

Technical Fact Sheet SJ2015-FS1

2014 Survey of Estimated Annual Water Use
for St. Johns River Water Management District



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Introduction

St. Johns River Water Management District (SJRWMD) has published estimates of annual water use data since 1978. These “annual water use surveys” assess estimated total water use, with data arranged by source, category of use, and county. Estimated amounts are based on best available data at the time of publication. Published reports can be found on the SJRWMD website, *floridaswater.com*. In publishing the annual data, SJRWMD cooperates with the U.S. Geological Survey (USGS) that compiles national estimates of water use on 5-year intervals.

Geographic Survey Area

SJRWMD includes all or part of 18 counties, encompassing 12,300 square miles in northeast and east-central Florida and representing more than 4.8 million people, or approximately 25% of the state’s population. The following water basins are located within SJRWMD: the entire St. Johns River and Nassau River basins, the Indian River Lagoon and Northern Coastal basins, and portions of the St. Marys River basin and Florida Ridge.

Area Rainfall Statistics

Average annual rainfall within SJRWMD for the 10-year period January 2005–December 2014 was 48.54 inches. Annual rainfall within SJRWMD for 2014 was 55.13 inches. The driest year of the 10-year period was 2006, with 35.62 inches, 27% below the average. The wettest year of the 10-year period was 2005, with 62.20 inches, 28% above the average.

From the most recent 5-year period, 2010–2014, average annual rainfall within SJRWMD varied by 14 inches (from 41.10 to 55.13 inches). Average annual rainfall within SJRWMD for the 5-year period January 2010–December 2014 was 47.27 inches. Above-average annual rainfall occurred in 2012 (49.26 inches) and 2014 (55.13 inches), while below-average rainfall occurred in 2010 (41.10 inches), 2011 (45.05 inches) and 2013 (45.80 inches).

Through evapotranspiration, nearly 70% of rainfall within SJRWMD is returned to the atmosphere, while the remaining 30% becomes runoff to surface waters or recharge to aquifers (Fernald and Purdum 1998).

Data Sources, Methodology and Terminology

Data for the 2014 Annual Water Use Survey came from a variety of sources: raw water withdrawal data submitted to SJRWMD (via EN-50 forms) and treated water data from Florida Department of Environmental Protection (DEP) monthly operating reports (MORs). Reuse water data were derived from the *2014 Reuse Inventory Report* (DEP 2015). Rainfall by county was obtained from SJRWMD’s monthly hydrologic conditions reports (SJRWMD 2015). In this 2014 survey, the estimated amounts are based on best available data at the time of publication. SJRWMD attempts to compile the best available data, but it cannot guarantee that contributors use consistent measurement techniques or quality control standards. If water use information is not available from any other source, SJRWMD uses professional analyses of historical data and trends to estimate values. Water use statistics are subject to change as updated information

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becomes available. Changes in methodologies should be considered when making year-to-year data comparisons.

Freshwater. Water with concentration of total dissolved solids (TDS) less than 1,000 milligrams per liter (mg/L) is considered freshwater and may be withdrawn from either groundwater or surface water sources. This definition is based on the one provided by USGS, in Water Supply Paper 2254 (Hem 1985), and has been used for reporting consistency with USGS. This definition differs from that used by SJRWMD in determining if a source is “brackish” when identifying an alternative water supply source. Source waters that do not always meet federal and state drinking water standards for chloride, sulfate, or total dissolved solids are generally identified by SJRWMD as “brackish” waters. SJRWMD may list brackish waters as alternative water supply sources in some areas.

Saline water. Water with more than 1,000 mg/L TDS is considered saline. All water reported as saline is withdrawn from surface water or surficial aquifer sources.



Reuse. Reclaimed water is treated wastewater that has received at least secondary treatment and basic disinfection. It may be distributed for nonpotable uses that achieve a water resource benefit (SJRWMD 2006).

Data Source/Methodology: SJRWMD’s methodology is based on quantities of reuse water reported by DEP in the *2014 Reuse Inventory Report* (DEP 2015). DEP regards several applications of reclaimed water as reuse that SJRWMD does not. Therefore, it is common for SJRWMD to report beneficial reuse quantities lower than that reported by DEP. SJRWMD requires that water be applied in such a way as to achieve a water resource benefit before

qualifying as reuse. In particular, SJRWMD requires that reuse must take the place of an existing or potential use of higher-quality water or be used to grow useful crops; restore or maintain adopted minimum flows and/or levels of a river, lake, or wetland; or effectively recharge a useable aquifer. If the water applied does not meet one of these requirements, it is considered by SJRWMD as disposal. Types of reclaimed water considered as reuse by DEP but disposal by SJRWMD are as follows: underground injection; absorption fields and rapid infiltration basins located in discharge areas; surface water augmentation where not required; spray fields; artificial wetlands.

Florida population. This is the estimated number of permanent residents living within Florida.

Data Source/Methodology: The source for population is *Estimates of Population by County and City in Florida: April 1, 2014* (BEBR 2015a).

SJRWMD population. This is the estimated number of permanent residents living within SJRWMD's 18-county region.

Data Source/Methodology: Population estimates are intended for planning purposes only; 2014 county population estimates are from *Estimates of Population by County and City in Florida: April 1, 2014* (BEBR 2015a).

Water use category. Classification of water use is based on one of the following six categories: (1) public supply, (2) domestic self-supply and small public supply systems, (3) agricultural irrigation self-supply, (4) commercial/industrial/institutional and mining/dewatering self-supply, (5) landscape/recreational/aesthetic self-supply, and (6) thermoelectric power generation self-supply.

Public supply. Water withdrawn, treated, and delivered to service areas within SJRWMD by privately and publicly owned water supply utilities (or systems) is defined as public supply. This encompasses both residential and nonresidential uses by utilities that are permitted to withdraw equal to or more than 0.10 million gallons per day (mgd) from groundwater or surface water sources.

Data Source/Methodology: Water use data in this category were obtained from SJRWMD EN-50 forms. In cases where SJRWMD EN-50 forms were missing, MORs submitted to DEP were used. Of note, MORs are submitted to DEP by approximately 98% of the public supply utilities for which SJRWMD had individual consumptive use permits (CUPs) (permitted average daily flow equal to or greater than 100,000 gallons per day or 0.10 mgd) in effect during 2014. (Note: Water for use by the City of Cocoa, in Brevard County, is withdrawn from Orange County.)

Domestic self-supply and small public supply systems. Domestic self-supply water use refers primarily to water use by individuals not served by a public supply water utility (e.g., a residence with a private well). The population associated with small public supply utility systems (permitted average daily flow under 0.10 mgd) is also included in this category. In most cases, small public supply utility systems need not report water use data to SJRWMD. However, many of these small public supply utility systems do report water use data to DEP via MORs.

Data Source/Methodology: Domestic self-supply water use is estimated from residential population and residential public supply (including small public supply systems) per capita water use rates at the county level. Residential water use for each public supply utility and small public supply system is calculated by multiplying the total public supply and small public supply system water use by the percent of the total water use allocated to residential use, as authorized in the SJRWMD-issued CUP. The resulting water use values for each public supply utility and small public supply system are then summed to the county level and divided by the total county permanent/residential public supply and small public supply population to obtain the county-level residential per capita value. The county residential per capita value is multiplied by the domestic self-supply population, resulting in the estimated amount of water use for domestic self-supply. The domestic self-supply population for each county wholly within SJRWMD is obtained by subtracting the total number of people served by public supply utilities and small public supply systems in a county from the total number of permanent residents living in the county. The domestic self-supply population for each county partially within SJRWMD is obtained by multiplying the number of residential parcels within SJRWMD known to have domestic-self supply wells by the 2014 persons per household estimate obtained from BEBR (BEBR 2015b). For counties with a population of less than 5% within the jurisdiction of SJRWMD or that have no public supply or small public supply system water use, SJRWMD's average residential public supply (including small public supply systems) per capita figure of 90 gallons per day (gpd) was used as a best estimate. For the purpose of reporting, all domestic self-supply water is assumed to be groundwater. Water use data for small public supply systems was obtained from SJRWMD EN-50 and/or DEP MORs.

Commercial/industrial/institutional and mining/dewatering self-supply. This is water withdrawn from groundwater and surface water sources for commercial, industrial, institutional, mining or dewatering purposes not provided by public supply systems. It includes businesses, government facilities, military installations, schools, prisons, hospitals, industrial uses such as processing and manufacturing and mining and long-term dewatering operations. (Note: For this report, surface water use by mining and long-term dewatering operations represents 5% of surface water use, to account for the loss of water entrained in mining products and evaporative losses. The remaining surface water is assumed to be recirculated in the mining process and, therefore, is considered nonconsumptive. Nonconsumptive is defined by SJRWMD as any use of water that does not reduce the water supply from which it is withdrawn or diverted.)

Data Source/Methodology: Data in this category reflects water use information reported to SJRWMD by consumptive use permittees via SJRWMD EN-50 forms.

Thermoelectric power generation self-supply. This is water withdrawn from groundwater and surface water sources and used by power plants not supplied by public supply systems. (Note: This does not include water used for once-through cooling, which is considered nonconsumptive.)

Data Source/Methodology: Data in this category reflect water use information reported to SJRWMD by power plant operators via SJRWMD EN-50 forms or through a yearly SJRWMD survey. In cases where SJRWMD EN-50 forms were missing or a survey was not returned, MORs submitted to DEP were used.

Agricultural irrigation self-supply. This is reported and estimated water from groundwater and surface water sources for use in supplemental crop irrigation.

Data Source/Methodology: Data in this category reflect water use information reported to SJRWMD by agricultural water users via SJRWMD EN-50 forms. Alternatively, for agricultural parcels not requiring a consumptive use permit, but known to be irrigating, monthly irrigation estimates were calculated using a modified Blaney-Criddle model (for calculating evapotranspiration). Climate data for running a modified Blaney-Criddle model was obtained from the National Oceanic and Atmospheric Administration and the Florida Climate Center. In places where climate data are missing, substitute data are obtained from historical (or average values) or data from the next closest weather station. Crop type and acreage data are provided through yearly SJRWMD surveys and geographic information system-based crop layers or through data from the University of Florida–Institute of Food and Agricultural Sciences, county agricultural extension agents, and U.S. Department of Agriculture surveys.

Landscape/recreational/aesthetic self-supply. This is water withdrawn from groundwater and surface water sources for use in golf course irrigation, irrigation of urban landscapes or athletic fields, water-based recreational areas, and ornamental or decorative purposes not supplied by public supply systems.

Data Source/Methodology: Data in this category reflect water use information reported to SJRWMD by consumptive use permittees via SJRWMD EN-50 forms.

2014 Estimated Water Use by Category

Water use is estimated for water withdrawals from fresh, saline, and reuse water sources, expressed in average mgd unless otherwise noted. In this 2014 survey, the estimated amounts are based on best available data as of June 24, 2015. Water withdrawal information is reported for six categories of use: (1) public supply, (2) domestic self-supply and small public supply systems, (3) commercial/industrial/institutional and mining/dewatering self-supply, (4) agricultural irrigation self-supply, (5) landscape/recreational/aesthetic irrigation self-supply, and (6) thermoelectric power generation self-supply. A reporting threshold of 0.10 mgd of permitted average daily flow by individual water users was used for all water use categories, excluding the agricultural irrigation self-supply and domestic self-supply and small public supply systems categories, in the reporting of consumptive use for 2014. Consumptive use is defined by SJRWMD as any use of water that reduces the supply from which it is withdrawn or diverted.

Rainfall and water use totals within SJRWMD are shown in Table 1, with figures tabulated by county. Table 2 shows total water use by category, and Table 3 shows water use by county and category. The estimated total consumptive use in SJRWMD for 2014, including fresh, saline, and reuse (reclaimed) water, was 1,225.95 mgd. Of the estimated total consumptive amount, 1,060.77 mgd was freshwater and 3.38 mgd was saline water (Tables 1–3). In 2014, the largest consumptive use of freshwater within SJRWMD was public supply, which totaled 519.31 mgd, or 49%, of total consumptive freshwater use (Tables 2 and 3, Figure 1). Next was agricultural irrigation, which used 302.27 mgd, or 28%, of total consumptive freshwater within SJRWMD (Tables 2 and 3, Figure 1). Reuse water accounted for 161.80 mgd and was reported under the agricultural irrigation, commercial/industrial/institutional, and landscape/recreational/aesthetic categories of water use (Tables 2 and 3).

Public Supply

The public supply water use category consists of water supplied to homes and industries by both privately and publicly owned water supply utilities. It includes both residential and nonresidential uses. Utilities that are permitted to withdraw 0.10 mgd or more from groundwater or surface water sources are included in this category.

In 2014, 158 public supply utilities (or systems) served an estimated 4,127,767 people, or 86%, of the SJRWMD total population (see Table 4 note). Total water use, from both groundwater and surface water sources, was 519.31 mgd (Tables 2 and 3, Figures 1 and 2), almost 8% below the average annual use of 561.63 mgd for the preceding 10-year period. Average gross per capita use, based on the population served by public supply, was 126 gallons per capita per day (gpcd). Public supply water use typically fluctuates during the year in response to seasonal rainfall and temperature variations. Water use tends to increase during the warm season (April–October), when outdoor use is highest. The monthly average gross per capita also fluctuates throughout the year in response to these variations. In 2014, water use ranged from a low of 433.09 mgd (105 gpcd) in February to a high of 570.60 mgd (138 gpcd) in May (Figure 2). Of the total water withdrawn for public supply use, 98% was groundwater.

Counties with the largest public supply water use during 2014 were Duval County (110.27 mgd, serving 767,127 people; 144 gpcd) and Orange County (109.52 mgd, serving 827,413 people; 132 gpcd) (Table 3, Figures 3 and 4). These counties combined represented 42% of total public supply water use and 39% of the public supply population. (Note: There is no public supply water use in the portions of Okeechobee and Osceola counties within SJRWMD.)

Domestic Self-Supply and Small Public Supply Systems

The domestic self-supply category includes water withdrawn from individual domestic wells. Because water use for domestic self-supply is not inventoried, this water use is estimated at a county level based on population not served by public supply or small public supply systems and residential per capita rates for the public supply utilities (including small public supply systems) within the county. For the purpose of reporting, all domestic self-supply water was assumed to be groundwater.

In 2014, an estimated 661,779 people used 56.62 mgd of domestic self-supply water (including small public supply systems), or 5%, of total freshwater used in SJRWMD (Tables 1–3, Figure 1). Duval County had the largest self-supplied population, with 122,939 people. Marion County had the second-largest population, 103,579, followed by Clay County, 67,624 (Table 4).

Domestic self-supply water use (including small public supply systems) has fluctuated over the 10-year period, reaching a low of 53.84 mgd in 2013 to a high of 72.91 mgd in 2006. The average for the 10-year period was 65.99 mgd; water use in 2014 was 14.2% below average. Fluctuations in water use are mainly attributed to changes in methodologies over the years. In 2014, average residential public supply (including small public supply systems) per capita within SJRWMD was 90 gpcd.

Commercial/Industrial/Institutional and Mining/Dewatering Self-Supply

The commercial/industrial/institutional and mining/dewatering self-supply use category consists of larger commercial, industrial, and institutional users and mining and dewatering operations

not served by public supply utilities that are permitted to withdraw 0.10 mgd or more. The commercial and institutional categories include businesses and institutions, such as government facilities, military installations, schools, prisons, and hospitals. The industrial category includes processing and manufacturing facilities; it does not include water used for power generation by thermoelectric power plants. Surface water use by mining and long-term dewatering operations represents 5% of surface water use, to account for the loss of water in mining products and evaporative losses. The remaining surface water is assumed to be recirculated in the mining process and, therefore, is considered nonconsumptive. A total of 132 commercial/industrial/institutional and mining/dewatering individual permit holders reported water use in 2014.

Total freshwater use in the commercial/industrial/institutional and mining/dewatering category was 101.01 mgd, or 10%, of total freshwater use (Tables 2 and 3, Figure 1). Of this freshwater total, 67.09 mgd was groundwater and 33.92 mgd was surface water. Reclaimed water use totaled 21.17 mgd (Tables 2 and 3).

Most of the freshwater withdrawn for commercial/industrial/institutional and mining/dewatering purposes supplied the pulp and paper industries in Duval, Nassau and Putnam counties. Water use for pulp and paper production in 2014 included 41.26 mgd of fresh groundwater, 23.06 mgd of fresh surface water, and 0.86 mgd of saline surface water. The second-largest water user in this category was the mining industry, which accounted for 8.19 mgd of fresh groundwater and 2.10 mgd of fresh surface water. Pulp/paper production and mining accounted for a combined total of 74.61 mgd of freshwater, or 74%, of the commercial/industrial/institutional and mining/dewatering freshwater use.

Commercial/industrial/institutional and mining/dewatering self-supply water use was highest in 2006 (131.75 mgd) and lowest in 2012 (84.91 mgd). The average for the 10-year period was 103.64 mgd; water use in 2014 was almost 3% below the average.

Commercial/industrial/institutional and mining/dewatering freshwater use in 2014 varied from a low of 87.17 mgd in February to a high of 108.21 mgd in July (Figure 5).

Agricultural Irrigation Self-Supply

The agricultural irrigation self-supply category consists of reported water withdrawals from freshwater sources for supplemental crop irrigation. Total consumptive use of freshwater for agricultural irrigation was estimated at 302.27 mgd, which is 28% of total freshwater use in SJRWMD during 2014 (Tables 2 and 3, Figure 1). Reuse water accounted for 4.48 mgd of agricultural irrigation use. Agricultural permittees used 192.94 mgd of groundwater (64%) and 109.33 mgd of surface water (36%). Districtwide, there are currently 294,957 irrigated agricultural acres. Eighty percent of these acres (236,803) are covered by a consumptive use permit. Agricultural irrigation water use in 2014 had the largest seasonal fluctuation than any other water use category, reaching a low of 111.90 mgd in December to a high of 431.68 mgd in May (Figure 6). These fluctuations are typical of irrigation water use and inversely correlated with rainfall.

By county, the largest water use for agricultural irrigation occurred in Indian River County, with 166.06 mgd of freshwater, accounting for 55% of total SJRWMD agricultural irrigation water use (Table 3). Out of this total, groundwater withdrawals were 66.31 mgd (40%) and surface water withdrawals were 99.75 mgd (60%).

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Districtwide, the largest estimated water use for a single crop was for citrus, which accounted for 120.01 mgd, or 40%, of total agricultural irrigation water use. Sod accounted for 31.79 mgd, or 11%, of total agricultural irrigation water use (Figure 7).



Traders Hill Farms in Nassau County (left) is using rainwater harvesting to conserve groundwater. Citrus (right) is the largest agricultural water user in Indian River County, making up 40% of total agricultural irrigation districtwide.

Landscape/Recreational/Aesthetic Irrigation Self-Supply

The landscape/recreational/aesthetic irrigation self-supply category includes water used to irrigate turf grass for golf courses, urban landscapes, athletic fields, water-based recreational areas, or for ornamental or decorative purposes. Use of freshwater in the landscape/recreational/aesthetic irrigation category totaled 73.72 mgd, about 7% of total freshwater use in 2014. Nearly 78% (57.42 mgd) of the quantities were withdrawn from surface water sources. The remainder 16.30 mgd (22%) came from groundwater sources. Reuse water accounted for 136.15 mgd of landscape/recreational/aesthetic irrigation use. By county (Table 3), the largest freshwater use for landscape/recreational/aesthetic irrigation occurred in Indian River County (17.18 mgd), followed by Lake County (11.85 mgd) and Duval County (8.14 mgd).

During the 10-year period (January 2005–December 2014), landscape/recreational/aesthetic irrigation freshwater use was highest in 2014 (73.72 mgd) and lowest in 2009 (43.14 mgd). The year 2009 was the third wettest year in that period. Average water use was 57.56 mgd. Landscape/recreational/aesthetic irrigation water use in 2014 was 28% above the 10-year average. Landscape/recreational/aesthetic irrigation freshwater use in 2014 varied from a low of 41.37 mgd in February to a high of 1,103.13 mgd in May (Figure 8).

Thermoelectric Power Generation Self-Supply

The thermoelectric power generation self-supply category consists of water withdrawn from groundwater and surface water sources by power plants, excluding reuse water or water used for once-through cooling, which is considered nonconsumptive use. Estimates for 2014 reflect consumptive use data for 15 self-supplied thermoelectric power plants, totaling 7.84 mgd (Tables 2 and 3, Figure 1). The largest amount of freshwater use within this category (Table 3) occurred in Duval County (5.89 mgd).

Thermoelectric power generation freshwater use in 2014 fluctuated from a low of 5.43 mgd in April to a high of 9.03 mgd in August (Figure 9). Fluctuations in water use are related to power

plant shutdowns for maintenance or increased power demands during periods of high or low temperatures.

Summary of 2014 Estimated Water Use

Since 1978 when SJRWMD published its first annual survey, there has been a gradual increase in freshwater use. Total public supply water use has increased by nearly 122% (from 233.84 mgd to 519.31 mgd) during this 36-year period, while total population served by public supply has increased by 183% (from 1,460,900 to 4,127,767). In the most recent five-year period, between 2010 and 2014, public supply water use decreased by 3% (from 537.24 mgd to 519.31 mgd), while population served by public supply increased by 1% from 4,079,938 to 4,127,767. During the 5-year period extending January 2010–December 2014, average annual rainfall throughout SJRWMD varied by more than 14 inches (from 41.10 inches in 2010 to 55.13 inches in 2014). Above-average annual rainfall occurred in 2012 (49.26 inches) and 2014 (55.13 inches). Lastly, agricultural water use in the last three years has been below the long-term average. Water use amounts reported in this 2014 survey are estimated based on best available data through June 24, 2015. For additional information, please visit *floridaswater.com*

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Table 1. Total water use (mgd) and rainfall by county in SJRWMD, 2014

County	Freshwater (mgd)	Saline Water (mgd)	Reuse (mgd)	Total Water Use (mgd)	Rainfall (inches)
Alachua	30.81	0.00	3.10	33.91	59.83
Baker	3.71	0.00	0.00	3.71	61.00
Bradford	0.58	0.00	0.00	0.58	53.23
Brevard	94.83	0.00	20.35	115.18	51.26
Clay	22.86	0.00	3.93	26.79	53.40
Duval	154.45	0.00	11.46	165.91	54.29
Flagler	19.70	2.52	4.85	27.07	54.40
Indian River	201.01	0.00	6.21	207.22	49.42
Lake	87.35	0.00	10.56	97.91	57.44
Marion	39.33	0.00	4.18	43.51	60.14
Nassau	47.91	0.86	1.16	49.93	58.29
Okeechobee	2.82	0.00	0.00	2.82	50.28
Orange	124.62	0.00	52.30	176.92	54.60
Osceola	1.26	0.00	0.00	1.26	51.35
Putnam	45.39	0.00	1.46	46.85	54.11
St. Johns	49.71	0.00	2.18	51.89	55.95
Seminole	57.07	0.00	20.27	77.34	53.59
Volusia	77.36	0.00	19.79	97.15	56.28
Total	1,060.77	3.38	161.80	1,225.95	55.13

Note: Total water use is in million gallons per day (mgd).

Estimated amounts are based on best available data as of June 24, 2015.

Source of domestic self-supply is assumed to be groundwater, and domestic self-supply is an estimate.

* Districtwide rainfall average.

Table 2. Total water use (mgd) by category in SJRWMD, 2014

Category	Freshwater (mgd)	Saline Water (mgd)	Reuse (mgd)	Total Water Use (mgd)
Public supply	519.31	0.00	0.00	519.31
Domestic self-supply and small public supply systems	56.62	0.00	0.00	56.62
Commercial/industrial/institutional and mining/dewatering self-supply	101.01	3.38	21.17	125.56
Agricultural irrigation self-supply	302.27	0.00	4.48	306.75
Landscape/recreational/aesthetic self-supply	73.72	0.00	136.15	209.87
Thermoelectric power generation self-supply	7.84	0.00	0.00	7.84
Total	1,060.77	3.38	161.80	1,225.95

Note: Water use is in million gallons per day (mgd).

Source of domestic self-supply is assumed to be groundwater, and domestic self-supply is an estimate.

Estimated amounts are based on best available data as of June 24, 2015.

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Table 3. Total water use (mgd) by county and category in SJRWMD, 2014

County	Freshwater							Saline Water	Reuse	All Water Use
	Public Supply	Domestic Self-Supply	Commercial/Industrial/Institutional Fresh Water	Agricultural Irrigation Self-Supply	Landscape/Recreational/Aesthetic Self-Supply	Thermoelectric Power Generation Self-Supply	Total Freshwater	Commercial/Industrial/Institutional Saline Water		
Alachua	22.03	0.93	4.68	2.39	0.49	0.29	30.81	0.00	3.10	33.91
Baker	0.86	2.01	0.48	0.36	0.00	0.00	3.71	0.00	0.00	3.71
Bradford	0.07	0.33	0.09	0.09	0.00	0.00	0.58	0.00	0.00	0.58
Brevard	52.78	2.47	2.83	31.42	5.31	0.02	94.83	0.00	20.35	115.18
Clay	12.63	6.02	0.19	0.99	3.03	0.00	22.86	0.00	3.93	26.79
Duval	110.27	11.56	17.15	1.44	8.14	5.89	154.45	0.00	11.46	165.91
Flagler	8.96	0.19	0.00	8.37	2.18	0.00	19.70	2.52	4.85	27.07
Indian River	15.99	0.16	1.62	166.06	17.18	0.00	201.01	0.00	6.21	207.22
Lake	41.75	7.17	5.98	20.29	11.85	0.31	87.35	0.00	10.56	97.91
Marion	17.06	6.86	2.42	9.02	3.97	0.00	39.33	0.00	4.18	43.51
Nassau	6.95	3.74	33.67	0.31	3.24	0.00	47.91	0.86	1.16	49.93
Okeechobee	0.00	0.13	0.00	2.69	0.00	0.00	2.82	0.00	0.00	2.82
Orange	109.52	2.86	2.76	5.89	3.10	0.49	124.62	0.00	52.30	176.92
Osceola	0.00	0.03	0.00	1.23	0.00	0.00	1.26	0.00	0.00	1.26
Putnam	2.09	2.63	26.23	12.45	1.42	0.57	45.39	0.00	1.46	46.85
St. Johns	15.28	2.86	0.18	25.95	5.44	0.00	49.71	0.00	2.18	51.89
Seminole	51.83	1.23	0.00	2.14	1.87	0.00	57.07	0.00	20.27	77.34
Volusia	51.24	5.44	2.73	11.18	6.50	0.27	77.36	0.00	19.79	97.15
Total	519.31	56.62	101.01	302.27	73.72	7.84	1,060.77	3.38	161.80	1,225.95

Note: Water use is in million gallons per day (mgd).

Estimated amounts are based on best available data as of June 24, 2015.

Source of domestic self-supply is assumed to be groundwater, and domestic self-supply is an estimate.

Small public supply systems are included in the domestic self-supply estimates.

Mining and dewatering is included in the commercial/industrial/institutional estimates.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

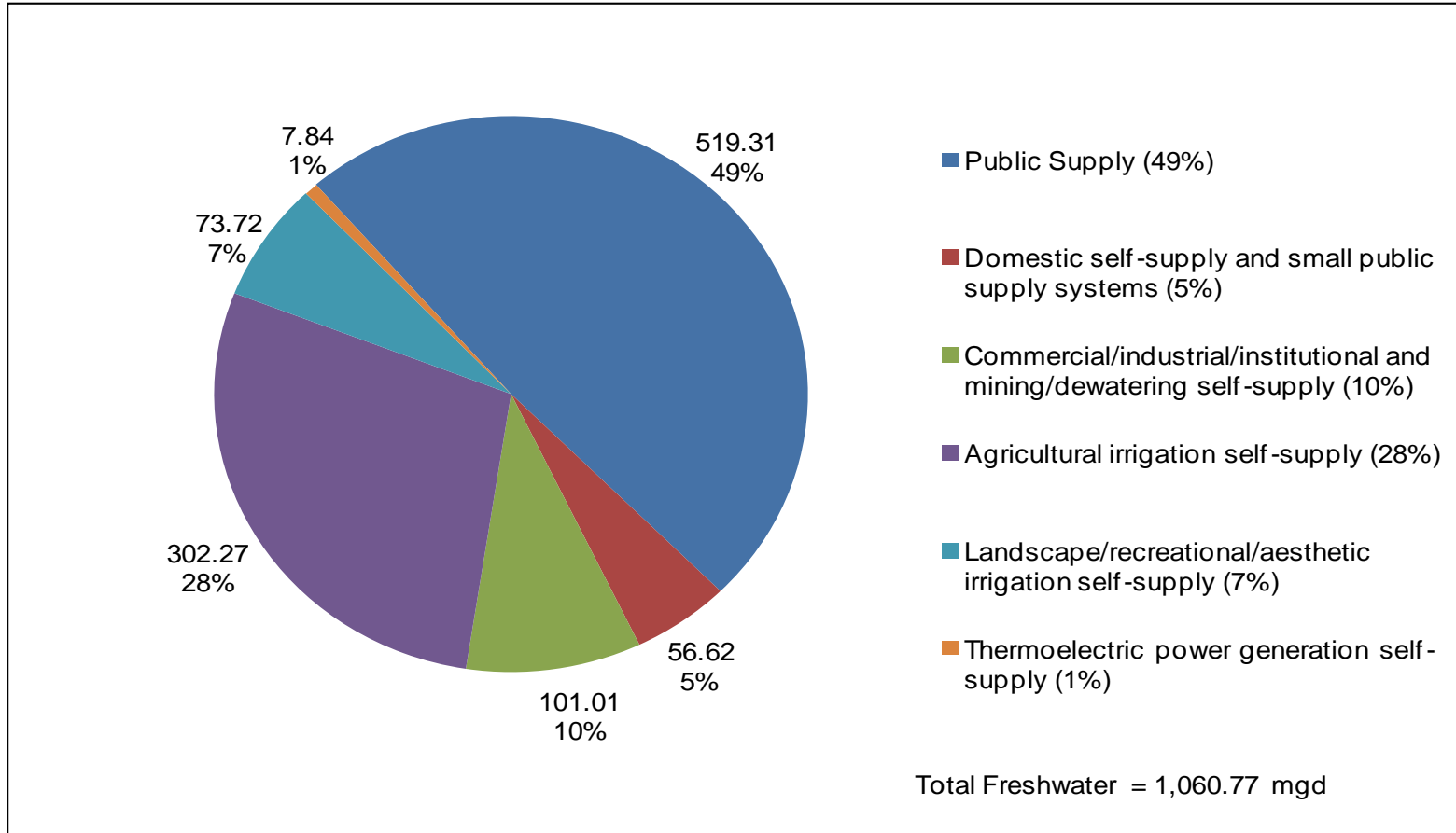


Figure 1. Total freshwater use (mgd), 2014

Note: Water use is in million gallons per day (mgd).

Estimated amounts are based on best available data as of June 24, 2015.

Source of domestic self-supply is assumed to be groundwater, and domestic self-supply is an estimate.

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Table 4. Population by county, 2014

County	County Population	Percentage of County Population in SJRWMD	SJRWMD Population	Public Supply Population	Domestic Self-Supply and Small Public Supply Systems Population
Alachua	250,730	78.8%	197,468	184,153	13,315
Baker	26,991	97.8%	26,397	6,391	20,006
Bradford	27,323	20.3%	5,547	905	4,642
Brevard	552,427	100.0%	552,427	515,479	36,948
Clay	197,403	100.0%	197,403	129,779	67,624
Duval	890,066	100.0%	890,066	767,127	122,939
Flagler	99,121	100.0%	99,121	95,484	3,637
Indian River	140,955	100.0%	140,955	137,156	3,799
Lake	309,736	99.8%	309,117	249,955	59,162
Marion	337,455	64.8%	218,519	114,940	103,579
Nassau	75,321	100.0%	75,321	46,913	28,408
Okeechobee	39,828	3.6%	1,442	0	1,442
Orange	1,227,995	69.6%	854,601	827,413	27,188
Osceola	295,553	0.1%	259	0	259
Putnam	72,523	100.0%	72,523	20,388	52,135
St. Johns	207,443	100.0%	207,443	164,386	43,057
Seminole	437,086	100.0%	437,086	422,147	14,939
Volusia	503,851	100.0%	503,851	445,151	58,700
Total	5,691,807		4,789,546	4,127,767	661,779

Notes: 2014 population estimates are from BEBR, Florida Estimates of Population (BEBR 2015)

Total population for the state of Florida in 2014 = 19,507,369

Percent of total state of Florida population that lives within SJRWMD = 25%

Percent of SJRWMD population served by public supply = 86%

The SJRWMD population is derived from the county population multiplied by the percentage of county population in SJRWMD. The percentage of county population, as represented, is rounded to the nearest tenth. Thus, in some cases, the presented SJRWMD population is slightly different than the product of the county population multiplied by the percentage of county population in SJRWMD.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

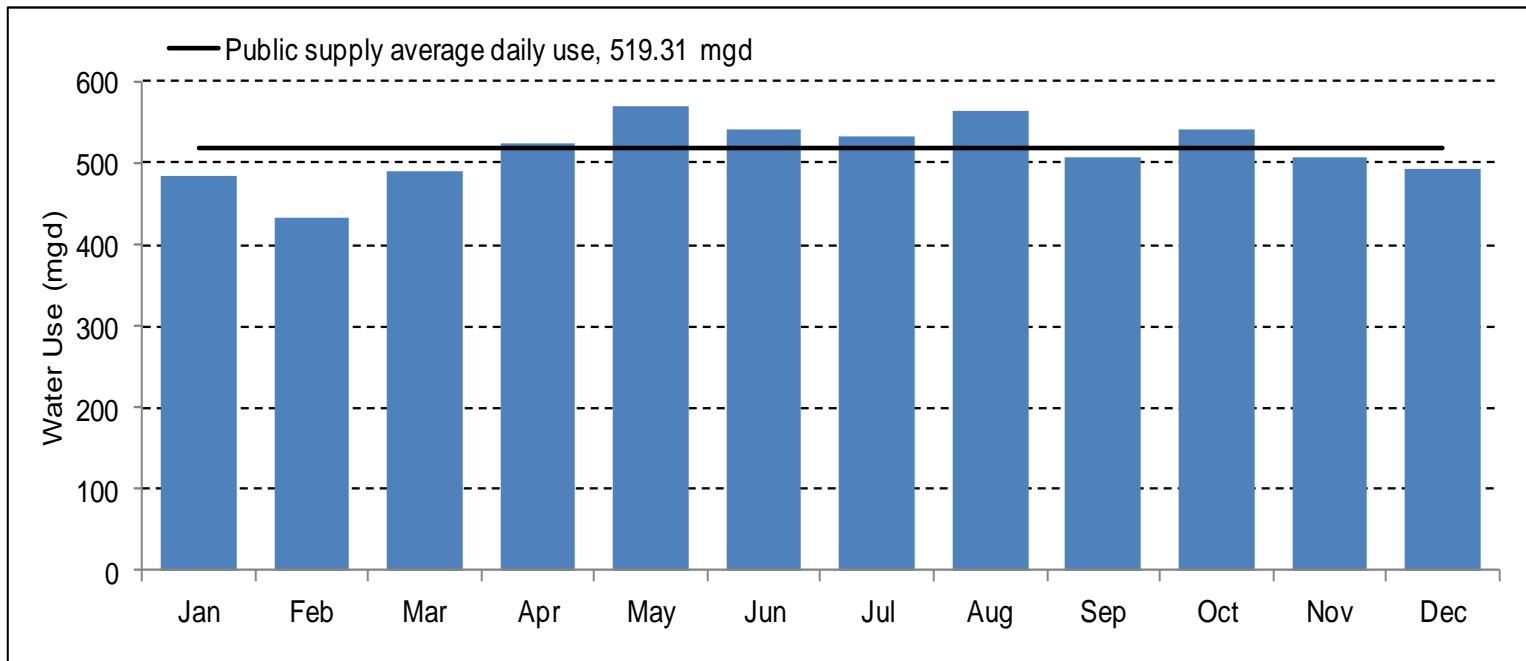


Figure 2. Average daily public supply water use (mgd) by month, 2014

Note: Water use is in million gallons per day (mgd).

Estimated amounts are based on best available data as of June 24, 2015.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

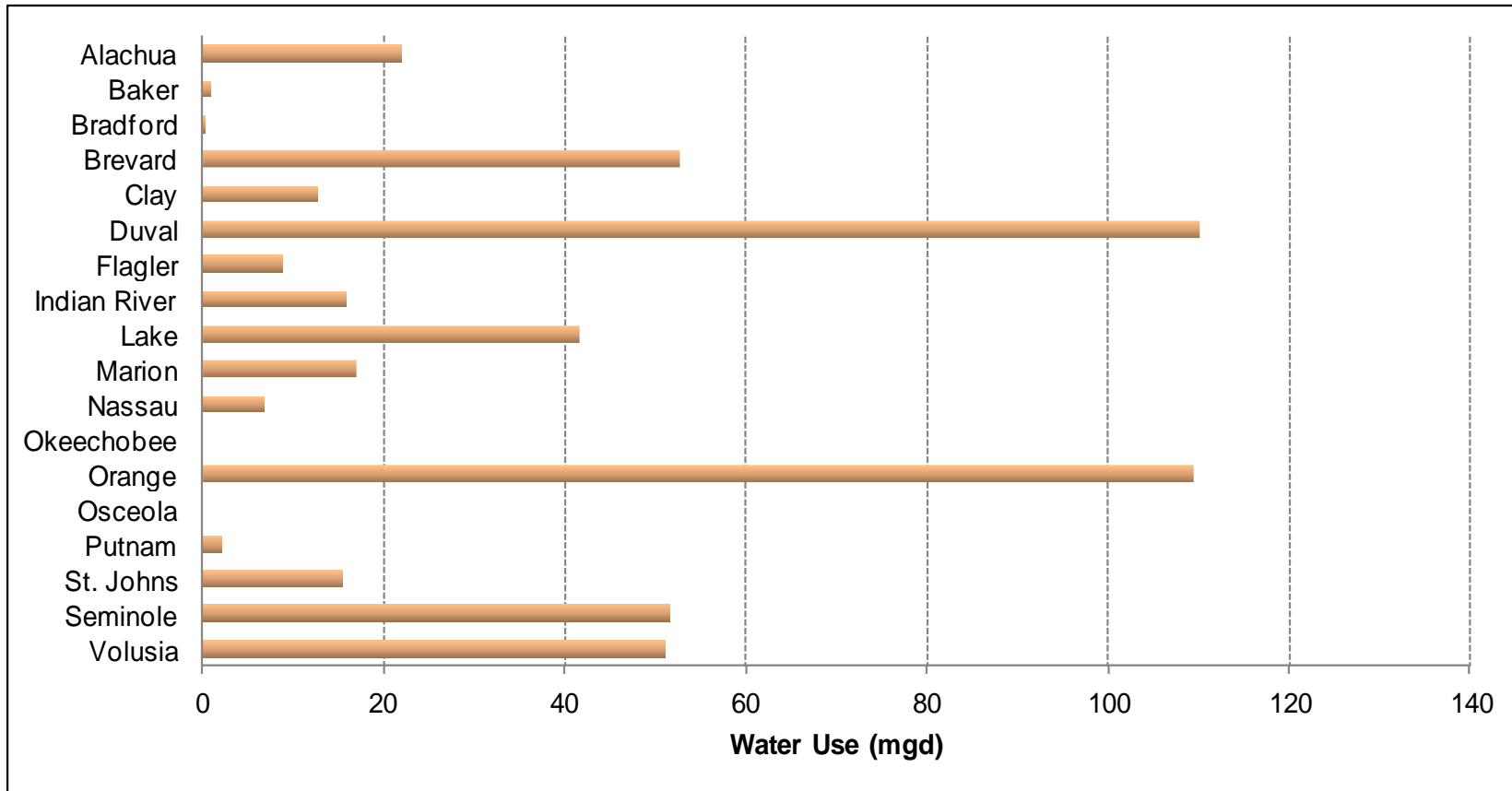


Figure 3. Freshwater use (mgd) for public supply in SJRWMD, 2014

Note: Water use is in million gallons per day (mgd).
Estimated amounts are based on best available data as of June 24, 2015.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

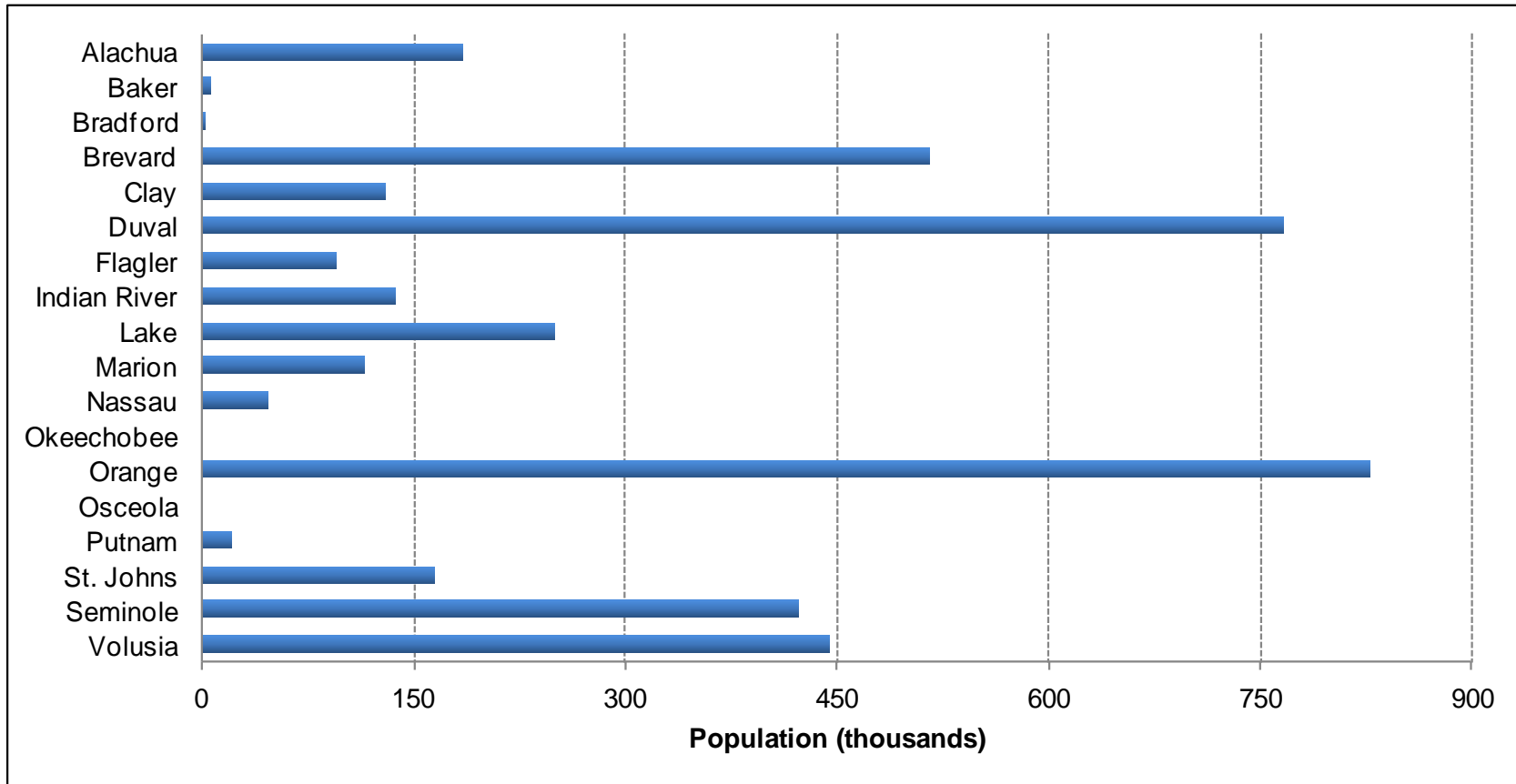


Figure 4. Population served by public supply in SJRWMD, 2014

Note: Estimated amounts are based on best available data as of June 24, 2015.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

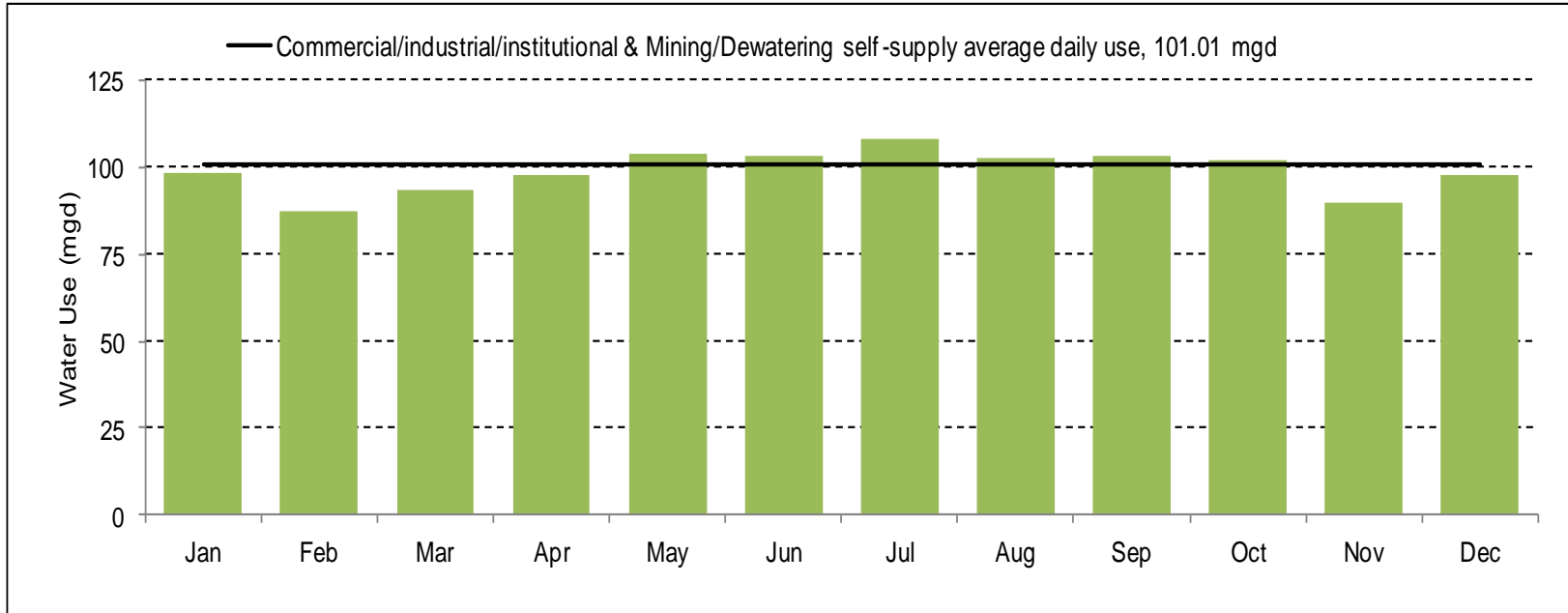


Figure 5. Average daily commercial/industrial/institutional and mining/dewatering self-supply freshwater use (mgd) by month, 2014

Note: Water use is in million gallons per day (mgd).
Estimated amounts are based on best available data as of June 24, 2015.

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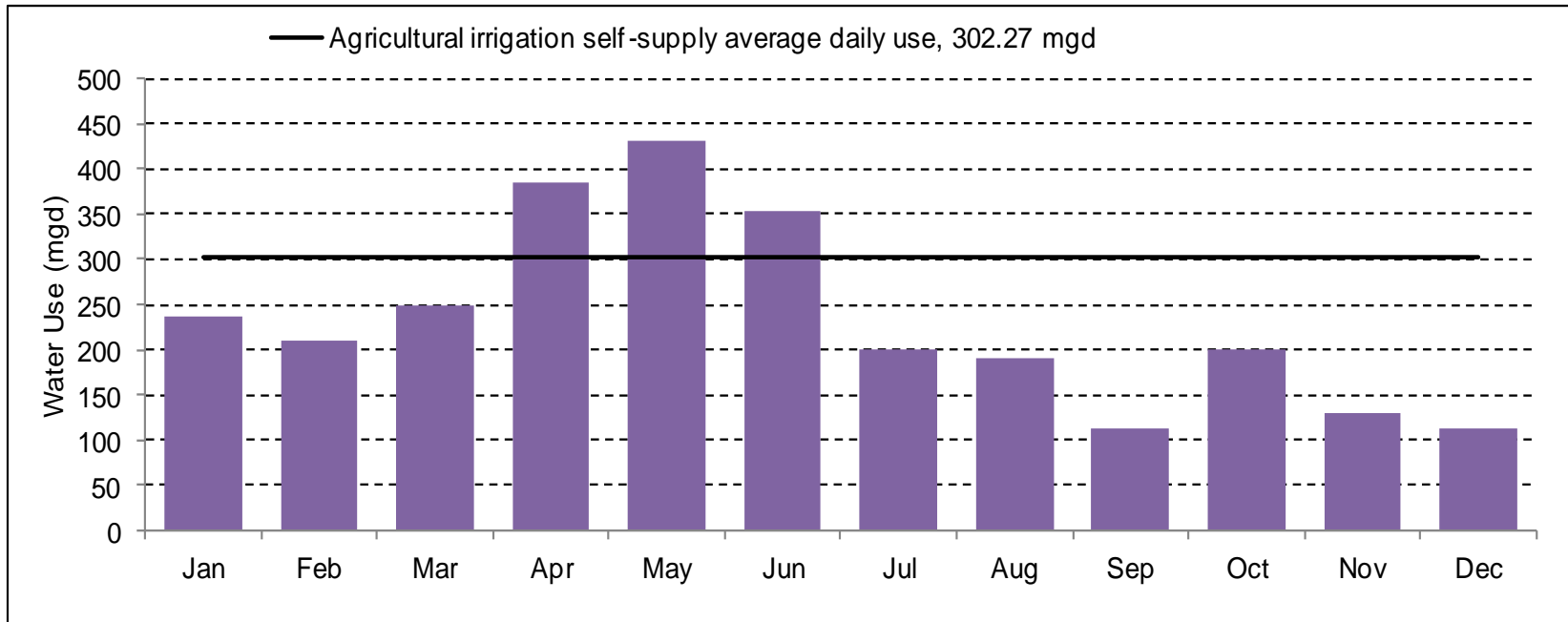


Figure 6. Average daily agricultural irrigation self-supply freshwater use (mgd) by month, 2014

Note: Water use is in million gallons per day (mgd).
Estimated amounts are based on best available data as of June 24, 2015.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

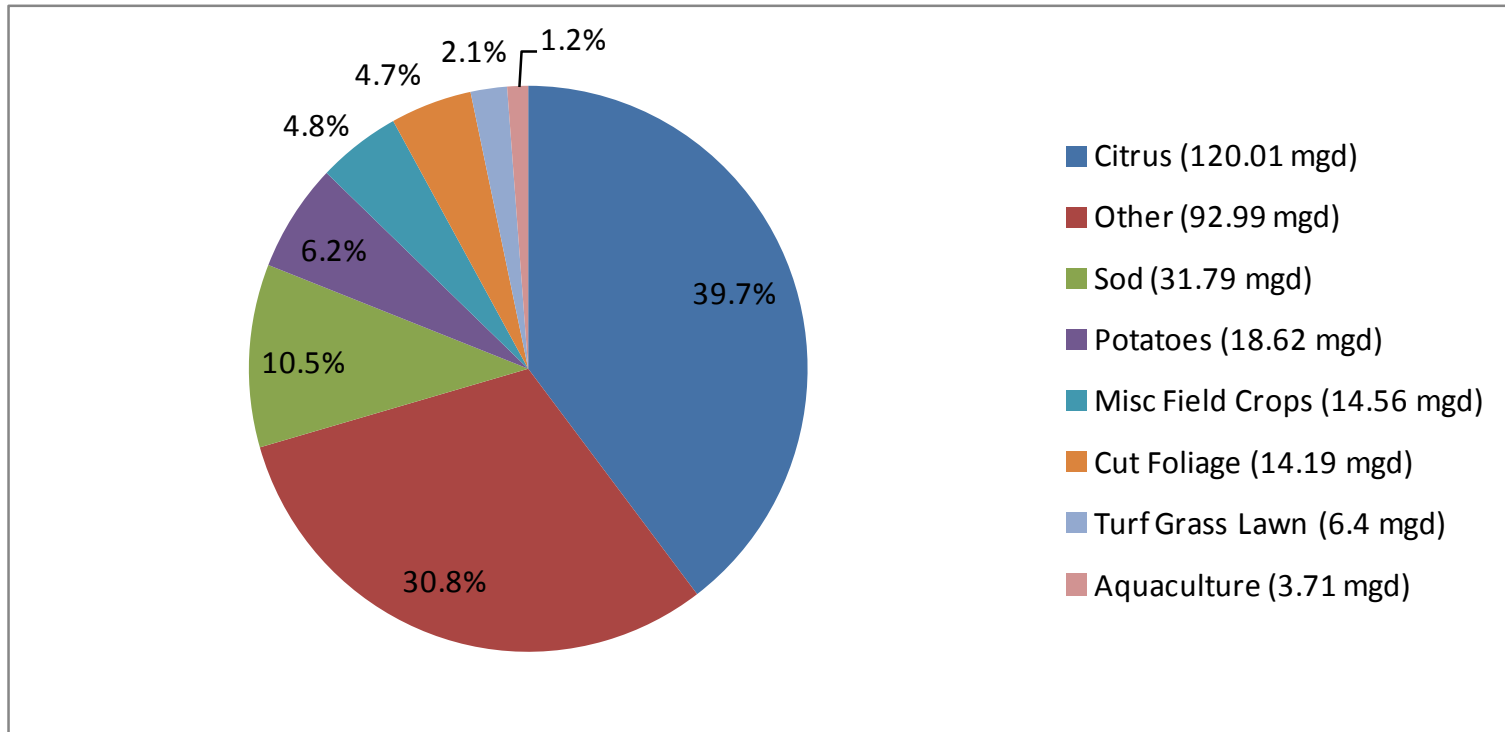


Figure 7. Agricultural irrigation by crop, 2014

Note: Water use is in million gallons per day (mgd).

Estimated amounts are based on best available data as of June 24, 2015.

Calculation anomalies due to rounding account for nominal discrepancies.

Other crops include corn, blueberries, cabbage, peanuts, carrots, tomatoes, ornamentals and miscellaneous vegetables, fruits and nuts.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

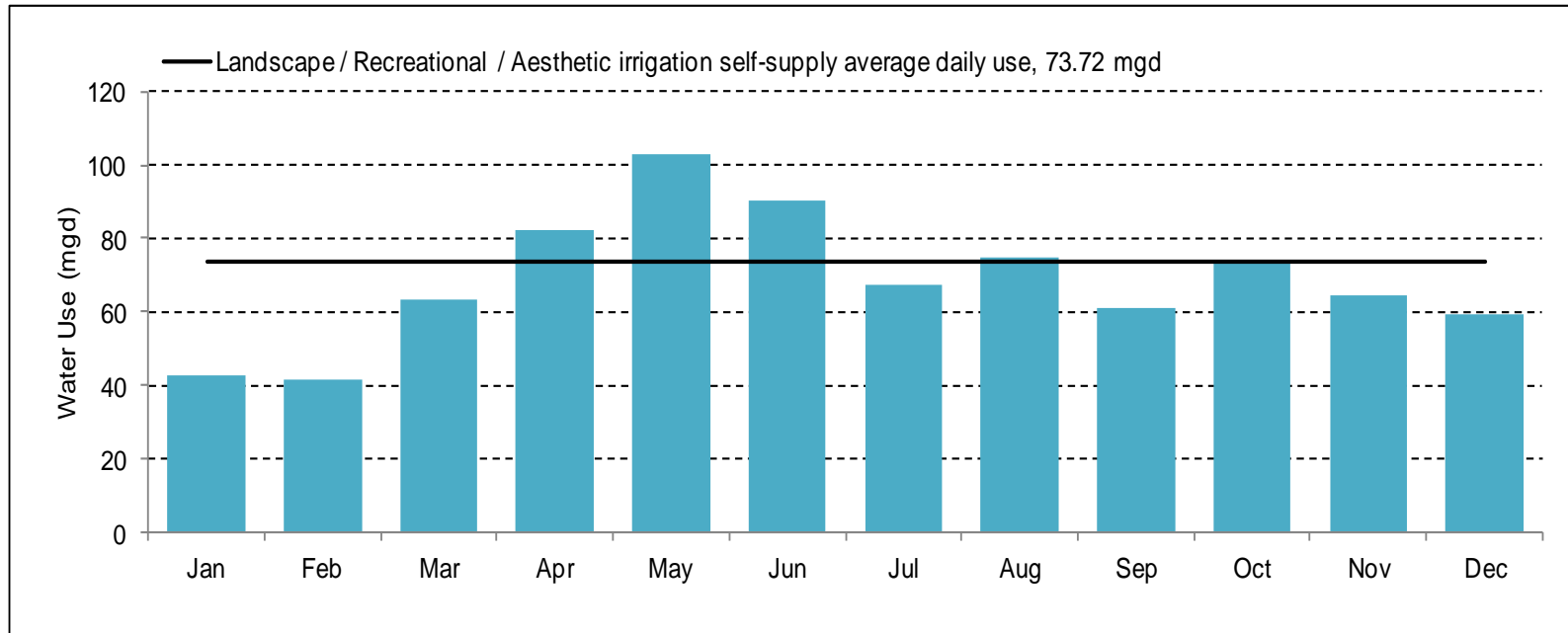


Figure 8. Average daily landscape/recreational/aesthetic irrigation self-supply freshwater use by month, 2014

Note: Water use is in million gallons per day (mgd).
Estimated amounts are based on best available data as of June 24, 2015.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

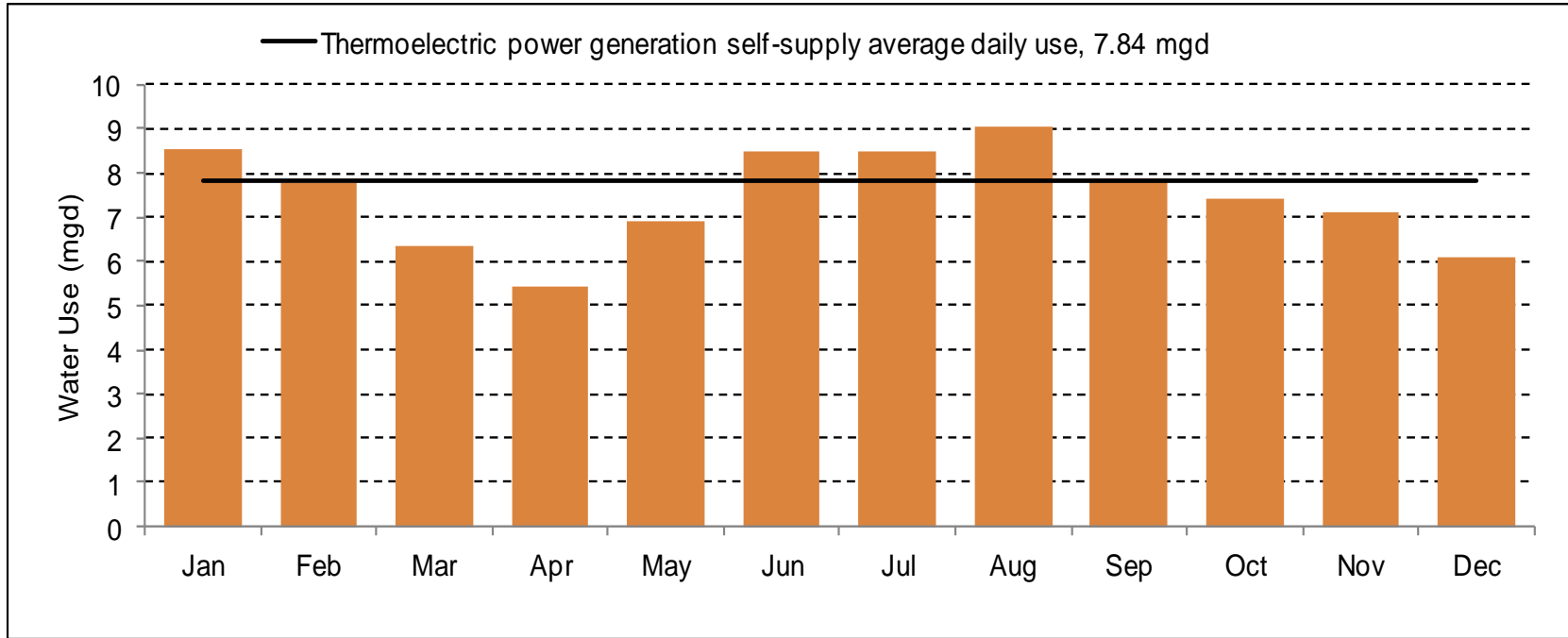


Figure 9. Average daily thermoelectric power generation self-supply freshwater use by month, 2014

Note: Water use is in million gallons per day (mgd).

Estimated amounts of consumptive freshwater use are based on best available data as of June 24, 2015.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

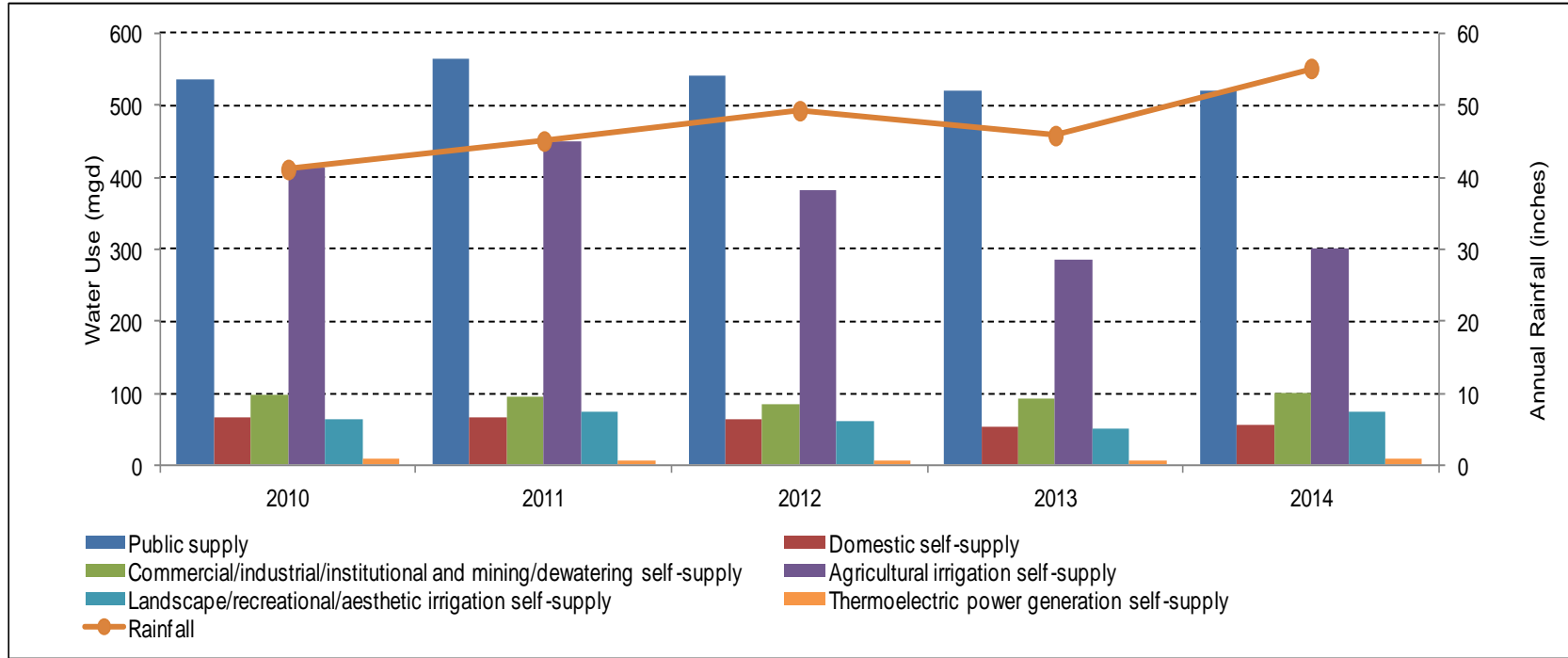


Figure 10. Annual rainfall and freshwater use by category, 2010–2014

Note: Water use is in million gallons per day (mgd); rainfall is measured in inches.

Estimated amounts are based on best available data as of June 24, 2015.

Source of domestic self-supply is assumed to be groundwater, and domestic self-supply is an estimate.

2014 Survey of Estimated Annual Water Use for St. Johns River Water Management District

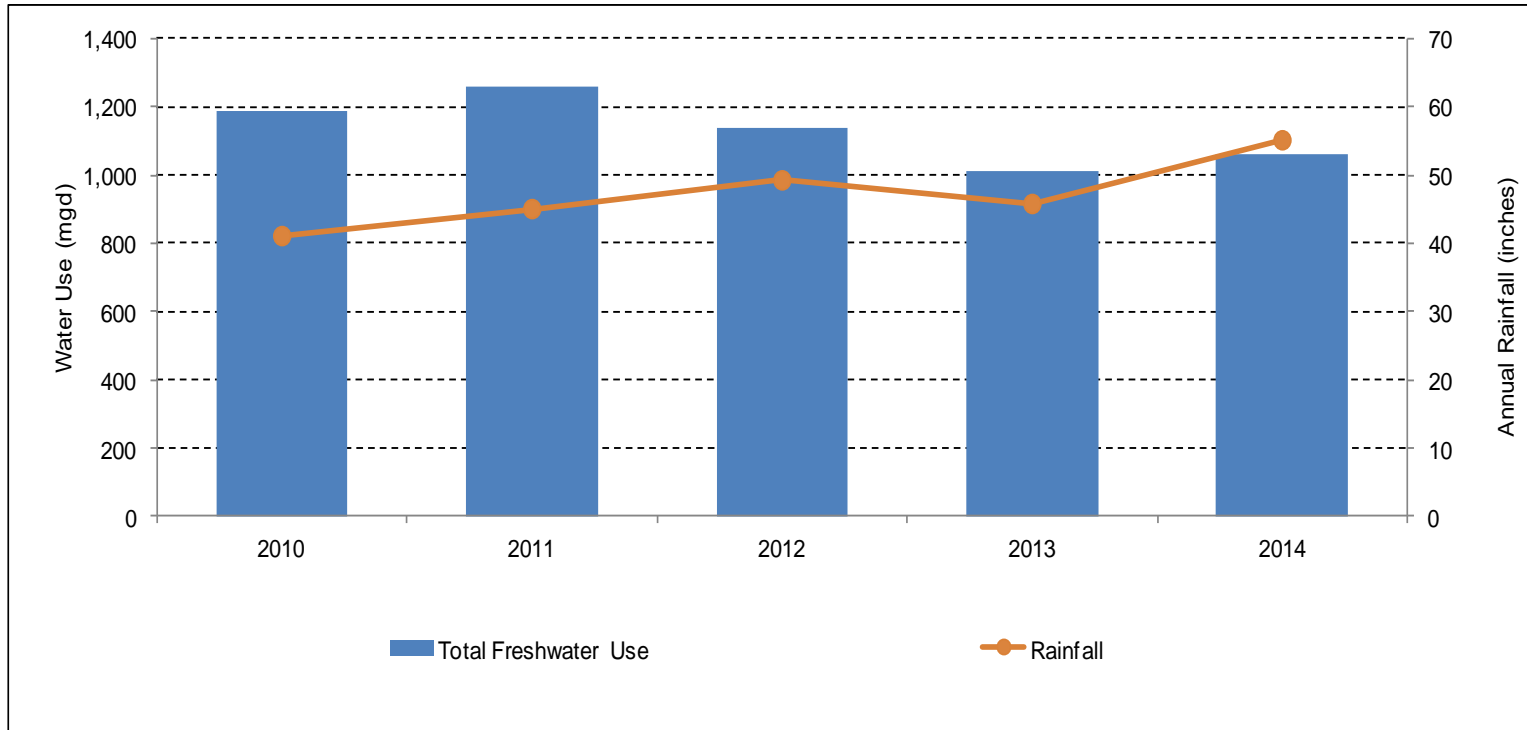


Figure 11. Annual rainfall and total freshwater use, 2010–2014

Note: Water use is in million gallons per day (mgd); rainfall is measured in inches.

Estimated amounts are based on best available data as of June 24, 2015.

Source of domestic self-supply is assumed to be groundwater, and domestic self-supply is an estimate.