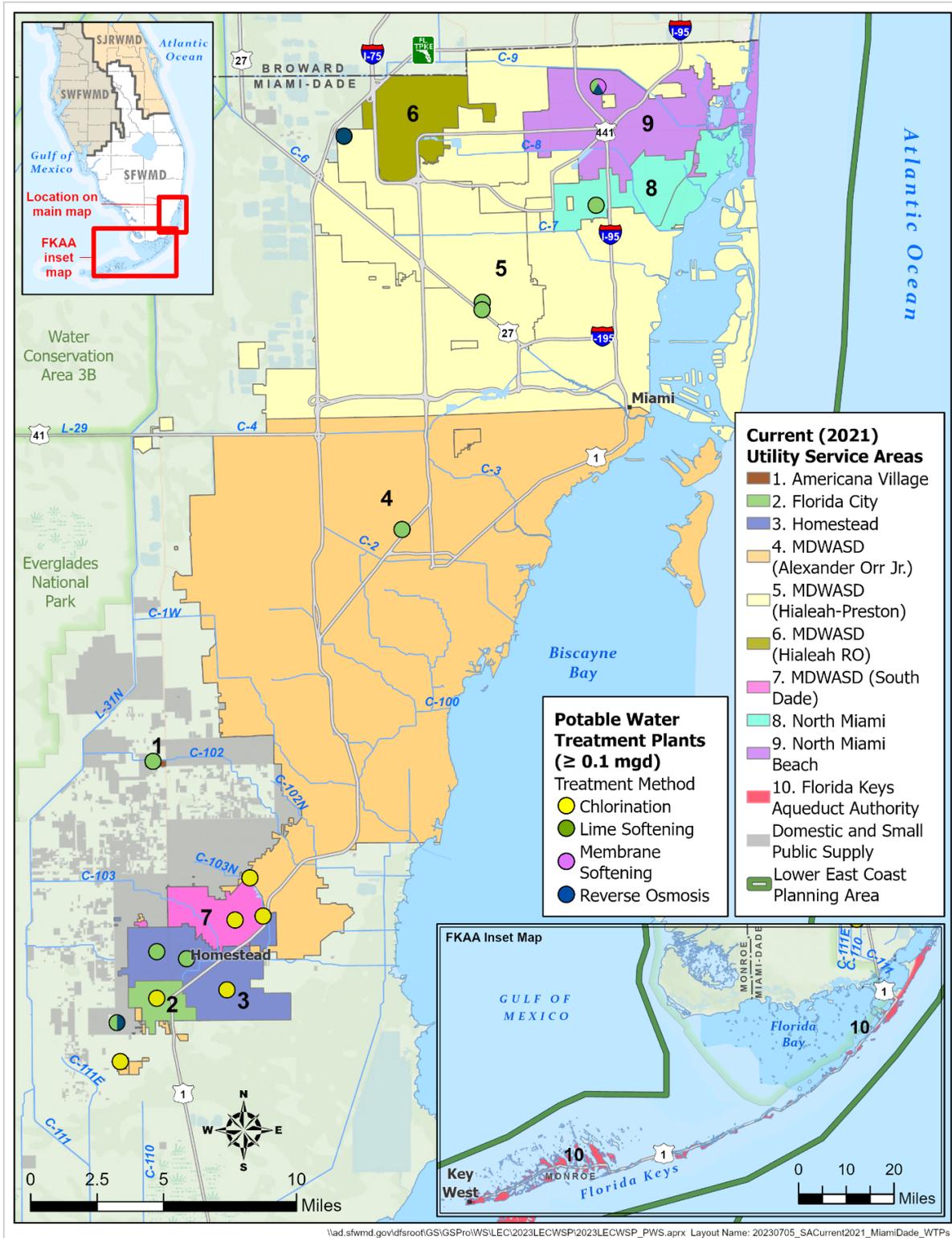


Figure A-4. Potable water treatment plants and 2021 Public Supply utility service areas in Miami-Dade County.

(Note: Monroe County is served solely by the Florida Keys Aqueduct Authority, whose water treatment plant is located in Miami-Dade County.)

## PS Projection Results

### Average Rainfall Conditions

Gross (raw) demands for PS under average rainfall conditions for 2020 through 2045 are provided in **Table A-5**.

Table A-5. PS gross (raw) water demands under average rainfall conditions in the LEC Planning Area.

PS Utility	Gross (Raw) Water Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
BCWWS District 1	7.33	7.42	7.66	8.00	8.24	8.40	8.92
BCWWS District 2A	13.68	13.75	14.09	14.23	14.45	14.52	14.88
Cooper City	3.64	3.67	3.75	3.83	3.91	3.98	4.06
Coral Springs	6.26	6.32	6.76	6.97	7.32	7.47	7.54
CSID	4.81	4.84	4.89	4.96	4.98	5.01	5.02
Dania Beach	2.27	2.33	2.50	2.70	2.91	3.15	3.37
Davie	5.31	5.45	5.85	6.20	6.69	7.16	7.66
Deerfield Beach	10.13	10.20	10.53	10.95	11.39	11.85	12.09
Fort Lauderdale	38.52	39.16	40.83	48.22	50.59	53.59	54.37
Hallandale Beach	6.87	6.94	7.22	7.44	7.59	7.74	7.89
Hillsboro Beach	0.70	0.70	0.71	0.72	0.74	0.75	0.77
Hollywood	24.24	24.53	25.69	26.72	27.27	27.53	28.09
Lauderhill	6.12	6.15	6.47	6.67	6.80	6.94	7.08
Margate	6.70	6.76	7.04	7.32	7.54	7.69	7.84
Miramar	16.72	16.87	17.39	18.09	18.63	19.00	19.19
North Lauderdale	2.75	2.77	2.89	2.95	3.01	3.04	3.13
NSID	5.61	5.67	5.95	6.19	6.32	6.44	6.57
Parkland	0.27	0.28	0.29	0.31	0.32	0.34	0.36
Pembroke Pines	13.44	13.48	13.71	13.85	13.99	14.13	14.27
Plantation	12.89	13.03	13.28	13.68	13.95	14.23	14.51
Pompano Beach	16.04	16.33	16.68	17.35	18.04	18.61	18.94
Royal Utility	0.33	0.34	0.34	0.34	0.34	0.35	0.35
STOF – Hollywood <sup>a</sup>	1.08	1.17	1.81	1.88	2.00	2.28	3.22
Sunrise	25.45	25.65	25.95	26.47	27.00	27.27	27.82
Tamarac	6.77	6.83	6.87	7.01	7.15	7.29	7.36
Tindall Hammock	0.49	0.51	0.52	0.54	0.57	0.60	0.63
<b>Broward County Total</b>	<b>238.41</b>	<b>241.15</b>	<b>249.68</b>	<b>263.59</b>	<b>271.75</b>	<b>279.36</b>	<b>285.95</b>
Hendry County <sup>b</sup>							
STOF – Big Cypress <sup>a</sup>	0.26	0.28	0.36	0.42	0.43	0.48	0.56
<b>Hendry County Total</b>	<b>0.26</b>	<b>0.28</b>	<b>0.36</b>	<b>0.42</b>	<b>0.43</b>	<b>0.48</b>	<b>0.56</b>

Table A-5. Continued.

PS Utility	Gross (Raw) Water Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
<b>Miami-Dade County</b>							
Americana Village	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Florida City	2.16	2.22	2.61	2.97	3.06	3.15	3.46
Homestead	12.09	13.72	14.22	14.80	15.34	15.83	16.31
MDWASD	331.53	331.89	343.34	355.52	367.94	379.64	389.17
North Miami	6.89	6.78	6.96	7.17	7.38	7.53	7.56
North Miami Beach	22.86	22.99	23.29	25.47	26.74	27.81	29.57
<b>Miami-Dade County Total</b>	<b>375.77</b>	<b>377.83</b>	<b>390.66</b>	<b>406.15</b>	<b>420.69</b>	<b>434.20</b>	<b>446.30</b>
<b>Monroe County</b>							
FKAA	19.20	19.31	19.44	19.59	19.69	19.74	19.79
<b>Monroe County Total</b>	<b>19.20</b>	<b>19.31</b>	<b>19.44</b>	<b>19.59</b>	<b>19.69</b>	<b>19.74</b>	<b>19.79</b>
<b>Palm Beach County</b>							
Boca Raton	38.52	38.97	39.67	40.46	41.07	41.48	42.72
Boynton Beach	15.04	15.49	15.95	16.42	17.08	17.59	17.76
Delray Beach	14.92	15.11	15.66	15.97	16.61	17.11	17.27
Golf	0.47	0.48	0.50	0.52	0.54	0.55	0.57
Highland Beach	1.63	1.66	1.79	1.86	1.90	1.95	1.99
Jupiter <sup>c</sup>	19.27	19.47	20.64	21.04	21.89	22.32	22.76
Lake Worth Beach	6.12	6.16	6.43	6.68	6.95	7.39	7.46
Lantana	2.29	2.31	2.41	2.50	2.60	2.68	2.76
Manalapan	1.46	0.24	0.24	0.25	0.26	0.27	0.28
Mangonia Park	0.42	0.42	0.44	0.46	0.47	0.49	0.50
Maralago Cay	0.26	0.26	0.26	0.26	0.26	0.26	0.26
PBCWUD	63.80	64.66	68.35	72.42	75.32	77.63	80.35
PBCWUD Western Region	8.50	8.58	8.76	8.93	9.11	9.29	9.48
Palm Springs	4.08	4.16	4.21	4.33	4.46	4.60	4.73
Riviera Beach	8.45	8.60	8.79	9.08	9.51	9.99	10.59
Seacoast	21.68	21.76	22.09	23.20	23.37	23.84	24.03
Tequesta <sup>c</sup>	4.14	4.21	4.27	4.38	4.46	4.53	4.58
Wellington	6.76	6.79	6.83	7.55	7.85	8.16	8.41
West Palm Beach	31.12	31.37	32.30	33.22	34.80	35.78	36.96
<b>Palm Beach County Total</b>	<b>249.32</b>	<b>251.07</b>	<b>259.96</b>	<b>269.94</b>	<b>278.90</b>	<b>286.35</b>	<b>293.92</b>
<b>LEC Planning Area Total</b>	<b>882.96</b>	<b>889.64</b>	<b>920.10</b>	<b>959.70</b>	<b>991.47</b>	<b>1,020.13</b>	<b>1,046.52</b>

BCWWS = Broward County Water and Wastewater Services; CSID = Coral Springs Improvement District; FKAA = Florida Keys Aqueduct Authority; LEC = Lower East Coast; MDWASD = Miami-Dade Water and Sewer Department; mgd = million gallons per day; NSID = North Springs Improvement District; PBCWUD = Palm Beach County Water Utilities Department; PS = Public Supply.

- <sup>a</sup> The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from Broward and Hendry counties. However, for discussion purposes, information relating to the Seminole Tribe of Florida Hollywood Reservation and the Seminole Tribe of Florida Big Cypress Basin Reservation is included in the calculations for Broward and Hendry counties, respectively.
- <sup>b</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.
- <sup>c</sup> Values include Palm Beach and Martin counties.

## 1-in-10-Year Drought Conditions

Section 373.709, F.S., states that the level-of-certainty planning goal associated with identifying water demands shall be based on meeting demands during 1-in-10-year drought conditions. A 1-in-10-year drought is characterized by diminished rain and increased evapotranspiration relative to the historical record for a particular location. The increased PS demands during 1-in-10-year drought conditions were calculated using the method described in the *Districtwide Water Supply Assessment* (SFWMD 2023a), which considers the increased demands on the irrigation portion of PS during droughts. Drought demand factors for each county (or portion of the county within the LEC Planning Area) are as follows:

- ◆ Broward County: 1.10
- ◆ Hendry County: 1.06
- ◆ Miami-Dade County: 1.07
- ◆ Monroe County: 1.03
- ◆ Palm Beach County: 1.10

Average water demands were multiplied by the above ratios to calculate demands during 1-in-10-year drought conditions for both finished and raw demands (**Tables A-6 and A-7**).

Table A-6. PS net (finished) water demands under 1-in-10-year drought conditions in the LEC Planning Area.

PS Utility	Net (Finished) Demand – 1-in-10-Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
BCWWS District 1	7.83	7.93	8.18	8.55	8.80	8.97	9.52
BCWWS District 2A	14.61	14.69	15.05	15.20	15.43	15.50	15.90
Cooper City	3.34	3.36	3.44	3.51	3.58	3.65	3.72
Coral Springs	6.69	6.75	7.22	7.45	7.82	7.98	8.06
CSID	4.27	4.29	4.33	4.40	4.42	4.44	4.46
Dania Beach	2.31	2.37	2.54	2.75	2.97	3.21	3.43
Davie	5.04	5.17	5.54	5.88	6.35	6.79	7.27
Deerfield Beach	9.86	9.93	10.25	10.66	11.09	11.53	11.76
Fort Lauderdale	39.97	40.64	42.37	45.34	47.57	50.39	51.12
Hallandale Beach	6.75	6.81	7.09	7.31	7.45	7.60	7.75
Hillsboro Beach	0.74	0.75	0.76	0.77	0.79	0.80	0.82
Hollywood	24.46	24.75	25.93	26.96	27.52	27.78	28.35
Lauderhill	6.53	6.56	6.73	6.93	7.07	7.21	7.35
Margate	6.30	6.36	6.62	6.88	7.09	7.23	7.37

### INFO

#### Average Rainfall and 1-in-10-Year Drought

An **average rainfall year** is defined as a year having rainfall with a 50% probability of being exceeded in any other year.

A **1-in-10-year drought** is defined as a year in which below normal rainfall occurs with a 90% probability of being exceeded in any other year. It has an expected return frequency of once in 10 years.

Table A-6. Continued.

PS Utility	Net (Finished) Demand – 1-in-10- Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County (continued)							
Miramar	14.71	14.85	15.30	15.92	16.39	16.72	16.89
North Lauderdale	2.94	2.96	3.09	3.15	3.22	3.25	3.35
NSID	4.64	4.69	4.92	5.12	5.22	5.33	5.44
Parkland	0.29	0.30	0.31	0.33	0.35	0.37	0.39
Pembroke Pines	14.35	14.39	14.64	14.79	14.94	15.09	15.24
Plantation	11.34	11.47	11.68	12.03	12.27	12.52	12.77
Pompano Beach	15.75	16.04	16.38	17.04	17.72	18.28	18.60
Royal Utility	0.36	0.36	0.36	0.36	0.37	0.37	0.38
STOF – Hollywood <sup>a</sup>	0.89	0.96	1.50	1.55	1.65	1.89	2.66
Sunrise	25.22	25.42	25.72	26.23	26.76	27.02	27.57
Tamarac	7.23	7.29	7.34	7.48	7.63	7.78	7.86
Tindall Hammock	0.52	0.54	0.55	0.58	0.61	0.64	0.67
<b>Broward County Total</b>	<b>236.94</b>	<b>239.64</b>	<b>247.86</b>	<b>257.17</b>	<b>265.07</b>	<b>272.34</b>	<b>278.68</b>
Hendry County <sup>b</sup>							
STOF – Big Cypress <sup>a</sup>	0.26	0.29	0.37	0.44	0.44	0.50	0.57
<b>Hendry County Total</b>	<b>0.26</b>	<b>0.29</b>	<b>0.37</b>	<b>0.44</b>	<b>0.44</b>	<b>0.50</b>	<b>0.57</b>
Miami-Dade County							
Americana Village	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Florida City	2.24	2.31	2.71	3.08	3.18	3.27	3.60
Homestead	12.56	14.25	14.77	15.37	15.93	16.45	16.94
MDWASD	328.46	328.82	340.16	352.23	364.53	376.12	385.56
North Miami	7.16	7.04	7.23	7.44	7.67	7.82	7.85
North Miami Beach	20.21	20.33	20.60	22.52	23.65	24.59	26.15
<b>Miami-Dade County Total</b>	<b>370.88</b>	<b>372.99</b>	<b>385.71</b>	<b>400.89</b>	<b>415.20</b>	<b>428.50</b>	<b>440.35</b>
Monroe County							
FKA	18.84	18.94	19.07	19.22	19.32	19.36	19.41
<b>Monroe County Total</b>	<b>18.84</b>	<b>18.94</b>	<b>19.07</b>	<b>19.22</b>	<b>19.32</b>	<b>19.36</b>	<b>19.41</b>
Palm Beach County							
Boca Raton	37.83	38.28	38.96	39.74	40.33	40.74	41.96
Boynton Beach	15.18	15.63	16.10	16.57	17.23	17.75	17.92
Delray Beach	15.93	16.14	16.73	17.06	17.74	18.27	18.44
Golf	0.44	0.45	0.46	0.48	0.50	0.52	0.53
Highland Beach	1.35	1.37	1.48	1.54	1.57	1.62	1.65
Jupiter <sup>c</sup>	17.67	17.85	18.92	19.29	20.06	20.46	20.87
Lake Worth Beach	5.66	5.69	5.94	6.18	6.43	6.83	6.90
Lantana	2.14	2.16	2.24	2.33	2.43	2.50	2.58
Manalapan	1.21	0.20	0.20	0.21	0.22	0.23	0.23
Mangonia Park	0.45	0.45	0.47	0.49	0.51	0.52	0.54
Maralago Cay	0.28	0.28	0.28	0.28	0.28	0.28	0.28
PBCWUD	61.02	61.84	65.38	69.27	72.04	74.25	76.86
PBCWUD Western Region	7.03	7.10	7.24	7.39	7.53	7.68	7.84

Table A-6. Continued.

PS Utility	Net (Finished) Demand – 1-in-10- Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Palm Beach County (continued)							
Palm Springs	4.28	4.36	4.41	4.54	4.68	4.82	4.96
Riviera Beach	9.03	9.18	9.39	9.69	10.15	10.67	11.31
Seacoast	19.88	19.95	20.25	21.27	21.42	21.86	22.03
Tequesta <sup>c</sup>	3.68	3.73	3.79	3.89	3.95	4.02	4.07
Wellington	6.47	6.50	6.53	7.22	7.51	7.81	8.04
West Palm Beach	33.24	33.50	34.50	35.48	37.16	38.21	39.48
<b>Palm Beach County Total</b>	<b>242.75</b>	<b>244.65</b>	<b>253.26</b>	<b>262.91</b>	<b>271.74</b>	<b>279.02</b>	<b>286.47</b>
<b>LEC Planning Area Total</b>	<b>869.67</b>	<b>876.52</b>	<b>906.28</b>	<b>940.63</b>	<b>971.77</b>	<b>999.72</b>	<b>1,025.48</b>

BCWWS = Broward County Water and Wastewater Services; CSID = Coral Springs Improvement District; FKAAs = Florida Keys Aqueduct Authority; LEC = Lower East Coast; MDWASD = Miami-Dade Water and Sewer Department; mgd = million gallons per day; NSID = North Springs Improvement District; PBCWUD = Palm Beach County Water Utilities Department; PS = Public Supply.

- <sup>a</sup> The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from Broward and Hendry counties. However, for discussion purposes, information relating to the Seminole Tribe of Florida Hollywood Reservation and the Seminole Tribe of Florida Big Cypress Basin Reservation is included in the calculations for Broward and Hendry counties, respectively.
- <sup>b</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.
- <sup>c</sup> Values include Palm Beach and Martin counties.

Table A-7. PS gross (raw) water demands under 1-in-10-year drought conditions in the LEC Planning Area.

PS Utility	Gross (Raw) Water Demand – 1-in10- Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
BCWWS District 1	8.06	8.16	8.42	8.80	9.07	9.24	9.81
BCWWS District 2A	15.05	15.13	15.50	15.66	15.89	15.97	16.37
Cooper City	4.01	4.03	4.13	4.21	4.30	4.38	4.47
Coral Springs	6.89	6.95	7.44	7.67	8.05	8.22	8.30
CSID	5.30	5.32	5.38	5.46	5.48	5.51	5.53
Dania Beach	2.49	2.56	2.75	2.97	3.21	3.46	3.70
Davie	5.85	5.99	6.43	6.82	7.36	7.88	8.43
Deerfield Beach	11.14	11.22	11.59	12.05	12.53	13.03	13.29
Fort Lauderdale	42.37	43.08	44.92	53.05	55.65	58.95	59.81
Hallandale Beach	7.56	7.63	7.94	8.18	8.35	8.51	8.68
Hillsboro Beach	0.77	0.77	0.78	0.80	0.81	0.83	0.85
Hollywood	26.66	26.98	28.26	29.39	30.00	30.28	30.90
Lauderhill	6.73	6.76	7.12	7.34	7.48	7.63	7.78
Margate	7.37	7.44	7.74	8.05	8.29	8.46	8.63
Miramar	18.39	18.56	19.13	19.89	20.49	20.90	21.11
North Lauderdale	3.03	3.05	3.18	3.25	3.31	3.34	3.45
NSID	6.17	6.24	6.55	6.81	6.95	7.09	7.23

Table A-7. Continued.

PS Utility	Gross (Raw) Water Demand – 1-in10- Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County (continued)							
Parkland	0.30	0.31	0.32	0.34	0.36	0.38	0.40
Pembroke Pines	14.79	14.83	15.08	15.23	15.38	15.54	15.69
Plantation	14.18	14.33	14.60	15.04	15.34	15.65	15.96
Pompano Beach	17.64	17.96	18.35	19.08	19.84	20.47	20.83
Royal Utility	0.37	0.37	0.37	0.38	0.38	0.38	0.39
STOF – Hollywood <sup>a</sup>	1.19	1.28	2.00	2.06	2.20	2.51	3.54
Sunrise	27.99	28.22	28.55	29.12	29.70	29.99	30.60
Tamarac	7.44	7.51	7.56	7.71	7.86	8.02	8.10
Tindall Hammock	0.54	0.56	0.57	0.60	0.63	0.66	0.69
<b>Broward County Total</b>	<b>262.25</b>	<b>265.26</b>	<b>274.65</b>	<b>289.94</b>	<b>298.93</b>	<b>307.30</b>	<b>314.55</b>
Hendry County <sup>b</sup>							
STOF – Big Cypress <sup>a</sup>	0.27	0.30	0.38	0.45	0.46	0.51	0.59
<b>Hendry County Total</b>	<b>0.27</b>	<b>0.30</b>	<b>0.38</b>	<b>0.45</b>	<b>0.46</b>	<b>0.51</b>	<b>0.59</b>
Miami-Dade County							
Americana Village	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Florida City	2.31	2.38	2.79	3.18	3.27	3.37	3.70
Homestead	12.94	14.68	15.21	15.83	16.41	16.94	17.45
MDWASD	354.74	355.13	367.37	380.40	393.69	406.21	416.41
North Miami	7.37	7.25	7.44	7.67	7.90	8.05	8.09
North Miami Beach	24.46	24.60	24.93	27.25	28.61	29.76	31.64
<b>Miami-Dade County Total</b>	<b>402.07</b>	<b>404.28</b>	<b>418.00</b>	<b>434.58</b>	<b>450.14</b>	<b>464.59</b>	<b>477.54</b>
Monroe County							
FCAA	19.78	19.89	20.03	20.18	20.28	20.33	20.38
<b>Monroe County Total</b>	<b>19.78</b>	<b>19.89</b>	<b>20.03</b>	<b>20.18</b>	<b>20.28</b>	<b>20.33</b>	<b>20.38</b>
Palm Beach County							
Boca Raton	42.37	42.87	43.63	44.51	45.17	45.63	46.99
Boynton Beach	16.54	17.04	17.55	18.06	18.79	19.35	19.53
Delray Beach	16.41	16.62	17.23	17.57	18.27	18.82	18.99
Golf	0.52	0.53	0.55	0.57	0.59	0.61	0.63
Highland Beach	1.80	1.82	1.97	2.05	2.09	2.15	2.19
Jupiter <sup>c</sup>	21.20	21.42	22.70	23.15	24.07	24.55	25.04
Lake Worth Beach	6.73	6.77	7.07	7.35	7.65	8.13	8.21
Lantana	2.52	2.54	2.65	2.75	2.86	2.95	3.04
Manalapan	1.61	0.26	0.27	0.28	0.29	0.30	0.31
Mangonia Park	0.46	0.47	0.48	0.50	0.52	0.54	0.55
Maralago Cay	0.29	0.29	0.29	0.29	0.29	0.29	0.29
PBCWUD	70.18	71.12	75.19	79.66	82.85	85.39	88.38
PBCWUD Western Region	9.35	9.44	9.63	9.82	10.02	10.22	10.43

Table A-7. Continued.

PS Utility	Gross (Raw) Water Demand – 1-in-10- Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Palm Beach County (continued)							
Palm Springs	4.49	4.58	4.63	4.77	4.91	5.06	5.21
Riviera Beach	9.30	9.46	9.67	9.98	10.46	10.99	11.64
Seacoast	23.85	23.94	24.30	25.52	25.70	26.23	26.44
Tequesta <sup>c</sup>	4.56	4.63	4.69	4.82	4.90	4.98	5.04
Wellington	7.44	7.47	7.51	8.30	8.64	8.98	9.25
West Palm Beach	34.24	34.50	35.53	36.55	38.28	39.36	40.66
<b>Palm Beach County Total</b>	<b>274.25</b>	<b>276.17</b>	<b>285.95</b>	<b>296.94</b>	<b>306.79</b>	<b>314.98</b>	<b>323.32</b>
<b>LEC Planning Area Total</b>	<b>958.62</b>	<b>965.90</b>	<b>999.01</b>	<b>1,042.09</b>	<b>1,076.60</b>	<b>1,107.71</b>	<b>1,136.37</b>

BCWWS = Broward County Water and Wastewater Services; CSID = Coral Springs Improvement District; FKAA = Florida Keys Aqueduct Authority; LEC = Lower East Coast; MDWASD = Miami-Dade Water and Sewer Department; mgd = million gallons per day; NSID = North Springs Improvement District; PBCWUD = Palm Beach County Water Utilities Department; PS = Public Supply.

- <sup>a</sup> The Seminole Tribe of Florida is a sovereign Indian Tribe and an independent Tribal Government separate from Broward and Hendry counties. However, for discussion purposes, information relating to the Seminole Tribe of Florida Hollywood Reservation and the Seminole Tribe of Florida Big Cypress Basin Reservation is included in the calculations for Broward and Hendry counties, respectively.
- <sup>b</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.
- <sup>c</sup> Values include Palm Beach and Martin counties.

## DOMESTIC SELF-SUPPLY

The DSS category includes potable water used by households that are served by small utilities with permit allocations less than 0.10 mgd or that are self-supplied by private wells. Permanent resident populations within DSS areas were developed simultaneously with the PS population estimates and projections, as described earlier. All permanent residents outside of PS utility service area boundaries were considered DSS population. To determine the current and future DSS demands, the average PCUR of PS utilities in each county weighted by the population (**Table A-2**) was multiplied by the DSS permanent resident population in each county. Hendry County’s DSS population PCUR published in the *2022 Lower West Coast Water Supply Plan Update* (SFWMD 2022) was used for the portion of the county’s DSS population within the LEC Planning Area. DSS county PCURs remain constant through 2045. There are no DSS demands in Monroe County due to the lack of freshwater resources on the islands. For DSS demands, the finished-to-raw water ratio is assumed to be 1.00. Therefore, no distinction is made between gross (raw) and net (finished) water demands.

**Tables A-8** and **A-9** contain the LEC Planning Area’s DSS demand estimates and projections under average rainfall and 1-in-10-year drought conditions. The drought demand factors used for PS were also used to calculate 1-in-10-year drought demands for DSS. The average DSS demands in 2021 were 11.15 mgd for permanent residents (**Table A-1**) and are expected to grow to 13.59 mgd in 2045.

Table A-8. DSS gross (raw) water demands under average rainfall conditions in the LEC Planning Area.

County DSS	Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward	0.90	0.82	0.88	0.85	0.77	0.74	0.65
Hendry <sup>a</sup>	0.37	0.37	0.36	0.35	0.33	0.32	0.31
Miami-Dade	2.64	1.18	2.06	2.61	3.00	3.24	4.29
Monroe	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Palm Beach	7.20	7.61	8.28	8.59	8.75	8.97	8.34
<b>LEC Planning Area Total</b>	<b>11.11</b>	<b>9.98</b>	<b>11.58</b>	<b>12.40</b>	<b>12.85</b>	<b>13.27</b>	<b>13.59</b>

DSS = Domestic Self- Supply; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

Table A-9. DSS gross (raw) water demands under 1-in-10-year drought conditions in the LEC Planning Area.

County DSS	Demand – 1-in-10-Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward	0.99	0.90	0.97	0.93	0.85	0.81	0.71
Hendry <sup>a</sup>	0.39	0.39	0.38	0.37	0.35	0.34	0.33
Miami-Dade	2.83	1.26	2.20	2.79	3.21	3.47	4.59
Monroe	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Palm Beach	7.92	8.37	9.11	9.45	9.63	9.86	9.18
<b>LEC Planning Area Total</b>	<b>12.13</b>	<b>10.92</b>	<b>12.66</b>	<b>13.54</b>	<b>14.03</b>	<b>14.48</b>	<b>14.81</b>

DSS = Domestic Self- Supply; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## AGRICULTURE

Water demands reported under AG include water used for agricultural production such as farm irrigation, operation of greenhouses and nurseries, and raising livestock. Water used in the processing of agricultural commodities is accounted for under the CII category.

Previous LEC plan updates relied on various sources to develop agricultural acreage estimates and projections, including agricultural water use permits, parcel-level land use maps, and results from the United States Census of Agriculture. Irrigated acreages were translated to water volume (mgd) estimates using the Agricultural Field Scale Irrigation Requirements Simulation (AFSIRS) model (Smajstrla 1990).

Florida State legislation passed in 2013 prescribed a new approach for water management districts to consider for agricultural water demands. Section 570.93, F.S., directs the Florida Department of Agriculture and Consumer Services (FDACS) to develop annual statewide agricultural acreage and water demand projections based on the same 20-year planning horizon used in water supply planning. Under Section 373.709(2)(a), F.S., water management districts are required to consider FDACS projections, and any adjustments or deviations from the projections published by FDACS, “...must be fully described, and the original data must be presented along with the adjusted data.”

## AG Projection Methodology

### *FSAID IX Acreage and Demands Data*

FDACS publishes 20-year agricultural acreage and associated water demand projections in annual Florida Statewide Agricultural Irrigation Demand (FSAID) reports. The ninth annual report (referred to as FSAID IX) was published in 2022 (FDACS 2022), and the projections included in this report were considered in this 2023 LEC Plan. The FSAID IX acres (**Table A-10**) were used to calculate AG demands. For the purposes of this 2023 LEC Plan Update, the 2020 acres in FSAID IX were considered representative of 2021 conditions. The FSAID IX demands, as calculated by FDACS (**Table A-11**), were not used in this plan update, and the deviation from using these demand projections is described below.

Table A-10. Irrigated agricultural acres in the LEC Planning Area (From FDACS 2022).

Crop	2020	2025	2030	2035	2040	2045
Sugarcane	459,986	442,530	442,654	442,787	442,800	442,922
Fresh Market Vegetables	40,256	39,794	39,242	39,180	39,159	39,362
Citrus	19,269	20,454	21,893	22,047	22,152	22,112
Hay/Pasture	19,795	19,795	19,877	19,920	19,996	20,253
Greenhouse/Nursery	15,213	14,623	14,011	13,737	13,201	12,841
Fruit (excluding citrus)	10,990	10,589	10,378	10,330	9,952	9,654
Sod	5,944	5,944	5,944	5,944	5,944	5,944
Potatoes	677	667	660	645	689	626
Field Crops	50	50	50	281	632	983
<b>Total</b>	<b>572,180</b>	<b>554,446</b>	<b>554,709</b>	<b>554,871</b>	<b>554,525</b>	<b>554,697</b>

FDACS = Florida Department of Agriculture and Consumer Services; LEC = Lower East Coast.

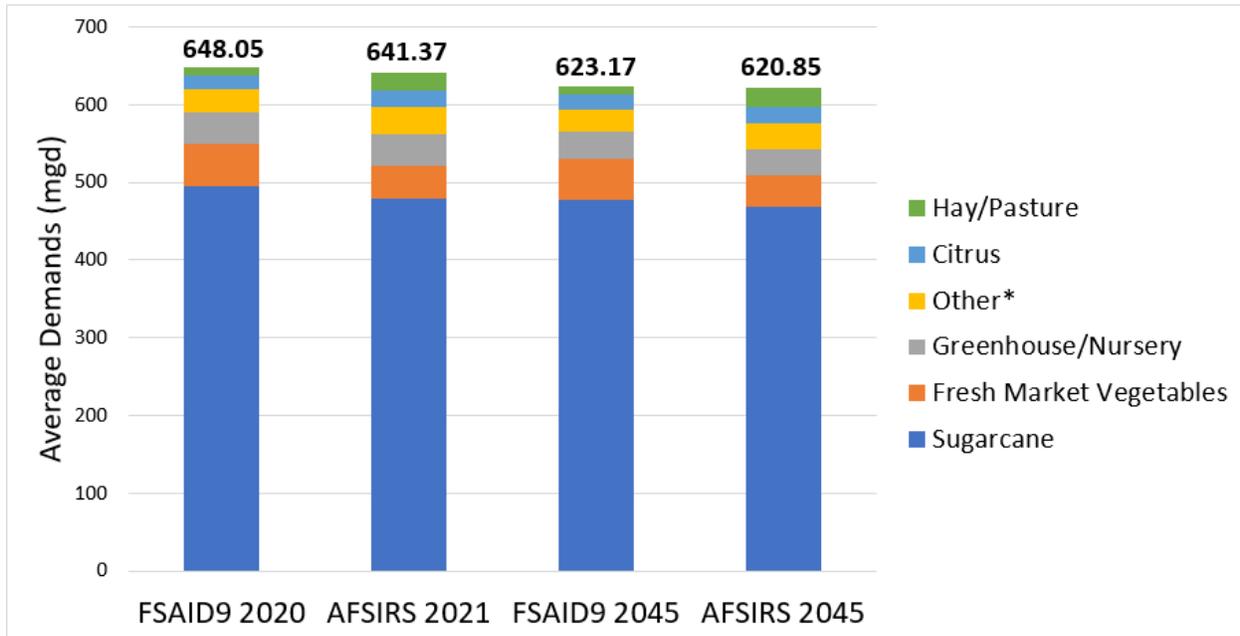
Table A-11. Agricultural gross water demands (in mgd) in the LEC Planning Area (From FDACS 2022).

Crop	2020	2025	2030	2035	2040	2045
Sugarcane	495.20	476.29	476.00	476.63	476.65	476.81
Fresh Market Vegetables	54.09	53.61	53.15	53.13	53.17	53.55
Citrus	17.02	18.14	19.47	19.60	19.69	19.65
Hay/Pasture	10.67	10.67	10.72	10.74	10.79	10.96
Greenhouse/Nursery	40.70	39.14	37.42	36.61	35.20	34.22
Fruit (excluding citrus)	23.24	22.29	21.86	21.59	20.80	20.12
Sod	6.38	6.38	6.38	6.38	6.38	6.37
Potatoes	0.71	0.72	0.71	0.70	0.75	0.69
Field Crops	0.04	0.05	0.05	0.24	0.52	0.80
<b>Total</b>	<b>648.05</b>	<b>627.29</b>	<b>625.76</b>	<b>625.62</b>	<b>623.95</b>	<b>623.17</b>

FDACS = Florida Department of Agriculture and Consumer Services; LEC = Lower East Coast; mgd = million gallons per day.

## Comparison of FSAID IX and AFSIRS Demands

The estimated 2021 and projected 2045 demands from the AFSIRS model were compared to the demands in the FSAID IX report. Both sets of demands are based on the same irrigated acreages, established in the FSAID IX report. Despite being based on the same unadjusted irrigated footprint, the demand projections differed by 6.68 mgd in 2021 and 2.32 mgd in 2045 (Figure A-5).



\* The Other category includes Fruit (excluding Citrus), Sod, Potatoes, and Field Crops.

Figure A-5. Comparison of average water demands from the ninth Florida Statewide Agricultural Irrigation Demand (FSAID IX) report and the Agricultural Field Scale Irrigation Requirements Simulation (AFSIRS).

The SFWMD uses AFSIRS to estimate crop irrigation demands simulated in regional groundwater models, and the demands using AFSIRS resemble those obtained through the SFWMD’s permitting methods. After reviewing water demands from FSAID IX and AFSIRS, the SFWMD chose to use water demand estimates and projections from AFSIRS based on irrigated acres published in the FSAID IX report. The decision to deviate from water demands published in the FSAID IX report was made to maintain a consistent approach with previous planning and regional modeling efforts.

Data for soil type, rainfall, and reference evapotranspiration are among the key inputs used with AFSIRS to calculate current and future demands. Soil input data were obtained from the Natural Resources Conservation Service’s Soil Survey Geographic (SSURGO) database. Daily rainfall data were obtained from the SFWMD’s Next Generation Radar (NEXRAD) rainfall data set. Reference evapotranspiration data were obtained from the United States Geological Survey’s South Florida Information Access (SOFIA) database. The irrigation method for each irrigated parcel used with AFSIRS is part of the FSAID IX data set. Most citrus groves are irrigated via micro-spray. Flood irrigation is the most common method for all other crop categories.

Water demands associated with livestock and aquaculture production complete the demands for the AG category. The demands for these activities are taken directly from the FSAID IX report, with adjustments made to the projected aquaculture demands in Miami-Dade County due to a permitted aquaculture operation.

## AG Projection Results

AG acres and water demands depend on the choices of individual agricultural producers from year to year. Those choices are affected by several factors, including weather, markets, disease, proprietary information, and urban development pressure. AG projections can be affected by population changes as well as future land use conversions.

The gross irrigation requirements for various crop types under the AG category are provided in

**Tables A-12 to A-20.** **Tables A-21** and **A-22** summarize the gross water requirements for livestock and aquaculture. **Table A-23** summarizes gross water demands for all agricultural acreage, livestock, and aquaculture in the LEC Planning Area by county, and **Table A-24** summarizes the gross water demands by commodity.



Sugarcane

## Sugarcane

**Table A-12** presents the SFWMD’s sugarcane acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-12. Gross irrigation demands (in mgd) for sugarcane acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	36,773	36,781	36,805	36,892	36,985	36,994	37,080
Average rainfall	33.54	33.55	33.57	33.65	33.73	33.74	33.82
1-in-10-year drought	48.80	48.81	48.85	48.96	49.08	49.09	49.21
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	15,760	15,763	15,774	15,811	15,851	15,854	15,891
Average rainfall	17.31	17.32	17.33	17.37	17.41	17.42	17.46
1-in-10-year drought	20.84	20.84	20.86	20.91	20.96	20.96	21.01
<b>Miami-Dade County</b>							
Irrigated acreage	164	164	164	164	164	164	164
Average rainfall	0.20	0.20	0.20	0.20	0.20	0.20	0.20
1-in-10-year drought	0.30	0.30	0.30	0.30	0.30	0.30	0.30
<b>Monroe County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	814	797	780	780	780	780	780
Average rainfall	1.18	1.16	1.13	1.13	1.13	1.13	1.13
1-in-10-year drought	1.42	1.39	1.36	1.36	1.36	1.36	1.36
<b>Palm Beach County – EAA</b>							
Irrigated acreage	406,474	400,652	389,007	389,007	389,007	389,007	389,007
Average rainfall	433.74	427.52	415.10	415.10	415.10	415.10	415.10
1-in-10-year drought	598.98	590.40	573.24	573.24	573.24	573.24	573.24
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>459,985</b>	<b>454,157</b>	<b>442,530</b>	<b>442,654</b>	<b>442,786</b>	<b>442,799</b>	<b>442,922</b>
<b>Average rainfall</b>	<b>485.97</b>	<b>479.74</b>	<b>467.33</b>	<b>467.45</b>	<b>467.57</b>	<b>467.59</b>	<b>467.71</b>
<b>1-in-10-year drought</b>	<b>670.34</b>	<b>661.75</b>	<b>644.61</b>	<b>644.77</b>	<b>644.94</b>	<b>644.96</b>	<b>645.13</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## Fresh Market Vegetables

**Table A-13** presents the SFWMD’s fresh market vegetable acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions, assuming 2 plantings per year lasting 4 months each.

Table A-13. Gross irrigation demands (in mgd) for fresh market vegetable acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	705	675	615	615	615	615	615
Average rainfall	0.97	0.93	0.85	0.85	0.85	0.85	0.85
1-in-10-year drought	1.18	1.13	1.04	1.04	1.04	1.04	1.04
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	12,976	12,976	12,976	12,976	13,396	13,736	14,320
Average rainfall	10.46	10.46	10.46	10.46	10.79	11.07	11.54
1-in-10-year drought	12.72	12.72	12.72	12.72	13.12	13.46	14.03
<b>Miami-Dade County</b>							
Irrigated acreage	15,348	15,224	14,976	14,425	13,942	13,581	13,200
Average rainfall	16.03	15.90	15.64	15.06	14.56	14.12	13.78
1-in-10-year drought	18.58	18.43	18.13	17.46	16.88	16.37	15.97
<b>Monroe County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	10,935	10,935	10,935	10,935	10,935	10,935	10,935
Average rainfall	13.90	13.90	13.90	13.90	13.90	13.90	13.90
1-in-10-year drought	16.53	16.53	16.53	16.53	16.53	16.53	16.53
<b>Palm Beach County – EAA</b>							
Irrigated acreage	292	292	292	292	292	292	292
Average rainfall	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1-in-10-year drought	0.36	0.36	0.36	0.36	0.36	0.36	0.36
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>40,256</b>	<b>40,102</b>	<b>39,794</b>	<b>39,243</b>	<b>39,180</b>	<b>39,159</b>	<b>39,362</b>
<b>Average rainfall</b>	<b>41.62</b>	<b>41.45</b>	<b>41.11</b>	<b>40.53</b>	<b>40.36</b>	<b>40.20</b>	<b>40.33</b>
<b>1-in-10-year drought</b>	<b>49.37</b>	<b>49.17</b>	<b>48.77</b>	<b>48.10</b>	<b>47.92</b>	<b>47.75</b>	<b>47.93</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## Citrus

**Table A-14** presents the SFWMD’s citrus acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-14. Gross irrigation demands (in mgd) for citrus acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	18,929	19,225	20,114	21,570	21,765	21,869	21,869
Average rainfall	19.67	19.98	20.90	22.42	22.62	22.73	20.73
1-in-10-year drought	23.87	24.24	25.36	27.20	27.45	27.58	25.15
<b>Miami-Dade County</b>							
Irrigated acreage	245	245	245	228	188	188	149
Average rainfall	0.31	0.31	0.31	0.29	0.24	0.24	0.19
1-in-10-year drought	0.36	0.36	0.36	0.34	0.28	0.28	0.22
<b>Monroe County</b>							
Irrigated acreage	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	94	94	94	94	94	94	94
Average rainfall	0.12	0.12	0.12	0.12	0.12	0.12	0.12
1-in-10-year drought	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<b>Palm Beach County – EAA</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>19,268</b>	<b>19,564</b>	<b>20,453</b>	<b>21,892</b>	<b>22,047</b>	<b>22,151</b>	<b>22,112</b>
<b>Average rainfall</b>	<b>20.10</b>	<b>20.41</b>	<b>21.33</b>	<b>22.83</b>	<b>22.98</b>	<b>23.09</b>	<b>21.04</b>
<b>1-in-10-year drought</b>	<b>24.24</b>	<b>24.62</b>	<b>25.74</b>	<b>27.56</b>	<b>27.74</b>	<b>27.88</b>	<b>25.39</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## Hay/Pasture

**Table A-15** presents the SFWMD’s hay/pasture acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions. The FSAID acres for this category are labeled and modeled as hay/pasture. The associated demands calculated with AFSIRS are assumed to capture irrigation for hay/pasture and any irrigation used for improved pasture.

Table A-15. Gross irrigation demands (in mgd) for hay/pasture acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	19,632	19,632	19,632	19,714	19,757	19,833	20,090
Average rainfall	23.27	23.27	23.27	23.37	23.42	23.51	23.81
1-in-10-year drought	27.84	27.84	27.84	27.96	28.02	28.12	28.49
<b>Miami-Dade County</b>							
Irrigated acreage	163	163	163	163	163	163	163
Average rainfall	0.26	0.26	0.26	0.26	0.26	0.26	0.26
1-in-10-year drought	0.31	0.31	0.31	0.31	0.31	0.31	0.31
<b>Monroe County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – EAA</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>19,795</b>	<b>19,795</b>	<b>19,795</b>	<b>19,877</b>	<b>19,920</b>	<b>19,996</b>	<b>20,253</b>
<b>Average rainfall</b>	<b>23.53</b>	<b>23.53</b>	<b>23.53</b>	<b>23.63</b>	<b>23.68</b>	<b>23.77</b>	<b>24.07</b>
<b>1-in-10-year drought</b>	<b>28.15</b>	<b>28.15</b>	<b>28.15</b>	<b>28.27</b>	<b>28.33</b>	<b>28.44</b>	<b>28.80</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## Greenhouse/Nursery

**Table A-16** presents the SFWMD’s greenhouse/nursery acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-16. Gross irrigation demands (in mgd) for greenhouse/nursery acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	510	497	472	409	360	305	249
Average rainfall	1.76	1.72	1.63	1.41	1.24	1.05	0.86
1-in-10-year drought	1.94	1.89	1.79	1.55	1.36	1.16	0.95
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	13	13	13	13	284	336	457
Average rainfall	0.03	0.03	0.03	0.03	0.66	0.78	1.05
1-in-10-year drought	0.05	0.05	0.05	0.05	0.69	0.81	1.08
<b>Miami-Dade County</b>							
Irrigated acreage	10,108	9,924	9,556	9,007	8,512	7,979	7,553
Average rainfall	27.76	27.26	26.25	24.74	23.38	21.91	20.74
1-in-10-year drought	29.40	28.87	27.80	26.20	24.76	23.21	21.97
<b>Monroe County</b>							
Irrigated acreage	5	5	5	5	5	5	5
Average rainfall	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1-in-10-year drought	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	3,423	3,423	3,423	3,423	3,423	3,423	3,423
Average rainfall	10.22	10.22	10.22	10.22	10.22	10.22	10.22
1-in-10-year drought	11.32	11.32	11.32	11.32	11.32	11.32	11.32
<b>Palm Beach County – EAA</b>							
Irrigated acreage	1,154	1,154	1,154	1,154	1,154	1,154	1,154
Average rainfall	1.04	1.04	1.04	1.04	1.04	1.04	1.04
1-in-10-year drought	1.47	1.47	1.47	1.47	1.47	1.47	1.47
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>15,213</b>	<b>15,016</b>	<b>14,623</b>	<b>14,011</b>	<b>13,738</b>	<b>13,202</b>	<b>12,841</b>
<b>Average rainfall</b>	<b>40.82</b>	<b>40.27</b>	<b>39.18</b>	<b>37.45</b>	<b>36.55</b>	<b>35.01</b>	<b>33.92</b>
<b>1-in-10-year drought</b>	<b>44.18</b>	<b>43.60</b>	<b>42.44</b>	<b>40.60</b>	<b>39.61</b>	<b>37.97</b>	<b>36.79</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## Fruit (Excluding Citrus)

**Table A-17** presents the SFWMD’s fruit (excluding citrus) acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-17. Gross irrigation demands (in mgd) for fruit (excluding citrus) acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	15	15	15	15	6	6	6
Average rainfall	0.04	0.04	0.04	0.04	0.01	0.01	0.01
1-in-10-year drought	0.06	0.06	0.06	0.06	0.02	0.02	0.02
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	266	367	515
Average rainfall	0.00	0.00	0.00	0.00	0.48	0.66	0.92
1-in-10-year drought	0.00	0.00	0.00	0.00	0.51	0.69	0.95
<b>Miami-Dade County</b>							
Irrigated acreage	10,919	10,785	10,517	10,307	10,002	9,523	9,077
Average rainfall	25.28	24.97	24.35	23.86	23.15	22.05	21.01
1-in-10-year drought	27.97	27.62	26.94	26.40	25.61	24.39	23.24
<b>Monroe County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	56	56	56	56	56	56	56
Average rainfall	0.08	0.08	0.08	0.08	0.08	0.08	0.08
1-in-10-year drought	0.12	0.12	0.12	0.12	0.12	0.12	0.12
<b>Palm Beach County – EAA</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>10,990</b>	<b>10,856</b>	<b>10,588</b>	<b>10,378</b>	<b>10,330</b>	<b>9,952</b>	<b>9,654</b>
<b>Average rainfall</b>	<b>25.40</b>	<b>25.09</b>	<b>24.47</b>	<b>23.98</b>	<b>23.72</b>	<b>22.80</b>	<b>22.02</b>
<b>1-in-10-year drought</b>	<b>28.15</b>	<b>27.80</b>	<b>27.12</b>	<b>26.58</b>	<b>26.26</b>	<b>25.22</b>	<b>24.33</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

Sod

**Table A-18** presents the SFWMD’s sod acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-18. Gross irrigation demands (in mgd) for sod acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	9	9	9	9	9	9	9
Average rainfall	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1-in-10-year drought	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Miami-Dade County</b>							
Irrigated acreage	174	174	174	174	174	174	174
Average rainfall	0.44	0.44	0.44	0.44	0.44	0.44	0.44
1-in-10-year drought	0.49	0.49	0.49	0.49	0.49	0.49	0.49
<b>Monroe County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	415	415	415	415	415	415	415
Average rainfall	0.97	0.97	0.97	0.97	0.97	0.97	0.97
1-in-10-year drought	1.19	1.19	1.19	1.19	1.19	1.19	1.19
<b>Palm Beach County – EAA</b>							
Irrigated acreage	5,346	5,346	5,346	5,346	5,346	5,346	5,346
Average rainfall	8.79	8.79	8.79	8.79	8.79	8.79	8.79
1-in-10-year drought	11.75	11.75	11.75	11.75	11.75	11.75	11.75
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>5,944</b>						
<b>Average rainfall</b>	<b>10.21</b>						
<b>1-in-10-year drought</b>	<b>13.45</b>						

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## Potatoes

**Table A-19** presents the SFWMD’s potatoes acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions.

Table A-19. Gross irrigation demands (in mgd) for potato acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	44	44
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.05	0.05
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.08	0.08
<b>Miami-Dade County</b>							
Irrigated acreage	677	677	667	660	645	645	582
Average rainfall	0.66	0.66	0.65	0.65	0.63	0.63	0.57
1-in-10-year drought	0.78	0.78	0.77	0.77	0.74	0.74	0.67
<b>Monroe County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – EAA</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>677</b>	<b>677</b>	<b>667</b>	<b>660</b>	<b>645</b>	<b>689</b>	<b>626</b>
<b>Average rainfall</b>	<b>0.66</b>	<b>0.66</b>	<b>0.65</b>	<b>0.65</b>	<b>0.63</b>	<b>0.68</b>	<b>0.62</b>
<b>1-in-10-year drought</b>	<b>0.78</b>	<b>0.78</b>	<b>0.77</b>	<b>0.77</b>	<b>0.74</b>	<b>0.82</b>	<b>0.75</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## Field Crops

**Table A-20** presents the SFWMD’s field crops acreage and gross irrigation requirement (water withdrawal demand) projections under average rainfall and 1-in-10-year drought conditions. The field crops category includes soybeans, field corn, peanuts, dried beans, lentils, and other grains.

Table A-20. Gross irrigation demands (in mgd) for field crop acreage in the LEC Planning Area.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acreage	0	0	0	0	232	582	933
Average rainfall	0.00	0.00	0.00	0.00	0.23	0.58	0.93
1-in-10-year drought	0.00	0.00	0.00	0.00	0.28	0.70	1.12
<b>Miami-Dade County</b>							
Irrigated acreage	50	50	50	50	50	50	50
Average rainfall	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1-in-10-year drought	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<b>Monroe County</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – EAA</b>							
Irrigated acreage	0	0	0	0	0	0	0
Average rainfall	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-in-10-year drought	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>LEC Planning Area Total</b>							
<b>Irrigated acreage</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>282</b>	<b>632</b>	<b>983</b>
<b>Average rainfall</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.24</b>	<b>0.59</b>	<b>0.94</b>
<b>1-in-10-year drought</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.30</b>	<b>0.72</b>	<b>1.14</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## Livestock

**Table A-21** presents the FSAID IX water demand projections for livestock. Livestock demands published in the FSAID IX report were developed with assumed water requirements per head of livestock. Livestock demands are assumed to be the same under average rainfall and 1-in-10-year drought conditions.

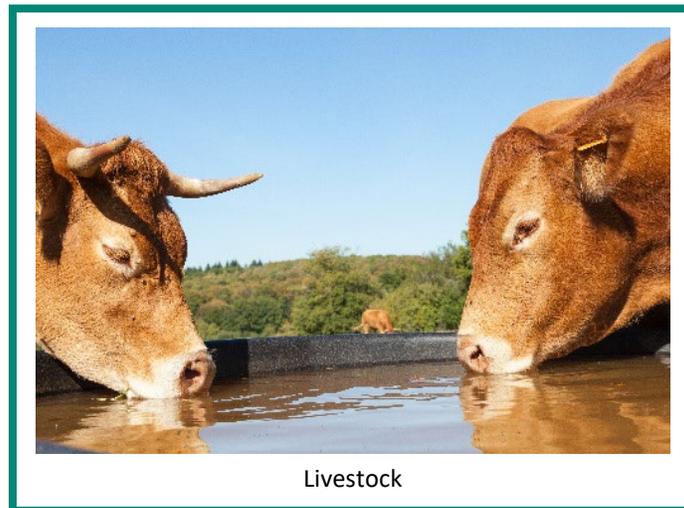
Table A-21. Gross water demands (in mgd) for livestock in the LEC Planning Area.

2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>						
0.04	0.04	0.04	0.04	0.04	0.04	0.04
<b>Hendry County – EAA<sup>a</sup></b>						
0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County – Western Basins<sup>a</sup></b>						
0.31	0.31	0.31	0.31	0.31	0.31	0.31
<b>Miami-Dade County</b>						
0.12	0.12	0.12	0.12	0.12	0.12	0.12
<b>Monroe County</b>						
0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Palm Beach County – Coastal</b>						
0.17	0.17	0.17	0.17	0.17	0.17	0.17
<b>Palm Beach County – EAA</b>						
0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>LEC Planning Area Total</b>						
<b>0.64</b>	<b>0.64</b>	<b>0.64</b>	<b>0.64</b>	<b>0.64</b>	<b>0.64</b>	<b>0.64</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

Note: Water demands for livestock were obtained from the ninth Florida Statewide Agricultural Irrigation Demand (FSAID IX) report, not calculated using the Agricultural Field Scale Irrigation Requirements Simulation (AFSIRS) model.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.



## Aquaculture

**Table A-22** presents the FSAID IX water demand projections for aquaculture based on reported water use. Demands were adjusted in Miami-Dade County to reflect a new aquaculture project that is expected to require 15.88 mgd by 2025. Aquaculture demands are assumed to be the same under average rainfall and 1-in-10-year drought conditions.

Table A-22. Gross water demands (in mgd) for aquaculture in the LEC Planning Area.

2020	2021	2025	2030	2035	2040	2045
Broward County						
0.08	0.08	0.08	0.08	0.08	0.08	0.08
Hendry County – EAA <sup>a</sup>						
0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hendry County – Western Basins <sup>a</sup>						
0.14	0.14	0.14	0.14	0.14	0.14	0.14
Miami-Dade County						
2.91	2.91	15.88	15.88	15.88	15.88	15.88
Monroe County						
0.01	0.01	0.01	0.01	0.01	0.01	0.01
Palm Beach County – Coastal						
0.05	0.05	0.05	0.05	0.05	0.05	0.05
Palm Beach County – EAA						
0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>LEC Planning Area Total</b>						
<b>3.19</b>	<b>3.19</b>	<b>16.16</b>	<b>16.16</b>	<b>16.16</b>	<b>16.16</b>	<b>16.16</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

Note: Water demands for aquaculture were obtained from the ninth Florida Statewide Agricultural Irrigation Demand (FSAID IX) report.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.



## Summary of Agricultural Results

Irrigated agricultural acres are projected to decrease 2% over the planning horizon, from 566,162 in 2021 to 554,697 acres by 2045 (**Tables A-23** and **A-24**). The largest declines in acreage are expected in Palm Beach County, partly due to the conversion of 18,571 acres of sugarcane to the planned A-2 Reservoir and stormwater treatment area. The Palm Beach County portion of the Everglades Agricultural Area will continue to account for the majority of AG acres and demands in the LEC Planning Area (**Table A-23**). Sugarcane also will continue to dominate AG demands, accounting for 80% of the 2045 total AG demand (**Table A-24**). Relatively little change is anticipated in AG water demands for nearly all crops within the LEC Planning Area. The largest percent reductions in demands are projected for the greenhouse/nursery category. Aquaculture is projected to have the largest increase in demands (additional 15.88 mgd) due to a new aquaculture facility under expansion in Miami-Dade County. Overall, LEC Planning Area total gross water demands under average rainfall conditions for AG are projected to decrease approximately 1%, from 645.20 mgd in 2021 to 637.65 mgd in 2045.



Table A-23. Summary of gross water demands (in mgd) for all agricultural acreage, livestock, and aquaculture in the LEC Planning Area by county.

	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Irrigated acres	1,239	1,196	1,111	1,048	990	935	879
Average rainfall	2.90	2.82	2.65	2.43	2.23	2.04	1.85
1-in-10-year drought	3.31	3.22	3.03	2.78	2.55	2.34	2.13
<b>Hendry County – EAA<sup>a</sup></b>							
Irrigated acres	36,773	36,781	36,805	36,892	36,985	36,994	37,080
Average rainfall	33.54	33.55	33.57	33.65	33.73	33.74	33.82
1-in-10-year drought	48.80	48.81	48.85	48.96	49.08	49.09	49.21
<b>Hendry County – Western Basins<sup>a</sup></b>							
Irrigated acres	67,310	67,610	68,509	70,084	71,551	72,621	74,119
Average rainfall	71.19	71.50	72.44	74.09	76.06	77.24	76.94
1-in-10-year drought	85.76	86.14	87.27	89.28	91.47	92.86	92.36
<b>Miami-Dade County</b>							
Irrigated acres	37,848	37,406	36,512	35,178	33,840	32,467	31,112
Average rainfall	73.98	73.03	84.11	81.51	78.87	75.86	73.20
1-in-10-year drought	81.24	80.22	91.12	88.28	85.40	82.11	79.20
<b>Monroe County</b>							
Irrigated acres	5	5	5	5	5	5	5
Average rainfall	0.02	0.02	0.02	0.02	0.02	0.02	0.02
1-in-10-year drought	0.02	0.03	0.03	0.03	0.03	0.03	0.03
<b>Palm Beach County – Coastal</b>							
Irrigated acres	15,737	15,720	15,702	15,702	15,702	15,702	15,702
Average rainfall	26.69	26.67	26.64	26.64	26.64	26.64	26.64
1-in-10-year drought	30.82	30.79	30.76	30.76	30.76	30.76	30.76
<b>Palm Beach County – EAA</b>							
Irrigated acres	413,266	407,444	395,800	395,800	395,800	395,800	395,800
Average rainfall	443.82	437.61	425.18	425.18	425.18	425.18	425.18
1-in-10-year drought	612.55	603.96	586.81	586.81	586.81	586.81	586.82
<b>LEC Planning Area Total</b>							
<b>Irrigated acres</b>	<b>572,178</b>	<b>566,162</b>	<b>554,444</b>	<b>554,709</b>	<b>554,872</b>	<b>554,524</b>	<b>554,697</b>
<b>Average rainfall</b>	<b>652.14</b>	<b>645.20</b>	<b>644.61</b>	<b>643.52</b>	<b>642.73</b>	<b>640.72</b>	<b>637.65</b>
<b>1-in-10-year drought</b>	<b>862.50</b>	<b>853.17</b>	<b>847.87</b>	<b>846.90</b>	<b>846.10</b>	<b>844.00</b>	<b>840.51</b>

EAA = Everglades Agricultural Area; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

Table A-24. Summary of gross water demands (in mgd) for all agricultural acreage, livestock, and aquaculture in the LEC Planning Area by commodity.

	2020	2021	2025	2030	2035	2040	2045
<b>Citrus</b>							
Irrigated acres	19,268	19,564	20,453	21,892	22,047	22,151	22,112
Average rainfall	20.1	20.41	21.33	22.83	22.98	23.09	21.04
1-in-10-year drought	24.24	24.62	25.74	27.56	27.74	27.88	25.39
<b>Sugarcane</b>							
Irrigated acres	459,985	454,157	442,530	442,654	442,786	442,799	442,922
Average rainfall	485.97	479.74	467.33	467.45	467.57	467.59	467.71
1-in-10-year drought	670.34	661.75	644.61	644.77	644.94	644.96	645.13
<b>Fresh Market Vegetables</b>							
Irrigated acres	40,256	40,102	39,794	39,243	39,180	39,159	39,362
Average rainfall	41.62	41.45	41.11	40.53	40.36	40.2	40.33
1-in-10-year drought	49.37	49.17	48.77	48.1	47.92	47.75	47.93
<b>Hay/Irrigated Pasture</b>							
Irrigated acres	19,795	19,795	19,795	19,877	19,920	19,996	20,253
Average rainfall	23.53	23.53	23.53	23.63	23.68	23.77	24.07
1-in-10-year drought	28.15	28.15	28.15	28.27	28.33	28.44	28.8
<b>Greenhouse/Nursery</b>							
Irrigated acres	15,213	15,016	14,623	14,011	13,738	13,202	12,841
Average rainfall	40.82	40.27	39.18	37.45	36.55	35.01	33.92
1-in-10-year drought	44.18	43.6	42.44	40.6	39.61	37.97	36.79
<b>Sod</b>							
Irrigated acres	5,944	5,944	5,944	5,944	5,944	5,944	5,944
Average rainfall	10.21	10.21	10.21	10.21	10.21	10.21	10.21
1-in-10-year drought	13.45	13.45	13.45	13.45	13.45	13.45	13.45
<b>Potatoes</b>							
Irrigated acres	677	677	667	660	645	689	626
Average rainfall	0.66	0.66	0.65	0.65	0.63	0.68	0.62
1-in-10-year drought	0.78	0.78	0.77	0.77	0.74	0.82	0.75
<b>Field Crop</b>							
Irrigated acres	50	50	50	50	282	632	983
Average rainfall	0.01	0.01	0.01	0.01	0.24	0.59	0.94
1-in-10-year drought	0.02	0.02	0.02	0.02	0.30	0.72	1.14
<b>Fruit (excluding citrus)</b>							
Irrigated acres	10,990	10,856	10,588	10,378	10,330	9,952	9,654
Average rainfall	25.40	25.09	24.47	23.98	23.72	22.80	22.02
1-in-10-year drought	28.15	27.80	27.12	26.58	26.26	25.22	24.33

Table A-24. Continued.

	2020	2021	2025	2030	2035	2040	2045
Livestock							
Irrigated acres	--		--	--	--	--	--
Average rainfall	0.64	0.64	0.64	0.64	0.64	0.64	0.64
1-in-10-year drought	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Aquaculture							
Irrigated acres	--		--	--	--	--	--
Average rainfall	3.19	3.19	16.16	16.16	16.16	16.16	16.16
1-in-10-year drought	3.19	3.19	16.16	16.16	16.16	16.16	16.16
LEC Planning Area Total							
Irrigated acres	<b>572,178</b>	<b>566,162</b>	<b>554,444</b>	<b>554,709</b>	<b>554,872</b>	<b>554,524</b>	<b>554,697</b>
Average rainfall	<b>652.15</b>	<b>645.20</b>	<b>644.62</b>	<b>643.54</b>	<b>642.74</b>	<b>640.74</b>	<b>637.66</b>
1-in-10-year drought	<b>862.50</b>	<b>853.17</b>	<b>847.87</b>	<b>846.90</b>	<b>846.10</b>	<b>844.00</b>	<b>840.51</b>

LEC = Lower East Coast; mgd = million gallons per day.

## COMMERCIAL/INDUSTRIAL/INSTITUTIONAL

The CII water use category includes demands associated with industrial and commercial operations for processing, manufacturing, and technical needs such as concrete production, citrus and vegetable processing, and mining operations. Commercial, industrial, or institutional users that receive water from PS utilities or use recirculated water in closed-loop geothermal heating and cooling systems are not included in CII demand calculations. Although a large portion of CII water used by the mining industry for activities such as rock washing is returned to the source, all mining water use is included in demand estimates and projections. All CII demand estimates and projections are presumed to be the same for average rainfall and 1-in-10-year drought conditions.

### CII Projection Methodology

CII estimates and projections are based on water use data from the SFWMD’s Water Use Permit database. If an active CII permit holder did not report water use, demand estimates were calculated as described in the *2021 Estimated Water Use Report* (SFWMD 2023b).

Increases in the CII category are expected to be driven by growth of the regional economy and permanent resident population. Therefore, CII projections are anticipated to increase steadily as county permanent resident populations increase. Previous analyses of the relationship between CII demands and population growth support this approach.

### CII Projection Results

**Table A-25** summarizes the current and projected CII demands in the LEC Planning Area in 5-year increments through 2045. Miami-Dade County maintains a dominant share of the region’s CII demands over the planning horizon.

Table A-25. CII demand projections in the LEC Planning Area.

County	Demand (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward	2.82	2.85	2.94	3.04	3.13	3.20	3.27
Hendry <sup>a</sup>	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Miami-Dade	73.25	73.92	75.92	79.02	81.91	84.56	87.09
Monroe	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Palm Beach	8.77	8.89	9.24	9.64	9.98	10.27	10.52
<b>LEC Planning Area Total</b>	<b>86.53</b>	<b>87.35</b>	<b>89.79</b>	<b>93.39</b>	<b>96.70</b>	<b>99.72</b>	<b>102.56</b>

CII = Commercial/Industrial/Institutional; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## LANDSCAPE/RECREATIONAL

L/R water demands include irrigation for golf courses and other landscaped areas such as parks, sports fields, and common areas of residential developments. L/R acreages reflect only the acres under water use permits and do not include acres irrigated solely with reclaimed water that do not have a water use permit for a supplemental or backup supply. Demands under the L/R category include areas permitted by the SFWMD including those that use reclaimed water that have a water use permit for supplemental or backup supply and areas not permitted that rely solely on reclaimed water. L/R demands were calculated using a combination of water use reported to the SFWMD as part of its regulatory compliance program and reclaimed water use reported by wastewater utilities to the FDEP.

There are two types of irrigated landscaped areas outside those permitted by the SFWMD that are excluded from the L/R demands. The first type includes landscaped areas irrigated with potable water provided by PS utilities. These demands are accounted for in PS estimates and projections. The second type is irrigated landscaped areas served by individual residential wells and surface water pumps permitted by rule (Rule 40E-2.061, Florida Administrative Code).

### L/R Projection Methodology

L/R 2021 water use data reported to the SFWMD and estimated data for those not required to report are available in the *2021 Estimated Water Use Report* (SFWMD 2023b). The individual reuse inventory reports for the year 2021 (unless otherwise noted for individual facilities) filed by each wastewater utility to the FDEP (FDEP 2023) provided actual wastewater and reclaimed water use data. The use data from both sources were considered representative of demands under average rainfall conditions for 2021.

Both the SFWMD's reported water use and the individual reuse inventory reports filed by wastewater utilities allow for the disaggregation of L/R demands into the landscape and golf irrigation subcategories. Irrigated landscape and golf course acres indicated in **Table A-26** were calculated using the permitted L/R acreage from the SFWMD's Water Use Permit database. L/R acreages reflect only the acres under water use permits and do not include acres irrigated solely with reclaimed water that do not have a water use permit for supplemental or backup supply.

Table A-26. L/R permitted acres in the LEC Planning Area.

Land Use	L/R permitted acres in the LEC Planning Area						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
Landscape	17,165	17,345	17,886	18,508	19,028	19,476	19,877
Golf	3,624	3,624	3,624	3,624	3,624	3,624	3,624
<b>Broward County Total</b>	<b>20,789</b>	<b>20,969</b>	<b>21,510</b>	<b>22,132</b>	<b>22,652</b>	<b>23,100</b>	<b>23,501</b>
Hendry County <sup>a</sup>							
Landscape	0	0	0	0	0	0	0
Golf	0	0	0	0	0	0	0
<b>Hendry County Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Miami-Dade County							
Landscape	5,954	6,013	6,192	6,440	6,697	6,914	7,121
Golf	2,619	2,619	2,619	2,619	2,619	2,619	2,619
<b>Miami-Dade County Total</b>	<b>8,573</b>	<b>8,632</b>	<b>8,811</b>	<b>9,059</b>	<b>9,316</b>	<b>9,533</b>	<b>9,740</b>
Monroe County							
Landscape	322	322	322	322	322	322	322
Golf	301	301	301	301	301	301	301
<b>Monroe County Total</b>	<b>623</b>	<b>623</b>	<b>623</b>	<b>623</b>	<b>623</b>	<b>623</b>	<b>623</b>
Palm Beach County							
Landscape	25,971	26,318	27,361	28,553	29,553	30,410	31,146
Golf	14,443	14,488	14,623	14,803	14,803	14,803	14,803
<b>Palm Beach County Total</b>	<b>40,414</b>	<b>40,806</b>	<b>41,984</b>	<b>43,356</b>	<b>44,356</b>	<b>45,213</b>	<b>45,949</b>
<b>LEC Planning Area Total</b>							
<b>Landscape</b>	<b>49,412</b>	<b>49,998</b>	<b>51,761</b>	<b>53,823</b>	<b>55,600</b>	<b>57,122</b>	<b>58,466</b>
<b>Golf</b>	<b>20,987</b>	<b>21,032</b>	<b>21,167</b>	<b>21,347</b>	<b>21,347</b>	<b>21,347</b>	<b>21,347</b>
<b>LEC Planning Area Total</b>	<b>70,399</b>	<b>71,030</b>	<b>72,927</b>	<b>75,171</b>	<b>76,948</b>	<b>78,469</b>	<b>79,813</b>

L/R = Landscape/Recreational; LEC = Lower East Coast.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

The distinction is made between the acres and demands for golf courses and landscaped areas because they are projected to grow at different rates. Landscape irrigation was assumed to increase at the same rate as the counties' permanent resident populations. Golf course acreage and associated water demands are projected to remain stable through 2045. This approach is used in other planning areas within the SFWMD and by other water management districts in Florida.

## L/R Projection Results

Gross water demands for L/R were met with a combination of traditional water sources (groundwater and surface water), brackish groundwater (with reverse osmosis treatment), and reclaimed water. **Table A-27** shows that groundwater and surface water supply sources met approximately 76% of the 2021 L/R water demands, with reclaimed water supplementing the remaining 24%.

Table A-27. L/R gross water demands in the LEC Planning Area by county and source.

Source	Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
Groundwater/Surface Water	37.11	37.38	38.18	39.10	39.87	40.53	41.13
Reclaimed Water	7.94	8.02	8.27	8.56	8.80	9.01	9.19
<b>Broward County Total</b>	<b>45.05</b>	<b>45.40</b>	<b>46.45</b>	<b>47.66</b>	<b>48.67</b>	<b>49.54</b>	<b>50.32</b>
Hendry County <sup>a</sup>							
Groundwater/Surface Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reclaimed Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Miami-Dade County							
Groundwater/Surface Water	14.64	14.74	15.05	15.52	15.96	16.36	16.74
Reclaimed Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Miami-Dade County Total</b>	<b>14.64</b>	<b>14.74</b>	<b>15.05</b>	<b>15.52</b>	<b>15.96</b>	<b>16.36</b>	<b>16.74</b>
Monroe County							
Groundwater/Surface Water	2.28	2.28	2.28	2.28	2.28	2.28	2.28
Reclaimed Water	0.30	0.30	0.30	0.30	0.30	0.30	0.30
<b>Monroe County Total</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>
Palm Beach County							
Groundwater/Surface Water	76.83	77.23	78.92	80.78	81.92	82.90	83.74
Reclaimed Water	38.19	38.70	40.23	41.99	43.46	44.72	45.80
<b>Palm Beach County Total</b>	<b>115.02</b>	<b>115.93</b>	<b>119.15</b>	<b>122.77</b>	<b>125.38</b>	<b>127.62</b>	<b>129.54</b>
<b>LEC Planning Area Total</b>							
<b>Groundwater/Surface Water</b>	<b>130.86</b>	<b>131.63</b>	<b>134.43</b>	<b>137.68</b>	<b>140.03</b>	<b>142.07</b>	<b>143.89</b>
<b>Reclaimed Water</b>	<b>46.43</b>	<b>47.02</b>	<b>48.80</b>	<b>50.85</b>	<b>52.56</b>	<b>54.03</b>	<b>55.29</b>
<b>LEC Planning Area Total</b>	<b>177.29</b>	<b>178.65</b>	<b>183.23</b>	<b>188.53</b>	<b>192.59</b>	<b>196.10</b>	<b>199.18</b>

L/R = Landscape Recreational; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

L/R gross irrigation demand projections under average rainfall conditions including reclaimed water are presented in **Table A-28**. The volume of reclaimed water meeting future L/R demands was increased at the same rate as the counties' permanent resident populations from 2021. This volume was then apportioned into landscape and golf by maintaining 2021 golf course utilization volumes (since acreage was relatively constant), and the remainder was assigned to landscape irrigation. **Table A-29** shows the estimated quantity of water needed to meet projected demands during 1-in-10-year drought conditions including reclaimed water.

Table A-28. L/R gross irrigation demands under average rainfall conditions in the LEC Planning Area.

Land Use	Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
Landscape	33.25	33.60	34.65	35.86	36.87	37.74	38.52
Golf	11.80	11.80	11.80	11.80	11.80	11.80	11.80
<b>Broward County Total</b>	<b>45.05</b>	<b>45.40</b>	<b>46.45</b>	<b>47.66</b>	<b>48.67</b>	<b>49.54</b>	<b>50.32</b>
Hendry County <sup>a</sup>							
Landscape	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Golf	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Miami-Dade County							
Landscape	11.13	11.23	11.54	12.01	12.45	12.85	13.23
Golf	3.51	3.51	3.51	3.51	3.51	3.51	3.51
<b>Miami-Dade County Total</b>	<b>14.64</b>	<b>14.74</b>	<b>15.05</b>	<b>15.52</b>	<b>15.96</b>	<b>16.36</b>	<b>16.74</b>
Monroe County							
Landscape	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Golf	2.36	2.36	2.36	2.36	2.36	2.36	2.36
<b>Monroe County Total</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>	<b>2.58</b>
Palm Beach County							
Landscape	67.93	68.84	71.56	74.68	77.29	79.53	81.45
Golf	47.09	47.09	47.59	48.09	48.09	48.09	48.09
<b>Palm Beach County Total</b>	<b>115.02</b>	<b>115.93</b>	<b>119.15</b>	<b>122.77</b>	<b>125.38</b>	<b>127.62</b>	<b>129.54</b>
<b>LEC Planning Area Total</b>							
<b>Landscape</b>	<b>112.53</b>	<b>113.89</b>	<b>117.97</b>	<b>122.77</b>	<b>126.83</b>	<b>130.34</b>	<b>133.42</b>
<b>Golf</b>	<b>64.76</b>	<b>64.76</b>	<b>65.26</b>	<b>65.76</b>	<b>65.76</b>	<b>65.76</b>	<b>65.76</b>
<b>LEC Planning Area Total</b>	<b>177.29</b>	<b>178.65</b>	<b>183.23</b>	<b>188.53</b>	<b>192.59</b>	<b>196.10</b>	<b>199.18</b>

L/R = Landscape/Recreational; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

Table A-29. L/R gross irrigation demands under 1-in-10-year drought conditions in the LEC Planning Area.

Land Use	Demand – 1-in-10 Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
Broward County							
Landscape	41.90	42.34	43.66	45.18	46.46	47.55	48.54
Golf	15.34	15.34	15.34	15.34	15.34	15.34	15.34
<b>Broward County Total</b>	<b>57.24</b>	<b>57.68</b>	<b>59.00</b>	<b>60.52</b>	<b>61.80</b>	<b>62.89</b>	<b>63.88</b>
Hendry County <sup>a</sup>							
Landscape	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Golf	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Miami-Dade County							
Landscape	14.02	14.15	14.54	15.13	15.69	16.19	16.67
Golf	4.56	4.56	4.56	4.56	4.56	4.56	4.56
<b>Miami-Dade County Total</b>	<b>18.59</b>	<b>18.71</b>	<b>19.10</b>	<b>19.70</b>	<b>20.25</b>	<b>20.75</b>	<b>21.23</b>
Monroe County							
Landscape	0.28	0.28	0.28	0.28	0.15	0.15	0.15
Golf	3.07	3.07	3.07	3.07	3.07	3.07	3.07
<b>Monroe County Total</b>	<b>3.35</b>	<b>3.35</b>	<b>3.35</b>	<b>3.35</b>	<b>3.22</b>	<b>3.22</b>	<b>3.22</b>
Palm Beach County							
Landscape	85.59	86.74	90.17	94.10	97.39	100.21	102.63
Golf	61.22	61.22	61.87	62.52	62.52	62.52	62.52
<b>Palm Beach County Total</b>	<b>146.81</b>	<b>147.96</b>	<b>152.03</b>	<b>156.61</b>	<b>159.90</b>	<b>162.72</b>	<b>165.14</b>
<b>LEC Planning Area Total</b>							
<b>Landscape</b>	<b>141.79</b>	<b>143.50</b>	<b>148.64</b>	<b>154.69</b>	<b>159.68</b>	<b>164.10</b>	<b>167.98</b>
<b>Golf</b>	<b>84.19</b>	<b>84.19</b>	<b>84.84</b>	<b>85.49</b>	<b>85.49</b>	<b>85.49</b>	<b>85.49</b>
<b>LEC Planning Area Total</b>	<b>225.98</b>	<b>227.69</b>	<b>233.48</b>	<b>240.18</b>	<b>245.17</b>	<b>249.59</b>	<b>253.47</b>

L/R = Landscape/Recreational; LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

## POWER GENERATION

Demands under the PG category include use of groundwater, fresh surface water, or reclaimed water by thermoelectric power generation facilities. There are 12 power generation facilities operating in the LEC Planning Area (**Figure 2-2**). However, only seven of these facilities have demands on groundwater, fresh surface water, or reclaimed water that are addressed in this plan update: Florida Power & Light (FPL) Riviera Beach Next Generation Clean Energy Center, FPL Turkey Point Plant, FPL West County Energy Center, Homestead G.W. Ivey Power Plant, Miami-Dade County Resources Recovery Facility, Okeelanta Cogeneration Facility, and Palm Beach County Solid Waste Authority Renewable Energy Park.

The FPL Riviera Beach Next Generation Clean Energy Center mainly uses surface water from the Lake Worth Lagoon for its cooling technology as a one-time pass through and is returned to the lagoon. As a result, this is not considered as part of the demands, and only the groundwater portion is considered. Groundwater from the surficial aquifer system (SAS) and potable water from the City of Riviera Beach is used for makeup water for steam generators, inlet spray coolers, and other industrial uses. The decrease in demands from .09 mgd to .02 mgd from 2020 to 2021 is the result of the installation of new, more efficient pumps which resulted in less pumpage. For the planning period 2021 to 2045, the FPL Riviera Beach Next Generation Clean Energy Center is estimated to have a PG demand of 0.02 mgd in 2021 and increases to 0.1 mgd from 2025 through 2045.

In 2021, the FPL Turkey Point Plant used 9.64 mgd of groundwater from the Upper Floridan aquifer (UFA) to provide cooling water at Unit 5 and processing water for Units 1 through 5. In addition, 12.22 mgd from the UFA was used for freshening the cooling canal system for Units 3 and 4. From 2025 through 2045, a combination of reclaimed and groundwater from the UFA will be used for cooling water at Unit 5 and processing water for Units 1 through 5. Additionally, 30 mgd from the UFA will be utilized for freshening the cooling canal system for Units 3 and 4. Therefore, the FPL Turkey Point Plant is estimated to have a PG demand of 21.86 mgd in 2021 which increases to 42.60 mgd from 2025 to 2045.

The FPL West County Energy Center primarily uses reclaimed water from Palm Beach County to meet its cooling water demands. Potable water from Palm Beach County is used for makeup water for other industrial uses, and groundwater from the UFA and surface water from the L-10/L-12 canals can be utilized as a backup supply when reclaimed water is not available. As a result, only the reclaimed water is considered as part of the demands. For the planning period of 2021 to 2045, the FPL West County Energy Center is estimated to have a demand of 14.22 mgd in 2021. The demand reduces to 13.56 mgd from 2025 through 2045 due to an increase in the use of potable water from Palm Beach County.

The Homestead G.W. Ivey Power Plant and the Miami-Dade County Resources Recovery Facility utilize groundwater from the SAS. The Okeelanta Cogeneration Facility uses a combination of groundwater from the SAS and UFA as well as surface water to meet its cooling system demands. Overall, the combined PG demands of these three facilities remain constant at 4.33 mgd from 2021 to 2045.

The Palm Beach County Solid Waste Authority Renewable Energy Park mainly uses groundwater from the SAS to meet demands for industrial processes. Potable water from Palm Beach County, harvested rainwater, and reclaimed water are utilized for processing

water and cooling tower blowdown. The expected PG demand for the Palm Beach County Solid Waste Authority Renewable Energy Park remains constant at 1.77 mgd from 2021 through 2045.

In the LEC Planning Area, PG demands are projected to increase from approximately 29.98 mgd in 2021 to 34.73 mgd in 2045 (**Table A-30**). This increase is primarily due to the increased use of reclaimed water at the Turkey Point Plant. All other facilities remain relatively stable over the planning period.

Table A-30. PG water demands in the LEC Planning Area between 2020 and 2045.

Facilities	Gross Demand (mgd) <sup>a</sup>						
	2020	2021	2025	2030	2035	2040	2045
FPL – Riviera Beach Clean Energy Center	0.09	0.02	0.10	0.10	0.10	0.10	0.10
FPL – Turkey Point Plant <sup>b,c</sup>	17.49	21.86	42.60	42.60	42.60	42.60	42.60
FPL – West County Energy Center <sup>d</sup>	13.02	14.22	13.53	13.53	13.53	13.53	13.53
Homestead G.W. Ivey Power Plant	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Miami-Dade County Resources Recovery Facility	1.76	1.76	1.76	1.76	1.76	1.76	1.76
Okeelanta Cogeneration Facility	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Palm Beach County SWA Renewable Energy Park	1.08	1.77	1.77	1.77	1.77	1.77	1.77
<b>LEC Planning Area Total</b>	<b>36.01</b>	<b>42.20</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>

FPL = Florida Power & Light; LEC = Lower East Coast; mgd = million gallons per day; PG = Power Generation; SWA=Solid Waste Authority.

- <sup>a</sup> Includes groundwater from the surficial and Floridan aquifer systems, reclaimed water, and surface water; Does not include harvested rainwater, seawater, city water, or surface water returned to the source.
- <sup>b</sup> The Turkey Point Plant has backup Upper Floridan aquifer system supply of 12.6 mgd if needed to make up reclaimed water shortfall.
- <sup>c</sup> FPL and Miami-Dade Water and Sewer Department are evaluating future use of reclaimed water at the Turkey Point Plant.
- <sup>d</sup> The West County Energy Center has backup allocation from the Upper Floridan aquifer system and surface water from the L-10/L-12 canals to make up the shortfall of reclaimed water (29.28 mgd) starting after 2021.

## SUMMARY OF DEMAND PROJECTIONS

Total demands for the LEC Planning Area are anticipated to increase approximately 208.81 mgd (11%), largely due to increasing demands for the PS category. AG demands are projected to have a 1% decline from 2021 to 2045, from 645.20 mgd to 637.65 mgd. PS and DSS are expected to increase due to the projected population growth from 6,222,708 to 7,294,265 permanent residents, reaching a combined demand of 1,060.09 mgd by 2045. Also driven by population growth, L/R demands are projected to reach 199.18 mgd by 2045. The demands for all remaining categories (CII and PG) are relatively small and projected to be 164.89 mgd, combined, in 2045. Gross water demands in 5-year increments, by county and water use category, are provided in **Table A-31** for average rainfall conditions and **Table A-32** for 1-in-10-year drought conditions.

Table A-31. Summary of gross water demands under average rainfall conditions in the LEC Planning Area by water use category.

Water Use Category	Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Public Supply	238.41	241.15	249.68	263.59	271.75	279.36	285.95
Domestic Self-Supply	0.9	0.82	0.88	0.85	0.77	0.74	0.65
Agriculture	2.90	2.82	2.65	2.43	2.23	2.04	1.85
Commercial/Industrial/Institutional	2.82	2.85	2.94	3.04	3.13	3.20	3.27
Landscape/Recreational	45.05	45.4	46.45	47.66	48.67	49.54	50.32
Power Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Broward County Total</b>	<b>290.08</b>	<b>293.04</b>	<b>302.60</b>	<b>317.57</b>	<b>326.55</b>	<b>334.88</b>	<b>342.04</b>
<b>Hendry County<sup>a</sup></b>							
Public Supply	0.26	0.28	0.36	0.42	0.43	0.48	0.56
Domestic Self-Supply	0.37	0.37	0.36	0.35	0.33	0.32	0.31
Agriculture	104.73	105.05	106.01	107.74	109.79	110.98	110.76
Commercial/Industrial/Institutional	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Landscape/Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County Total</b>	<b>107.05</b>	<b>107.39</b>	<b>108.42</b>	<b>110.20</b>	<b>112.24</b>	<b>113.47</b>	<b>113.32</b>
<b>Miami-Dade County</b>							
Public Supply	375.77	377.83	390.66	406.15	420.69	434.20	446.30
Domestic Self-Supply	2.64	1.18	2.06	2.61	3.00	3.24	4.29
Agriculture	73.98	73.03	84.11	81.51	78.87	75.86	73.20
Commercial/Industrial/Institutional	73.25	73.92	75.92	79.02	81.91	84.56	87.09
Landscape/Recreational	14.64	14.74	15.05	15.52	15.96	16.36	16.74
Power Generation	20.65	25.02	45.76	45.76	45.76	45.76	45.76
<b>Miami-Dade County Total</b>	<b>560.93</b>	<b>565.72</b>	<b>613.56</b>	<b>630.57</b>	<b>646.19</b>	<b>659.98</b>	<b>673.38</b>
<b>Monroe County</b>							
Public Supply	19.20	19.31	19.44	19.59	19.69	19.74	19.79
Domestic Self-Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agriculture	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Commercial/Industrial/Institutional	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape/Recreational	2.58	2.58	2.58	2.58	2.58	2.58	2.58
Power Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Monroe County Total</b>	<b>21.80</b>	<b>21.91</b>	<b>22.04</b>	<b>22.19</b>	<b>22.29</b>	<b>22.34</b>	<b>22.39</b>
<b>Palm Beach County</b>							
Public Supply	249.32	251.07	259.96	269.94	278.90	286.35	293.92
Domestic Self-Supply	7.20	7.61	8.28	8.59	8.75	8.97	8.34
Agriculture	470.51	464.28	451.83	451.83	451.83	451.83	451.83
Commercial/Industrial/Institutional	8.77	8.89	9.24	9.64	9.98	10.27	10.52
Landscape/Recreational	115.02	115.93	119.15	122.77	125.38	127.62	129.54
Power Generation	15.36	17.18	16.57	16.57	16.57	16.57	16.57
<b>Palm Beach County Total</b>	<b>866.18</b>	<b>864.96</b>	<b>865.03</b>	<b>879.34</b>	<b>891.41</b>	<b>901.61</b>	<b>910.72</b>

Table A-31. Continued.

Water Use Category	Demand – Average Rainfall Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
<b>LEC Planning Area Total</b>							
<b>Public Supply</b>	<b>882.96</b>	<b>889.64</b>	<b>920.10</b>	<b>959.70</b>	<b>991.47</b>	<b>1,020.13</b>	<b>1,046.52</b>
<b>Domestic Self-Supply</b>	<b>11.11</b>	<b>9.98</b>	<b>11.58</b>	<b>12.39</b>	<b>12.85</b>	<b>13.26</b>	<b>13.59</b>
<b>Agriculture</b>	<b>652.14</b>	<b>645.20</b>	<b>644.61</b>	<b>643.52</b>	<b>642.73</b>	<b>640.72</b>	<b>637.65</b>
<b>Commercial/Industrial/Institutional</b>	<b>86.53</b>	<b>87.35</b>	<b>89.79</b>	<b>93.39</b>	<b>96.70</b>	<b>99.72</b>	<b>102.56</b>
<b>Landscape/Recreational</b>	<b>177.29</b>	<b>178.65</b>	<b>183.23</b>	<b>188.53</b>	<b>192.59</b>	<b>196.10</b>	<b>199.18</b>
<b>Power Generation</b>	<b>36.01</b>	<b>42.20</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>
<b>LEC Planning Area Total</b>	<b>1,846.04</b>	<b>1,853.02</b>	<b>1,911.64</b>	<b>1,959.86</b>	<b>1,998.67</b>	<b>2,032.26</b>	<b>2,061.83</b>

LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

Table A-32. Summary of gross water demands under 1-in-10-year drought conditions in the LEC Planning Area by water use category.

Water Use Category	Demand – 1-in-10-Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
<b>Broward County</b>							
Public Supply	262.25	265.26	274.65	289.94	298.93	307.30	314.55
Domestic Self-Supply	0.99	0.90	0.97	0.93	0.85	0.81	0.71
Agriculture	3.31	3.22	3.03	2.78	2.55	2.34	2.13
Commercial/Industrial/Institutional	2.82	2.85	2.94	3.04	3.13	3.20	3.27
Landscape/Recreational	57.24	57.68	59.00	60.52	61.80	62.89	63.88
Power Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Broward County Total</b>	<b>326.61</b>	<b>329.91</b>	<b>340.59</b>	<b>357.21</b>	<b>367.26</b>	<b>376.54</b>	<b>384.54</b>
<b>Hendry County<sup>a</sup></b>							
Public Supply	0.27	0.30	0.38	0.45	0.46	0.51	0.59
Domestic Self-Supply	0.39	0.39	0.38	0.37	0.35	0.34	0.33
Agriculture	134.56	134.95	136.12	138.24	140.55	141.95	141.57
Commercial/Industrial/Institutional	1.69	1.69	1.69	1.69	1.69	1.69	1.69
Landscape/Recreational	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Hendry County Total</b>	<b>136.91</b>	<b>137.33</b>	<b>138.57</b>	<b>140.75</b>	<b>143.05</b>	<b>144.49</b>	<b>144.18</b>
<b>Miami-Dade County</b>							
Public Supply	402.07	404.28	418.00	434.58	450.14	464.59	477.54
Domestic Self-Supply	2.83	1.26	2.20	2.79	3.21	3.47	4.59
Agriculture	81.24	80.22	91.12	88.28	85.40	82.11	79.20
Commercial/Industrial/Institutional	73.25	73.92	75.92	79.02	81.91	84.56	87.09
Landscape/Recreational	18.59	18.71	19.1	19.7	20.25	20.75	21.23
Power Generation	20.65	25.02	45.76	45.76	45.76	45.76	45.76
<b>Miami-Dade County Total</b>	<b>598.63</b>	<b>603.41</b>	<b>652.10</b>	<b>670.13</b>	<b>686.67</b>	<b>701.24</b>	<b>715.41</b>

Table A-32. Continued.

Water Use Category	Demand – 1-in10-Year Drought Conditions (mgd)						
	2020	2021	2025	2030	2035	2040	2045
<b>Monroe County</b>							
Public Supply	19.78	19.89	20.03	20.18	20.28	20.33	20.38
Domestic Self-Supply	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agriculture	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Commercial/Industrial/Institutional	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape/Recreational	3.35	3.35	3.35	3.35	3.22	3.22	3.22
Power Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Monroe County Total</b>	<b>23.16</b>	<b>23.27</b>	<b>23.41</b>	<b>23.56</b>	<b>23.53</b>	<b>23.58</b>	<b>23.63</b>
<b>Palm Beach County</b>							
Public Supply	274.25	276.17	285.95	296.94	306.79	314.98	323.32
Domestic Self-Supply	7.92	8.37	9.11	9.45	9.63	9.86	9.18
Agriculture	643.37	634.75	617.57	617.57	617.57	617.57	617.58
Commercial/Industrial/Institutional	8.77	8.89	9.24	9.64	9.98	10.27	10.52
Landscape/Recreational	146.81	147.96	152.03	156.61	159.9	162.72	165.14
Power Generation	15.36	17.18	16.57	16.57	16.57	16.57	16.57
<b>Palm Beach County Total</b>	<b>1,096.48</b>	<b>1,093.32</b>	<b>1,090.47</b>	<b>1,106.78</b>	<b>1,120.44</b>	<b>1,131.97</b>	<b>1,142.30</b>
<b>LEC Planning Area Total</b>							
<b>Public Supply</b>	<b>958.62</b>	<b>965.90</b>	<b>999.01</b>	<b>1,042.09</b>	<b>1,076.60</b>	<b>1,107.71</b>	<b>1,136.37</b>
<b>Domestic Self-Supply</b>	<b>12.13</b>	<b>10.92</b>	<b>12.66</b>	<b>13.54</b>	<b>14.03</b>	<b>14.48</b>	<b>14.81</b>
<b>Agriculture</b>	<b>862.50</b>	<b>853.17</b>	<b>847.87</b>	<b>846.90</b>	<b>846.10</b>	<b>844.00</b>	<b>840.52</b>
<b>Commercial/Industrial/Institutional</b>	<b>86.53</b>	<b>87.35</b>	<b>89.79</b>	<b>93.39</b>	<b>96.70</b>	<b>99.72</b>	<b>102.56</b>
<b>Landscape/Recreational</b>	<b>225.99</b>	<b>227.70</b>	<b>233.48</b>	<b>240.18</b>	<b>245.17</b>	<b>249.58</b>	<b>253.47</b>
<b>Power Generation</b>	<b>36.01</b>	<b>42.20</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>	<b>62.33</b>
<b>LEC Planning Area Total</b>	<b>2,181.78</b>	<b>2,187.24</b>	<b>2,245.14</b>	<b>2,298.43</b>	<b>2,340.93</b>	<b>2,377.82</b>	<b>2,410.06</b>

LEC = Lower East Coast; mgd = million gallons per day.

<sup>a</sup> Values listed for Hendry County are only for the areas within the LEC Planning Area boundaries.

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