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# South Carolina Water Use Report 2021 Summary

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## Definitions

**Aquifer** – A geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs. An alternate definition includes saturated material capable of providing economically viable amounts of water to wells or springs.

**Aquaculture water use (water use category)** – Water used for raising, farming and/or harvesting of organisms that live in water, such as fish, shrimp and other shellfish and vegetal matter (seaweed).

**Consumptive water use** – The amount of water withdrawn that is evaporated, transpired, incorporated into products or crops, consumed by humans or livestock, or otherwise removed from the immediate water environment.

**Effluent (wastewater)** – Water conveyed out of a wastewater treatment facility or other works used for the purpose of treating, stabilizing, or holding wastewater. Effluent is often highly treated and is an excellent option for reuse of wastewater for irrigation.

**Fall Line** – The geologic and physiographic surface boundary separating the sedimentary deposits of the Coastal Plain from the metamorphic and igneous rocks of the Piedmont.

**Farm** – Any operation from which \$1000.00 or more of agricultural products were sold or normally would be sold during the year.

**Golf course irrigation (water use category)** – Water applied to maintain golf course turf, including tee boxes, fairways, putting greens, associated practice areas and periphery aesthetic landscaping.

**Groundwater** – Generally, all subsurface water as distinct from surface water; specifically, that part of the subsurface water in the saturated zone.

**Hydroelectric water use (water use category)** – Water used in generating electricity where turbine generators are driven by falling water.

**Industrial water use (water use category)** – Water used for commercial and industrial purposes, including fabrication, processing, washing, in-plant conveyance and cooling.

**Irrigated acreage** – Acreage capable of being irrigated, with regard to availability of water, suitable soils and topography of land.

**Irrigation water use (water use category)** – Water that is used for agricultural and landscaping purposes including turf farming and livestock management.

**Mining water use (water use category)** – Water that is used for in conjunction with surface or subsurface mining of minerals or natural materials

**Other use (water use category)** – Any use of surface water or groundwater not specifically identified in any of the other categories.

**Reclaimed water** – Wastewater treatment plant effluent that has been diverted, intercepted, or otherwise conveyed for use before it reaches a natural waterway or aquifer.

**Surface water** – Water flowing or stored on the earth's surface such as a stream, lake, or reservoir.

**Thermoelectric water use (water use category)** – Water used in generating electricity from fossil fuel (coal, oil, natural gas), geothermal, biomass, solid waste, or nuclear energy.

**Water supply (water use category)** – Water withdrawn by public and private water suppliers and conveyed to users or groups of users. Water suppliers provide water for a variety of uses including domestic, commercial, industrial and public water use.

**Water usage rates** – As utilized in this report, measurements to quantitatively represent volumetric withdrawals per unit of time; as in gallons per minute (gpm), gallons per day (gpd) and gallons per year (gpy). Unless otherwise stated, figures in this report are presented in millions of gallons per year.

**Water use** – Generally, water that is used for a specific purpose (i.e., domestic use, industrial, etc.). Broadly, human interaction with and influence on the hydrologic cycle, and includes water withdrawal, distribution, consumptive use, wastewater collection and return flow.

**Withdrawal** – The removal of surface water or groundwater from its current setting in the natural hydrologic system for use, including, but not limited to, water supply, industrial use, commercial use, domestic use, irrigation, livestock, power generation

## Foreword

The South Carolina Department of Health and Environmental Control (DHEC) is tasked with the management of South Carolina's water resources under the South Carolina Surface Water Withdrawal and Reporting Act, §49-4-10, et. seq., and the South Carolina Groundwater Use and Reporting Act, §49-5-10 et. seq. These regulations require water users that withdraw three (3) million gallons or greater in any month to register with and report their use annually to the Water Quantity Permitting Section at DHEC.

The water use data is compiled in a database and evaluated to determine how water is utilized state-wide. This data is shared between local, state, and federal regulatory and scientific agencies to share knowledge and understanding of the resource and the current state of demand. This database is utilized within the Department for critical water management decisions and even water use conflict resolutions. Statistics presented in this report represent self-reported data from registered and permitted users within the Water Quantity Permitting Section.

Water use from private domestic wells, small surface water irrigation pond intakes, facilities that do not meet the reporting threshold, or data from facilities failing to report their annual water use are not included in this annual summary. For the year 2021, compliance of reporting sources was greater than 99%.

If you have questions about this or previous Annual Water Use Reports, or would like to obtain further information about reported water withdrawals in South Carolina, please contact:

### **Water Quantity Permitting Section**

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**2600 Bull Street**

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**[www.dhec.sc.gov/Environment/WaterQuality/GroundUseReporting/](http://www.dhec.sc.gov/Environment/WaterQuality/GroundUseReporting/)**

**[www.dhec.sc.gov/Environment/WaterQuality/SurfaceWaterWithdrawals/](http://www.dhec.sc.gov/Environment/WaterQuality/SurfaceWaterWithdrawals/)**

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## Introduction

South Carolina is fortunate to have an abundant and available fresh water supply, through surface water sources and groundwater aquifers. Growth and development in the state has led to increasing demand on water supplies. As of January 1, 2001, anyone withdrawing groundwater or surface water in excess of three (3) million gallons per month (in any month) must register and report that use annually to DHEC's Water Quantity Permitting Section (Department). Registration and reporting are requirements of the Groundwater Use and Reporting Act [49-5-10], R. 61-113, Groundwater Use and Reporting, the South Carolina Surface Water Withdrawal, Permitting, Use and Reporting Act [49-4-10], and R.61-119, Surface Water Withdrawal, Permitting, and Reporting and the Department has authority to take enforcement action against those not reporting.

## Purpose and Methodology

The purpose of the annual South Carolina Water Use Report is to summarize and present reported water use in South Carolina, broken down by county and use category, during calendar year 2021. The Department maintains and continually updates the water use and facility databases utilized in this report. Water use data are reported annually by registered and permitted users as required and mandated by state law. All water use volumes are reported in millions of gallons unless stated otherwise.

## South Carolina Climate

The climate in South Carolina is affected by many factors, notably its location in the midlatitudes and its proximity to the Appalachian Mountains and the Atlantic Ocean. During the summer, ocean current-driven air masses such as the Bermuda High routinely push tropical air from the Gulf of Florida upland from the coast (South Carolina Department of Natural Resources, 2018). These warm, moist currents collide with cooler, drier air masses to generate rainfall, and at times, severe thunderstorms (South Carolina Department of Natural Resources, 2018). In contrast, the Appalachian region in the northwest portion of the state experiences cooler temperatures, owing in part to upward lifting of air masses and subsequent cooling effect provided by the increase in altitude (South Carolina Department of Natural Resources, 2018). Altitude change also causes the additional phenomenon of down-slope heating as air masses from the mountains settle and compress over the eastern Blue Ridge and Piedmont region (South Carolina Department of Natural Resources, 2018). During the winter months, the highlands of the Blue Ridge escarpment deflect northerly cold air to the southwest, often lessening the impact of major cold fronts and winter storms (South Carolina Department of Natural Resources, 2018). The vast majority of the state is classified as humid subtropical except in the Blue Ridge physiographic province, where it is humid continental (South Carolina Department of Natural Resources, 2018).

Average temperature varies from the mid-50s °F in the mountains to low-60s °F along the coast. The average annual precipitation is approximately 48 inches, with an annual total in the mountains of 70 to 80 inches, an annual total in the Midlands of 42 to 47 inches and an annual total along the coast of 50 to 52 inches. According to the South Carolina State Climatology Office, no month in South Carolina averages less than two inches of precipitation, regardless of location within the state (South Carolina Department of Natural Resources, 2018). Measurable snowfall is rare, occurring one to three times a year with accumulations seldom remaining more than a day or two. In 2021 the average statewide temperature was 64.7°F. The average monthly rainfall for 2021 was 4.58 inches, with cumulative rainfall of 55 inches (NOAA National Centers for Environmental Information, 2021) (Southeast Regional Climate Center, 2021).

## Geography and Physiography

South Carolina has unique geography and widely diverse ecology, covering nearly 31,189 square miles, with 1,078 square miles of inland and coastal waterways and 135 miles of coastline. The ecological diversity is due to climatic conditions and geology, dividing the state into three major physiographic regions: the Blue Ridge, the Piedmont, and the Coastal Plain (Figure 1). These regions exhibit variations in topography, geology, hydrology, and vegetation that directly affect the quantity, quality, and availability of water resources in South Carolina.

### Blue Ridge

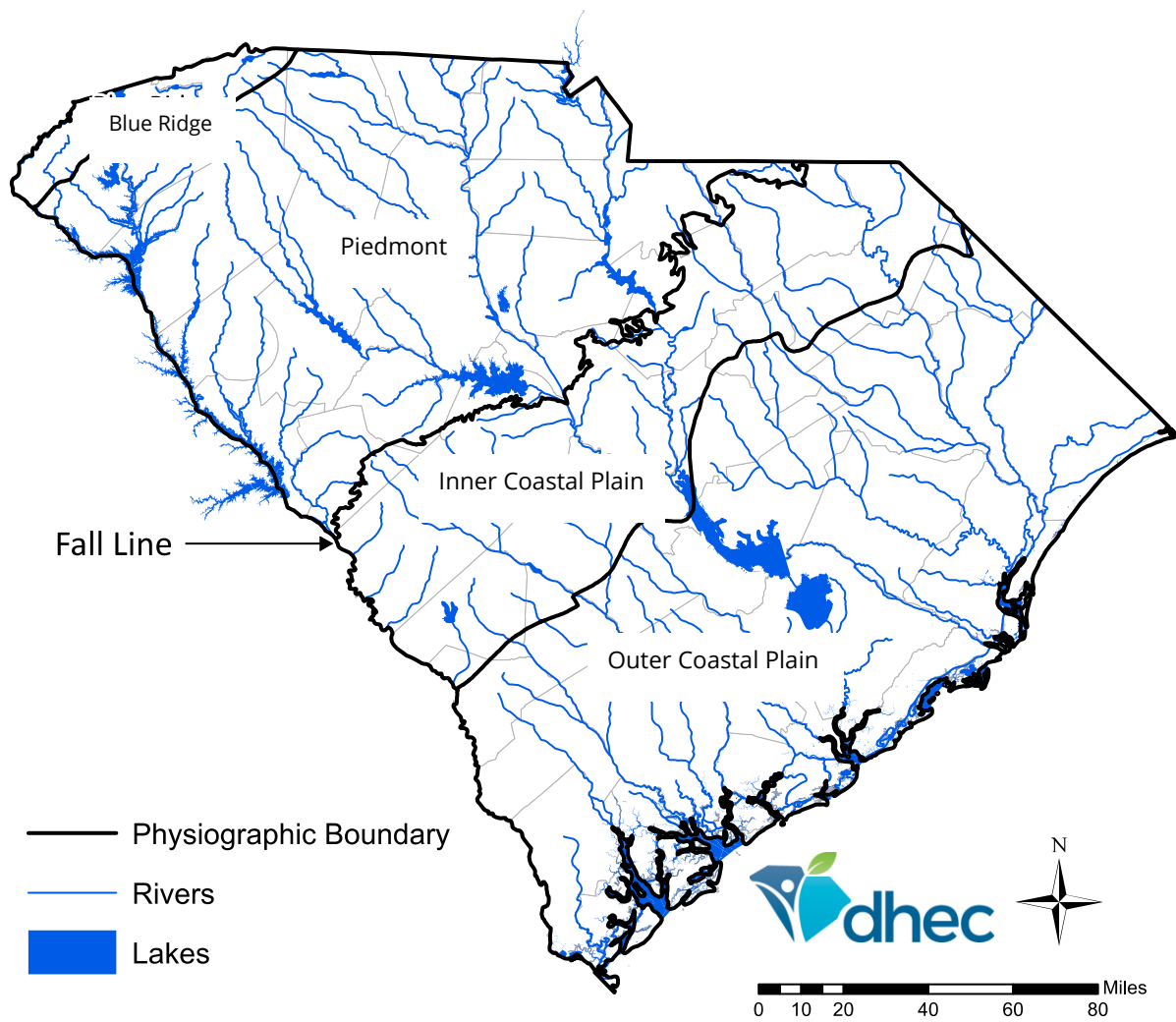
The Blue Ridge physiographic province is in the very northwest portion of Oconee and Pickens counties (Figure 1). It is distinguished from other areas of South Carolina by elevations between 1,000 and 3,300 feet above sea level and greater surface relief. Dissected mountains, rugged hills, and thick forests characterize the land surface. The surface water in the Blue Ridge takes the form of high gradient creeks and streams with man-made lakes, while groundwater occurs in the fractures of the bedrock and a thin veneer of soil and saprolite overlying the bedrock. The water quality of streams and groundwater is generally excellent in the Blue Ridge owing to the constant replenishment from abundant local rainfall.

### Piedmont

The Piedmont physiographic province includes all counties, or portions of counties, northwest of and up to the Fall Line, exclusive of those counties within the Blue Ridge province (Figure 1). Although like the Blue Ridge, the region demonstrates lower topographic relief, and therefore lower gradient streams, and elevations range from between 450 to 1000 feet above sea level. Counties in the Piedmont and Blue Ridge physiographic provinces depend primarily on the abundant regional rainfall that recharges lakes, reservoirs, and major river systems. These surface water bodies constitute the primary source of water for public supply, industry, agriculture, and power production in the Piedmont region. Similar to the Blue Ridge, groundwater occurs in the fractures of the bedrock and overlying soil and saprolite, and is also of good quality, except in smaller areas of contamination.

### Coastal Plain

The Coastal Plain physiographic province includes all counties, or portions of counties, extending from the Fall Line east to the Atlantic Ocean (Figure 1). Elevations of the exposed Coastal Plain range between 0 and 450 feet above sea level. Once below the Fall Line, rivers and streams assume a different character than those found in the Piedmont. Coastal Plain streams have a slower pace with quiet meandering river channels, typically with adjacent wetlands. Regional geology of the Coastal Plain is characterized by aquifers developed in layers of sands, silts, or high-permeability limestone confined by units of clay and silts or low-permeability limestone. The vast majority of South Carolina's water resources are contained as groundwater in the Coastal Plain, and in general, reliance on groundwater for irrigation, industrial uses, and public water supply increases east of the Fall Line. A generalized cross-section for the Coastal Plain aquifers is presented in Figure 2, and a brief outline of the major aquifers in South Carolina follows.



*Figure 1: Hydrogeologic and Physiographic Setting for Water Use in South Carolina*

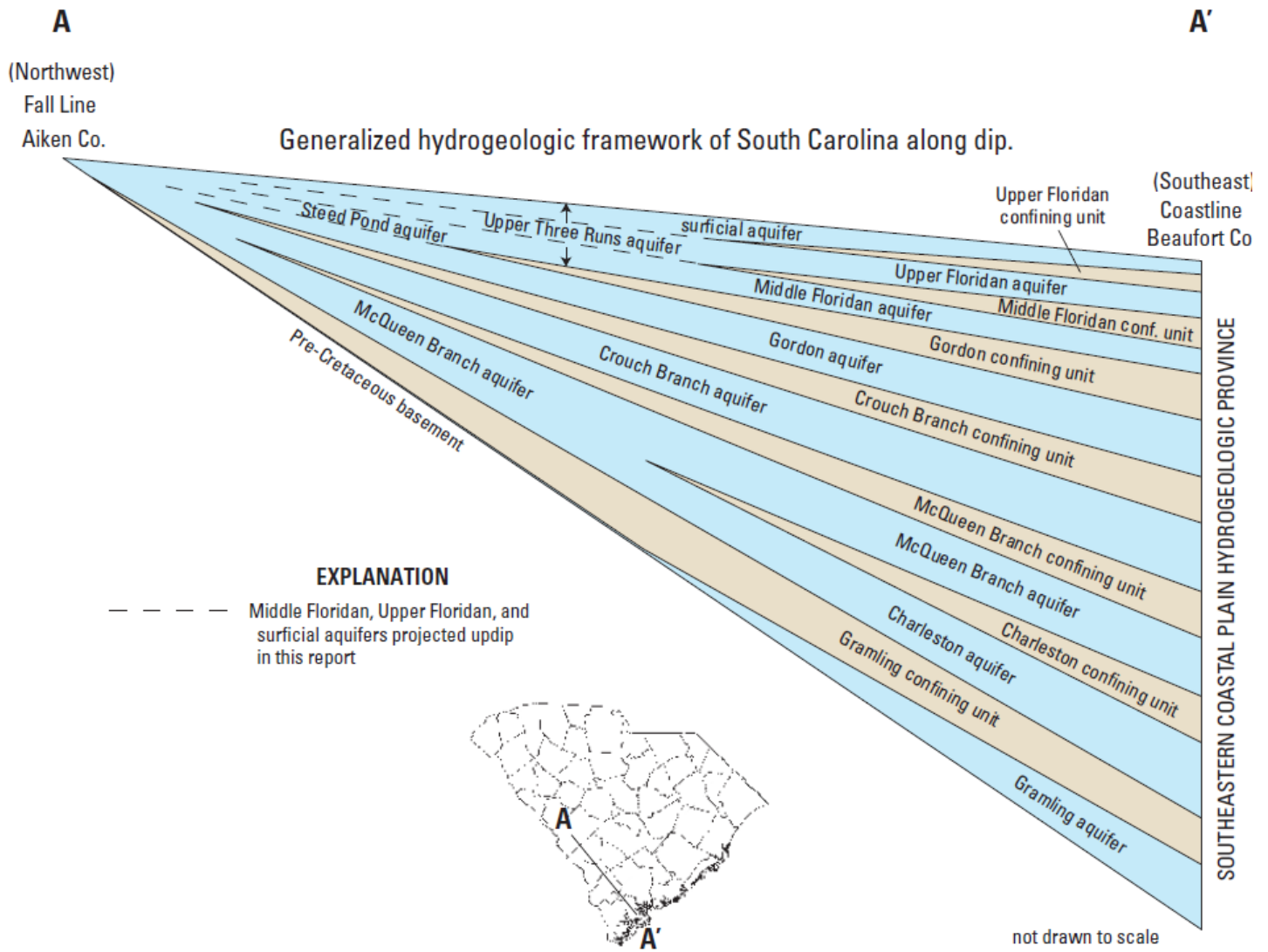


Figure 2: Generalized Hydrogeologic Cross-Section from the Fall Line through the Lower Coastal Plain in South Carolina (Gellici & Lautier, 2010)



# Groundwater Resources

Groundwater resources are found throughout the subsurface of South Carolina in varying quantities, qualities, and depths that reflect the nature of the geologic materials that host the respective aquifers. The following is a brief description of the State's major groundwater resources.

## Crystalline Rock Aquifer System of the Blue Ridge and Piedmont

Geology of the Blue Ridge is typically characterized by clayey saprolite, ranging in depth from several feet to tens of feet, overlying metamorphic crystalline rock. The saprolite grades downward through a highly permeable transition zone to unaltered parent bedrock. Groundwater conditions of the bedrock are dependent on the number of fractures and degree of interconnection of the fracture systems. Groundwater moves slowly through the saprolite and discharges to surface water bodies, wells, or is released from storage to the underlying bedrock through fractures (Gellici & Lautier, 2010). Geology of the Piedmont is similar to that of the Blue Ridge, but the diminished relief allows for greater thickness of saprolite development. In general, wells in the Blue Ridge and Piedmont regions yield little water when compared to wells drilled in the Coastal Plain owing to the inherently low porosity and permeability of the crystalline rock present in the upstate (Gellici & Lautier, 2010).

## Surficial Aquifer System

Shallow sands that comprise the Surficial aquifer are among the youngest of the Coastal Plain sediments and are found exclusively in the Lower Coastal Plain (Gellici & Lautier, 2010). This system is capable of producing water in modest amounts for irrigation and private drinking water supply, but is susceptible to contamination due to its shallow, unconfined nature (Gellici & Lautier, 2010). The Surficial sands are highly influenced by local precipitation and river stage and are prone to dramatic water level declines during times of drought. Transmissivity in the aquifer can vary regionally, within one area ranging from 80 to 1,200 ft<sup>2</sup>/day and in another ranging from 190 to 270 ft<sup>2</sup>/day (Gellici & Lautier, 2010).

## Upper and Middle Floridan Aquifer

The Floridan Aquifer varies between having two distinct aquifers separated by confining units in the more eastern sections of the extent (the Middle and Upper Floridan), to behaving more like one interconnected aquifer that pinches out towards the Fall Line. In the southern half of the Coastal Plain, Tertiary aquifers consisting of sand grade southeastward into an ever-thickening wedge of limestone (Gellici & Lautier, 2010). Development of this aquifer system is common in the Charleston, Dorchester, and Berkeley County area (Gellici & Lautier, 2010). Southwest of the Combahee and Salkehatchie Rivers, upper sections of the limestone become increasingly permeable owing to abundant voids created from dissolved marine fossils and are capable of storing and supplying tremendous amounts of water (Gellici & Lautier, 2010). The upper, highly permeable zone is the most developed, supplying the majority of residential wells in Beaufort and Jasper Counties, and is a source of water for public supply, irrigation, and industry in the Lowcountry (Gellici & Lautier, 2010). This southern section of the Tertiary Limestone correlates regionally with the Upper Floridan Aquifer that extends from southern South Carolina to the southern keys of Florida.

## Gordon Aquifer

The Gordon Aquifer extends only from the southwestern region of the Coastal Plain below the Fall Line to the northwestern counties below the Fall Line in Georgia due to the Cape Fear Arch (Gellici & Lautier, 2010). In the up dip regions, the Gordon Aquifer is composed of unconsolidated sand and clayey sand with some gravel (Gellici & Lautier, 2010). As the unit goes downdip, the quartz sand grades into a more packstone and grainstone unit (Gellici & Lautier, 2010). The aquifer has a maximum thickness of just over 300 feet in Beaufort County. The average transmissivity is about 2,000 ft<sup>2</sup>/day in

Beaufort County and in Barnwell County is around 4,900 ft<sup>2</sup>/day (Gellici & Lautier, 2010). The yield is much better in the thicker parts of the unit, but it is still not as productive as some of the underlying units.

### **Crouch Branch Aquifer**

The Crouch Branch Aquifer covers most of SC in the Coastal Plain but thins to almost absent in the northeastern Pee Dee region. In the more southern regions, it is fine grained, but the more eastern parts become sandy clay and calcareous clay (Gellici & Lautier, 2010). It is 500 feet at its maximum thickness in Berkeley and Williamsburg Counties but is relatively impermeable in this area. The Crouch Branch is utilized heavily in some areas due to its productivity in the west-central and up dip parts of the Coastal Plain, where there are more medium to coarse-grained sediments. Its transmissivity is about 11,000 ft<sup>2</sup>/day in western Orangeburg County and in parts of Barnwell County, and as low as 2,400 ft<sup>2</sup>/day in the Pee Dee region (Gellici & Lautier, 2010).

### **McQueen Branch Aquifer**

The McQueen Branch Aquifer is present over most of the Coastal Plain, but is fine-grained in Beaufort, Colleton, and Jasper Counties, and therefore is not as productive as in other regions. It reaches a maximum thickness of 350 feet in Barnwell County. The Aquifer is generally described as poorly sorted, comprised of fine- to coarse-grained sand and clayey sand, with interstitial clay in the up dip regions (Gellici & Lautier, 2010). The McQueen Branch is one of the most productive, and therefore one of the most utilized, in the region. In Orangeburg County, transmissivity was measured to be 27,000 ft<sup>2</sup>/day, and in Aiken County, close to the Savannah River Site (SRS), transmissivity ranges from 14,000 ft<sup>2</sup>/day to 50,000 ft<sup>2</sup>/day (Gellici & Lautier, 2010).

### **Charleston Aquifer**

The Charleston Aquifer is not represented throughout the entire Coastal Plain. It overlies the Gramling Aquifer but thins out towards the central part of the state and comes together with the McQueen Branch Aquifer, then disappears. The Charleston is at its maximum thickness of around 300 feet in Jasper County. It is composed mainly of unconsolidated sand, clayey sand, and clay (Gellici & Lautier, 2010). The transmissivity values are calculated to be between 3,100 ft<sup>2</sup>/day and 4,100 ft<sup>2</sup>/day in Berkeley County and 1,500 ft<sup>2</sup>/day and 2,400 ft<sup>2</sup>/day in Charleston County (Gellici & Lautier, 2010). The Charleston Aquifer is not utilized much along the coast due to the fine-grained nature but is developed more in Berkeley County.

### **Gramling Aquifer**

The Gramling Aquifer exists primarily in the southern part of the Outer Coastal Plain and overlies the crystalline basement rocks. The maximum thickness was measured in Beaufort County at 1,000 feet. The Gramling Aquifer is mostly comprised of unconsolidated to semi-consolidated, interbedded, and laminated sand, clayey sand, silt, and clay (Gellici & Lautier, 2010). Silica-cemented beds present in the aquifer lead to lower permeability, and therefore, it is not very productive. It is only used on Hilton Head and Fripp Islands (Gellici & Lautier, 2010). The measured transmissivity is only 200 ft<sup>2</sup>/day at Fripp Island, but up to 1,200 ft<sup>2</sup>/day on Hilton Head Island (Gellici & Lautier, 2010).

## Surface Water Resources

South Carolina's surface water resources are divided into eight (8) major river basins (Figure 3). The waters that make up these basins are crucial to public water supply, agricultural irrigation, industry, and power generation.

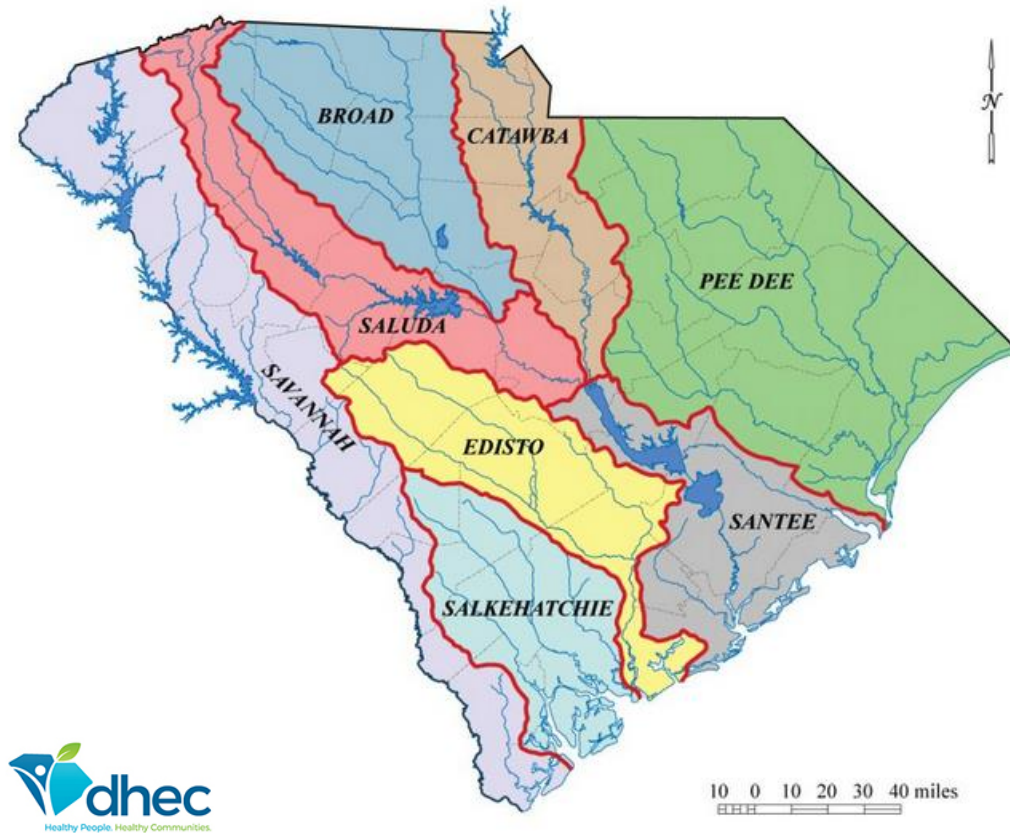


Figure 3: Eight Major River Basins in South Carolina

## **Broad River Basin**

The Broad River Basin originates in the southern part North Carolina and is one of South Carolina's largest river basins at 3,989.6 square miles of the state. The majority of Cherokee, Union, Spartanburg, and Greenville Counties are drained by the Broad. Portions of Chester, Fairfield, Richland, and York Counties are also part of the basin. The Enoree, Pacolet, and Tyger Rivers are the major tributaries that drain into and define the Broad Basin. The Broad River joins the Saluda River at the end of the basin to form the Congaree River, which flows into the Saluda and Santee Basins.

## **Catawba River Basin**

The Catawba River Basin, or Catawba-Wateree Basin, originates in North Carolina and enters South Carolina in York County. It is the smallest basin in the state, only encompassing 2,324 square miles. It drains York, Lancaster, Fairfield, Chester, Kershaw, and parts of Richland and Sumter Counties. The Catawba Basin hosts Lake Wylie, Fishing Creek Reservoir, Lake Wateree, the Catawba and Wateree Rivers, and other associated tributaries (such as Rocky Creek, Fishing Creek, and Beaver Creek). The Catawba River basin terminates at the confluence of the Congaree River, which flows southeasterly into the Santee River Basin.

## **Edisto River Basin**

The Edisto River Basin is one of the three basins in South Carolina that fully originates in the state. It is 3,151 square miles, which encompasses nearly all of Orangeburg County and portions of Aiken, Berkeley, Calhoun, Dorchester, and Lexington Counties. The basin drains the central Coastal Plain and contains the North and South Forks of the Edisto River (main tributaries) that join to form the Edisto River. The basin ends in Charleston County and pours into the Atlantic Ocean in an estuarine environment. This basin has many important wetland regions and ecological diversity, with no dam structures to hinder flow through these areas.

## **Pee Dee River Basin**

The Pee Dee River Basin originates in North Carolina and is the largest of South Carolina's watersheds at 7,847.7 square miles. It drains all or portions of Chesterfield, Darlington, Dillon, Georgetown, Horry, Kershaw, Lancaster, Lee, Marion, Marlboro, and Williamsburg Counties. The Pee Dee River Basin includes the Pee Dee, Lynches, Waccamaw, and Sampit Rivers and their watersheds. The basin ends in Georgetown County just below the Grand Strand region, becoming the Waccamaw River after joining with the Pee Dee River in the Waccamaw National Wildlife Refuge.

## **Salkehatchie River Basin**

The Salkehatchie River Basin is the second of three basins located entirely in South Carolina and is completely in the Coastal Plain. It is the second smallest basin in the state, at only 2,788 square miles. The basin drains portions of Bamberg, Barnwell, Beaufort, Colleton, Hampton, and Jasper Counties. The Coosawhatchie, Salkehatchie, and Little Salkehatchie Rivers drain the basin to form tide-dominated channels at the coast.

## **Saluda River Basin**

The Saluda River Basin originates in the Blue Ridge province and drains the central portion of the Piedmont region of South Carolina. The Saluda River Basin covers 3,212 square miles and includes most of Greenville and Pickens Counties, and portions of Abbeville, Greenwood, Laurens, Lexington, Richland, and Saluda Counties. There are several major tributaries that make up the Saluda Basin, including the Saluda, Reedy, and Little Rivers. The Saluda River joins with the Broad River in Richland

County to form the Congaree River, which then combines with the Catawba River further southeast to form the Santee River and Santee River Basin.

### **Santee River Basin**

The Santee River Basin originates at the base of the Saluda and Catawba River Basins and encompasses 3,006 square miles. It includes the two largest reservoirs in the state: Lake Marion and Lake Moultrie, both of which were originally built to generate power for the state. The two reservoirs are connected via a 6.5 mile long Diversion Canal for power production and navigation. The Santee River Basin drains Berkeley, Calhoun, Charleston, Clarendon, Dorchester, and small parts of Georgetown and Sumter Counties via the Cooper, Santee, and Ashley Rivers.

### **Savannah River Basin**

The Savannah River Basin is mostly shared with Georgia and is one of the most regulated in the state due to the dams for reservoir storage and power production. These reservoirs include Lake Keowee, Lake Hartwell, Richard B. Russell Lake, and Strom Thurmond Lake. The basin on the South Carolina side is 4,958 square miles, and covers portions of Abbeville, Aiken, Allendale, Anderson, Edgefield, Greenwood, Hampton, McCormick, Oconee, and Pickens Counties. Some of the tributaries that drain into the Savannah Basin are the Chattooga, Seneca, Little River, Stevens Creek, Rocky, and Tugaloo Rivers. The Savannah is a major basin for much of South Carolina and drains into the Atlantic by the city of Savannah, Georgia and by Jasper County, South Carolina.

## Surface and Groundwater Use Summary by Source, Category, and County in South Carolina, 2021

The following section outlines all reported water use for the State of South Carolina for the calendar year 2021. Water use is summarized by category (Appendix A). Where appropriate, the spatial distribution of water use is demonstrated on an accompanying map with a breakdown chart of groundwater and surface water use as a percentage of total use for the category.

### Reporting Water Withdrawers

For reporting year 2021, South Carolina had 1,209 water withdrawers who submitted water use from 3,722 sources (3,210 groundwater and 512 surface water).

*Table 1: Reporting Withdrawers and Type Use for Reporting Year 2021*

<b>Water Use Category</b>	<b>Facilities</b>	<b>Groundwater Sources</b>	<b>Surface Water Sources</b>
Aquaculture	5	6	5
Golf Course	160	245	95
Hydroelectric	36	-	40
Industrial	87	239	38
Irrigation	653	1,851	210
Mining	12	12	11
Other	1	2	-
Nuclear Power	4	13	9
Thermoelectric	14	12	16
Public Water Supply	237	830	88
<b>Total</b>	<b>1,209</b>	<b>3,210</b>	<b>512</b>

Table 2: Total Reported Water Use by Type and Source (in Millions of Gallons)

Water Use Category	Groundwater	Percentage	Surface Water	Percentage	Total	Percentage
Aquaculture	156.9	0.15%	370.1	0.00%	526.9	0.00%
Golf Course	2,707.7	2.63%	3,315.8	0.01%	6,023.6	0.03%
Hydroelectric	0	0.00%	20,898,346.9	91.02%	20,898,346.96	90.62%
Industrial	9,179.9	8.92%	140,508.9	0.61%	149,688.8	0.65%
Irrigation	42,342.4	41.13%	9,005.2	0.04%	51,347.6	0.22%
Mining	449.2	0.44%	1,093.6	0.00%	1,542.8	0.01%
Other	22.8	0.02%	0	0.00%	0	0.00%
Nuclear Power	387.0	0.38%	1,502,631.5	6.54%	1,502,631.5	6.52%
Thermoelectric	2,057.9	2.00%	194,310.9	0.85%	194,310.9	0.84%
Public Water Supply	45,641.7	44.34%	209,667.7	0.91%	209,667.7	0.91%
<b>Total</b>	<b>102,945.5</b>	<b>100.00%</b>	<b>22,959,250.8</b>	<b>100.00%</b>	<b>23,062,196.3</b>	<b>100.00%</b>

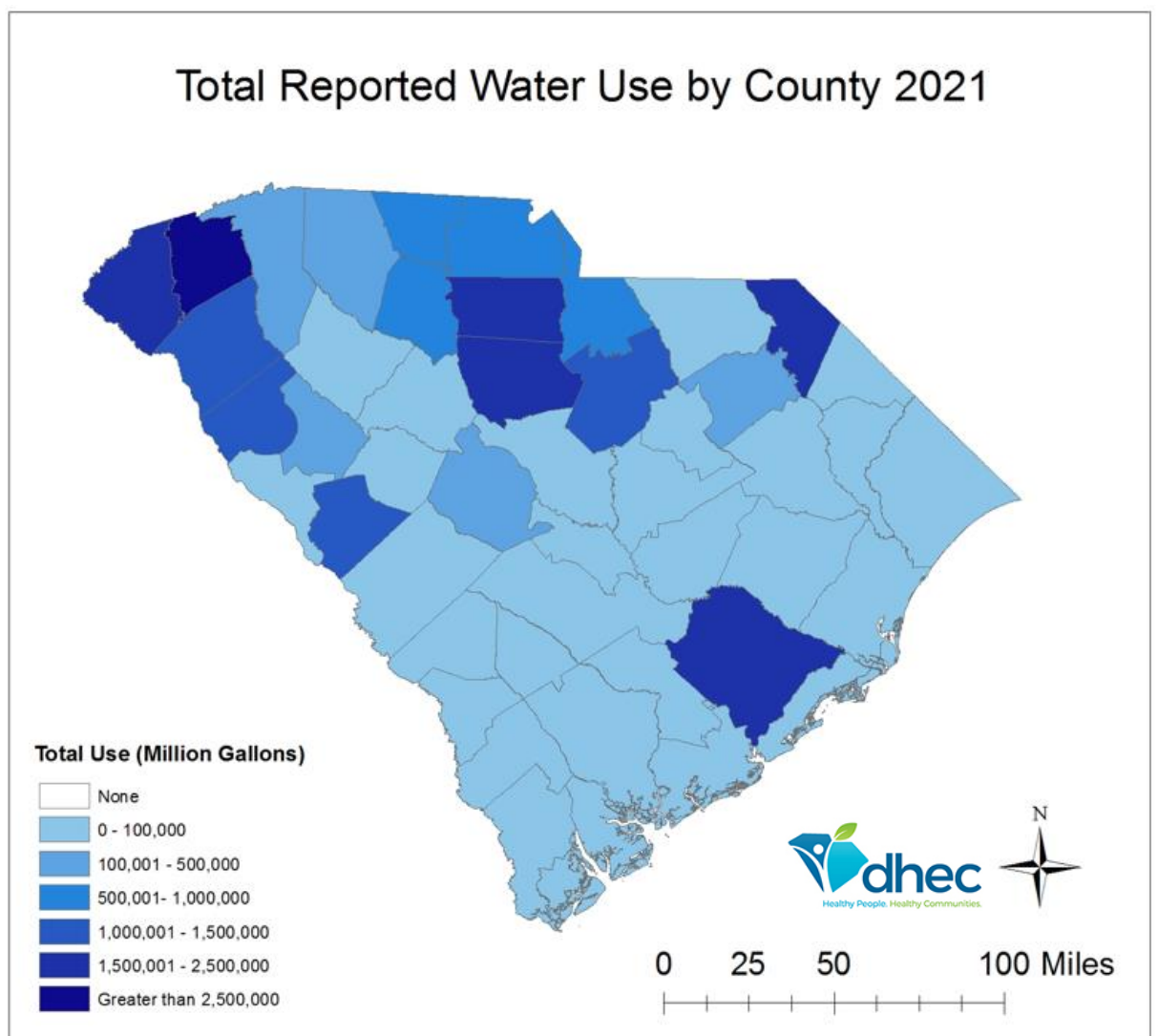


Figure 4: Total Reported Water Use by County

<sup>1</sup> Map legend range differs per map figure



Total Reported Use 2021 by Type Use

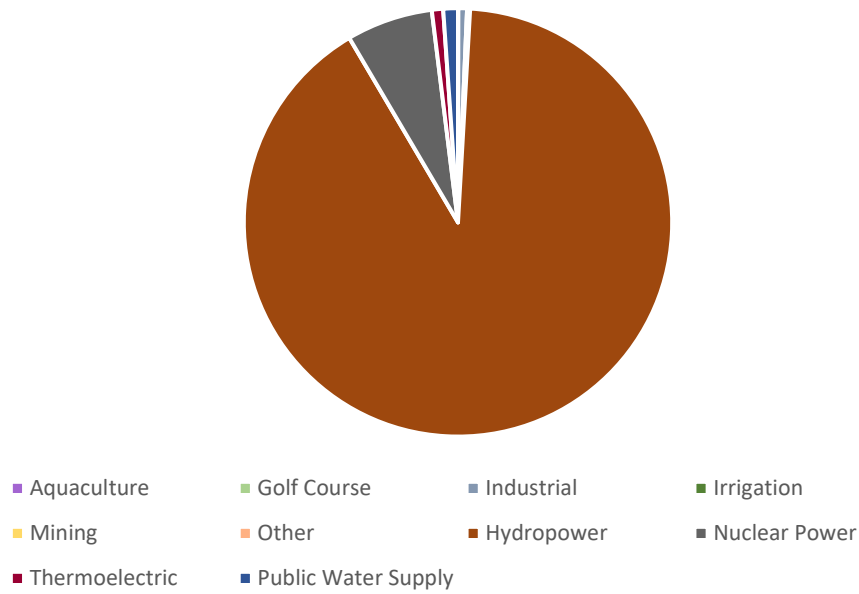


Figure 5: Total Reported Use 2021 by Type

Total Reported Water Use 2021

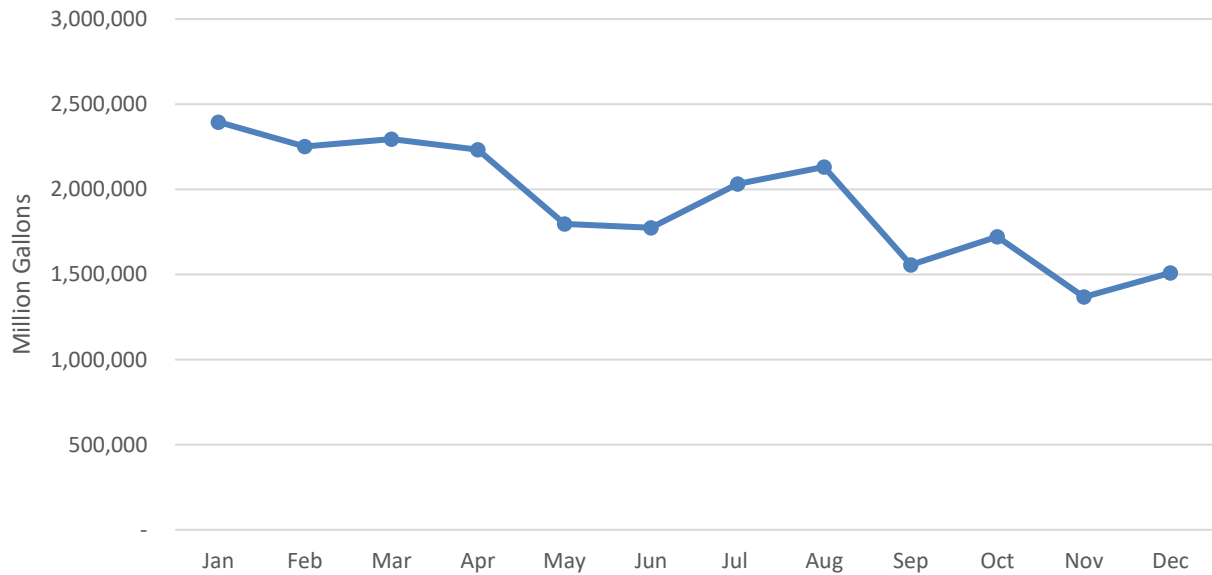


Figure 6: Total Reported Water Use in 2021 by Month

Table 3: Total Reported Water Use by Type and Source (No Power Production)

Water Use Category	Groundwater	Percentage	Surface Water	Percentage	Total	Percentage
Aquaculture	156.9	0.16%	370.1	0.10%	526.9	0.11%
Golf Course	2707.7	2.69%	3315.8	0.91%	6023.6	1.30%
Industrial	9179.9	9.13%	140508.9	38.61%	149688.8	32.23%
Irrigation	42342.4	42.13%	9005.2	2.47%	51347.6	11.06%
Mining	449.2	0.45%	1093.6	0.30%	1542.8	0.33%
Other	22.8	0.02%	0	0.00%	22.8	0.00%
Public Water Supply	45641.7	45.41%	209667.8	57.61%	255309.4	54.97%
<b>Total</b>	<b>100500.6</b>	<b>100.00%</b>	<b>363961.4</b>	<b>100.00%</b>	<b>464461.9</b>	<b>100.00%</b>

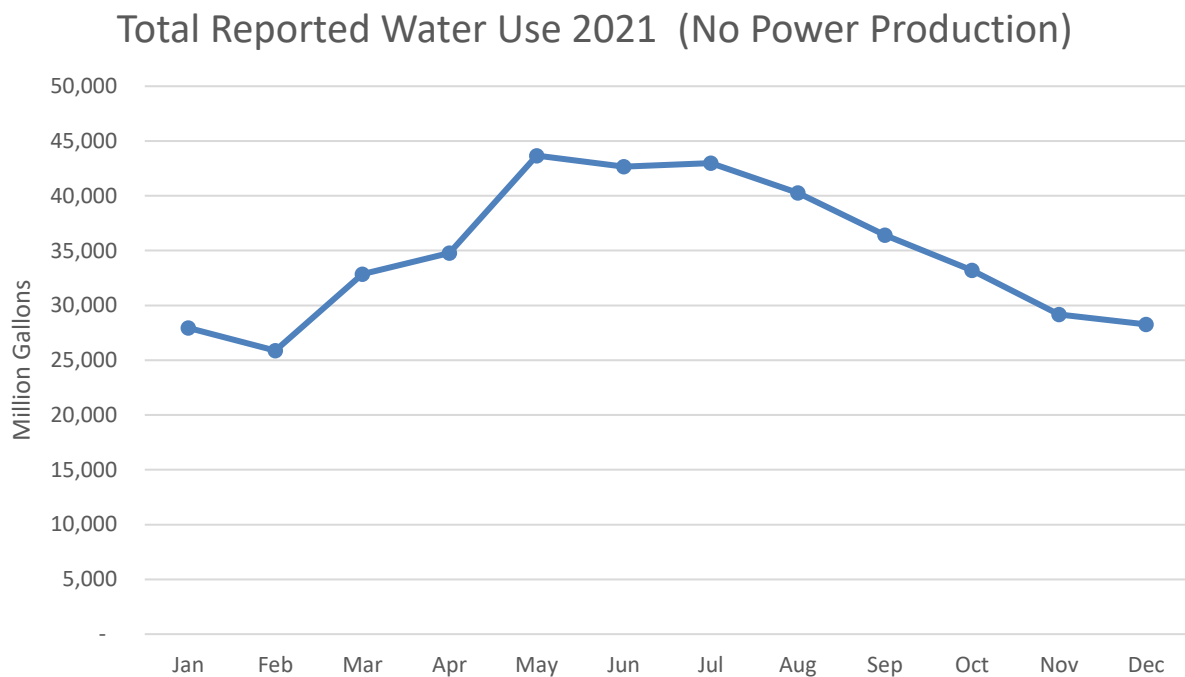


Figure 7: Total Reported Water Use by County 2021 (No Power Production)

# Total Reported Water Use by County 2021 (No Power Production)

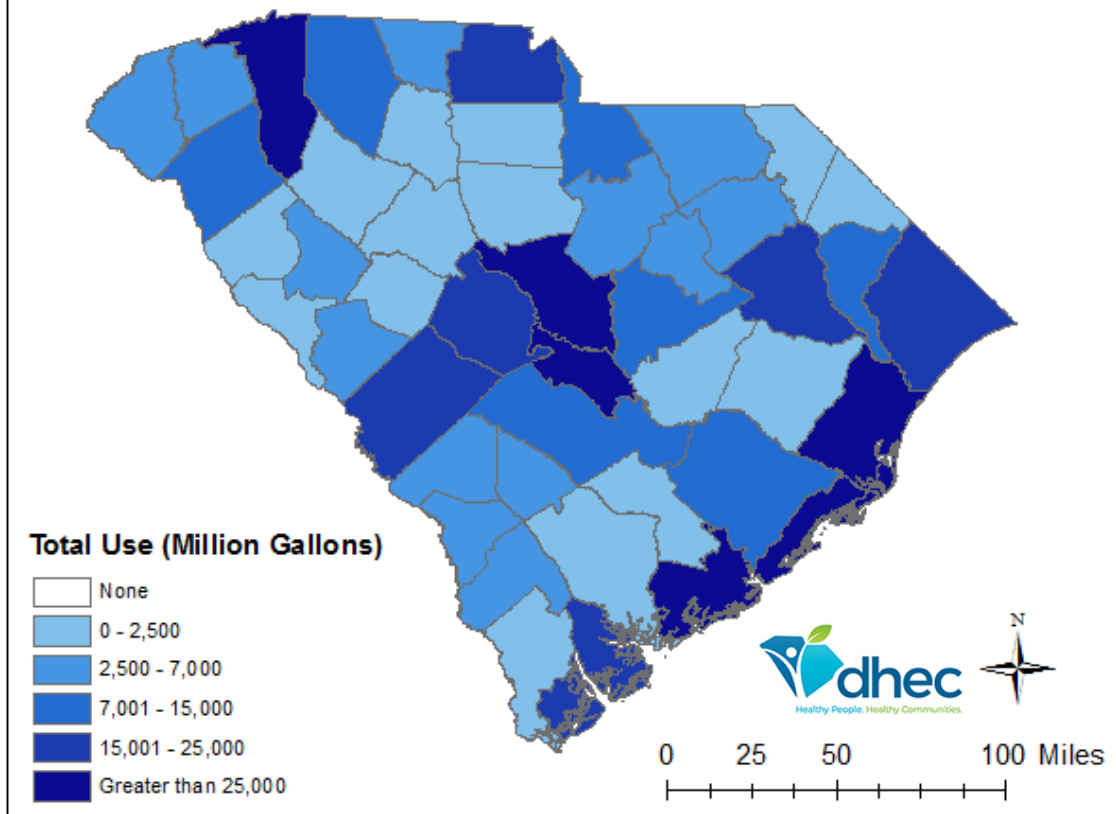


Figure 8: Total Reported Water Use by Month 2021 (No Power Production)

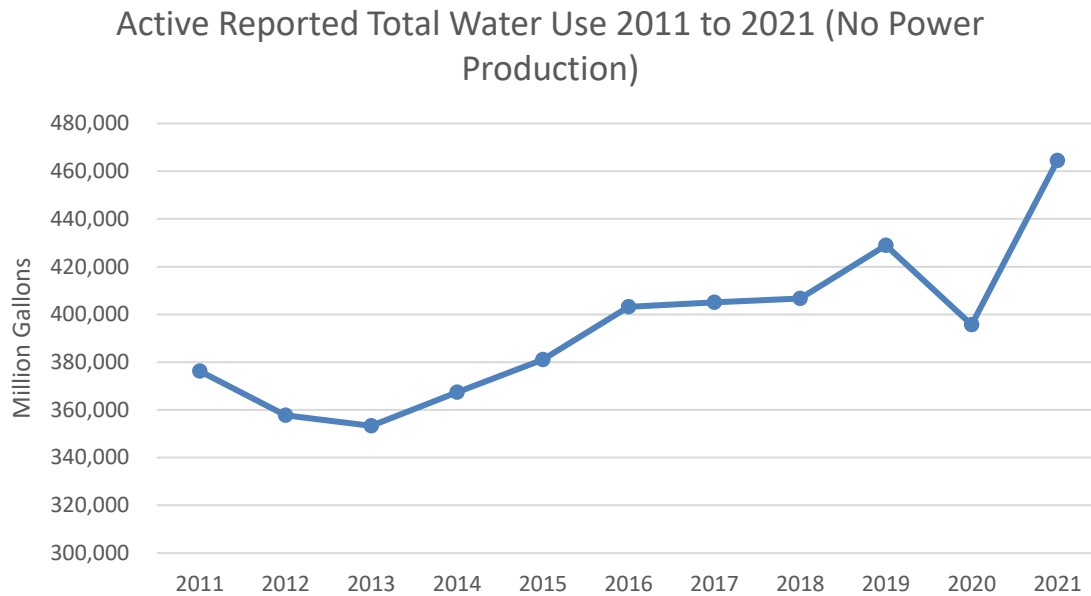


Figure 9: Total Reported Water Use from 2011-2021 (No Power Production)

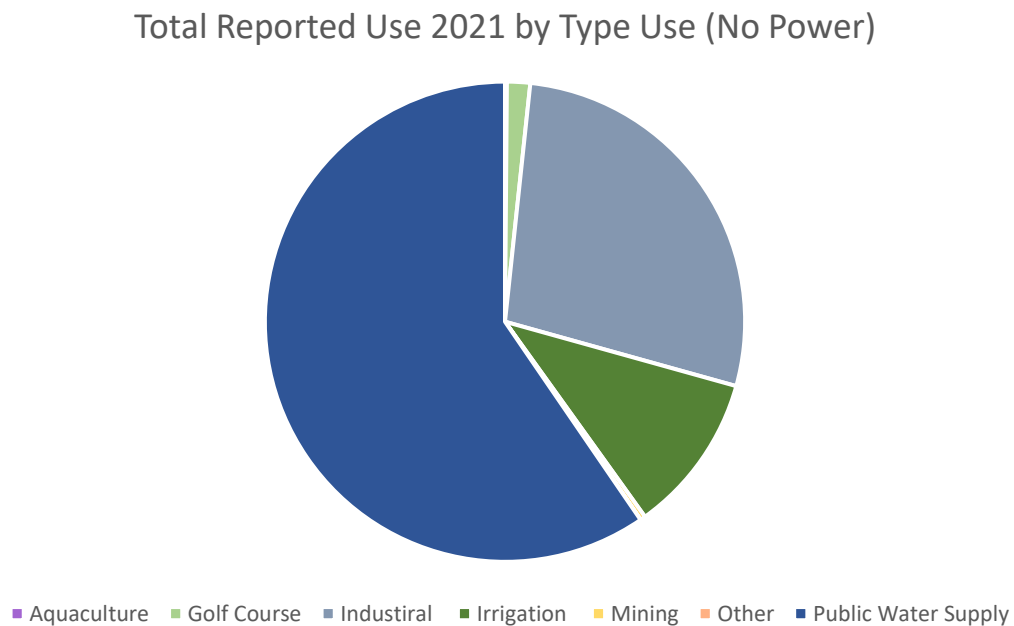


Figure 10: Total Reported Use in 2021 by Type (No Power Production)

## Total Reported Surface Water Use by County 2021

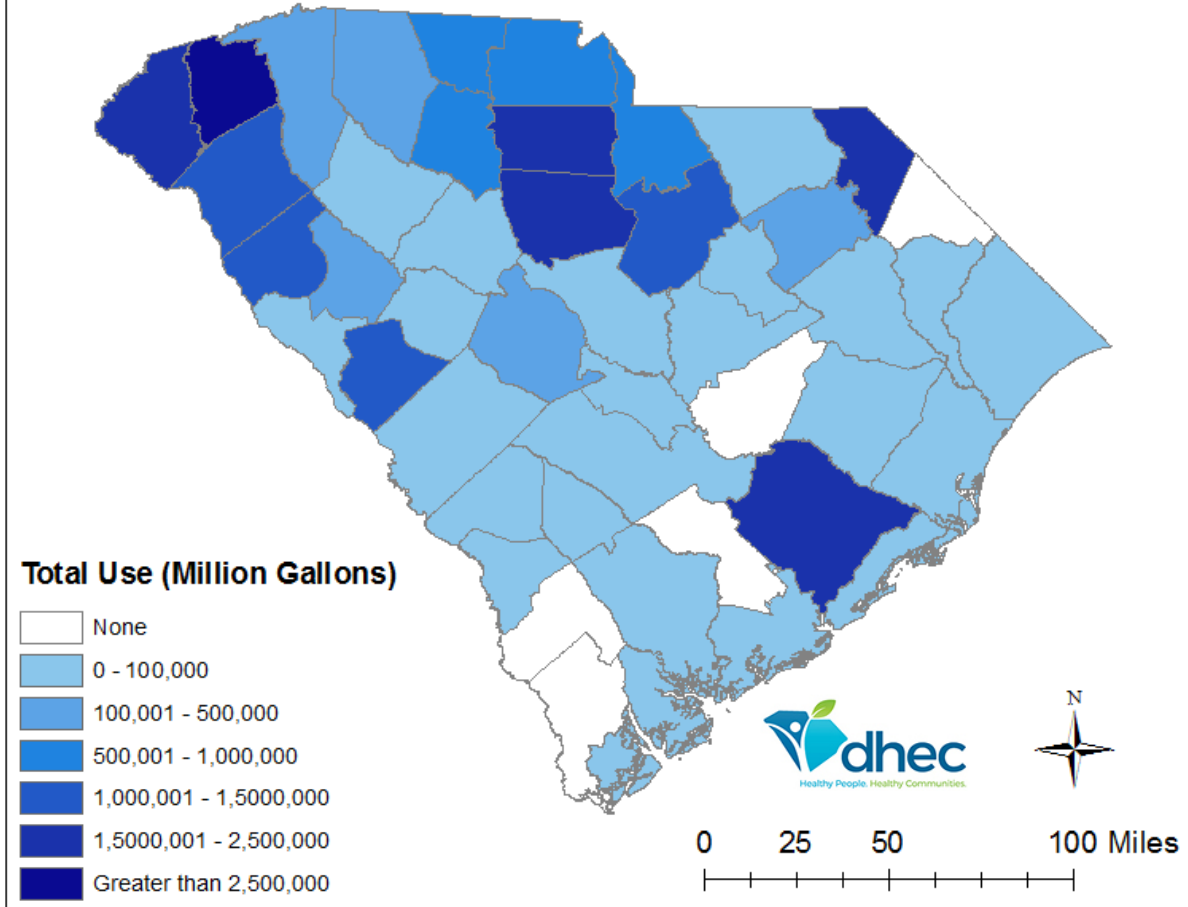


Figure 11: Total Reported Surface Water Use by County 2021

## Total Reported Surface Water Use by County 2021 (No Power)

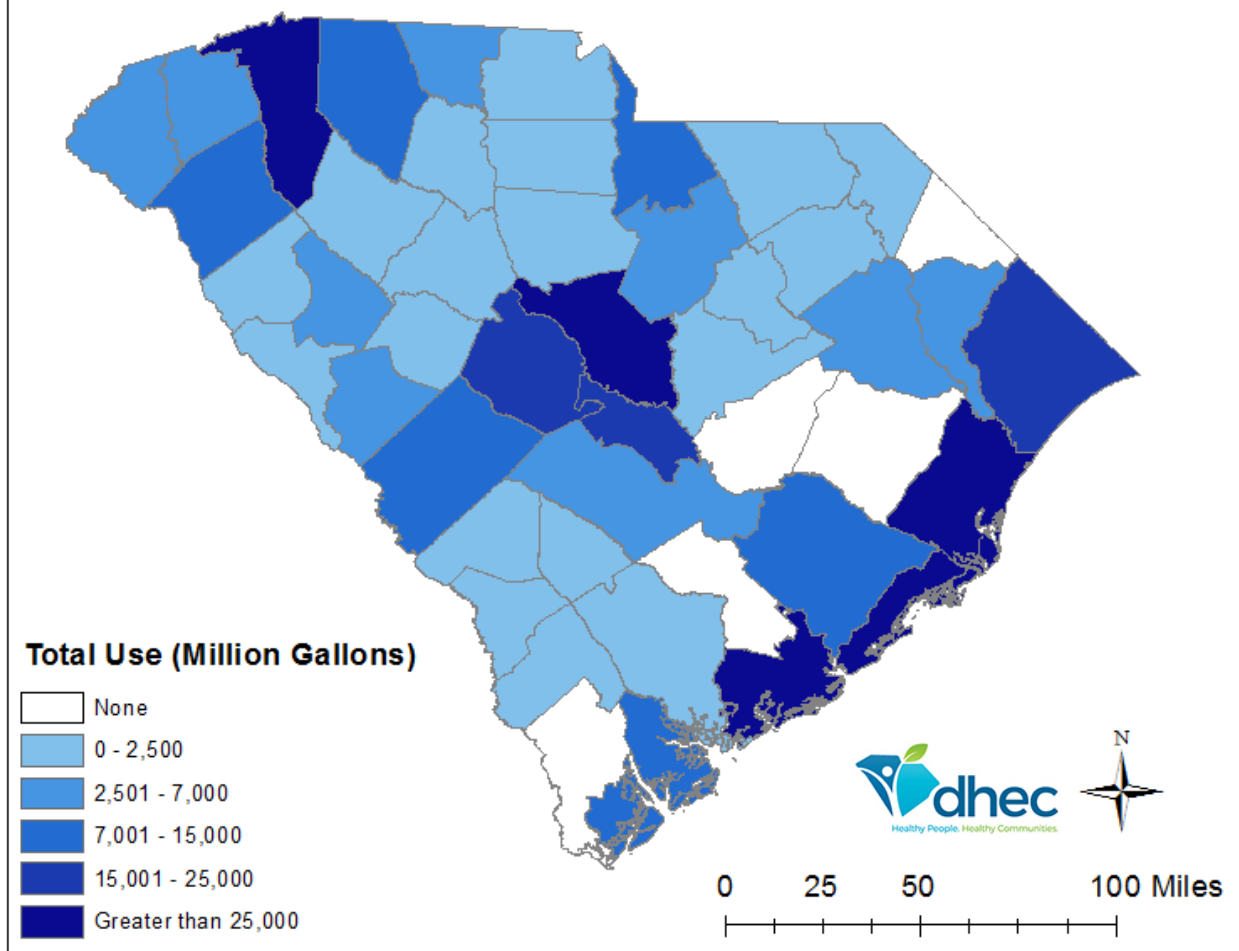


Figure 12: Total Reported Surface Water Use by County 2021 (No Power Production)

## Total Reported Monthly Usage 2011-2021

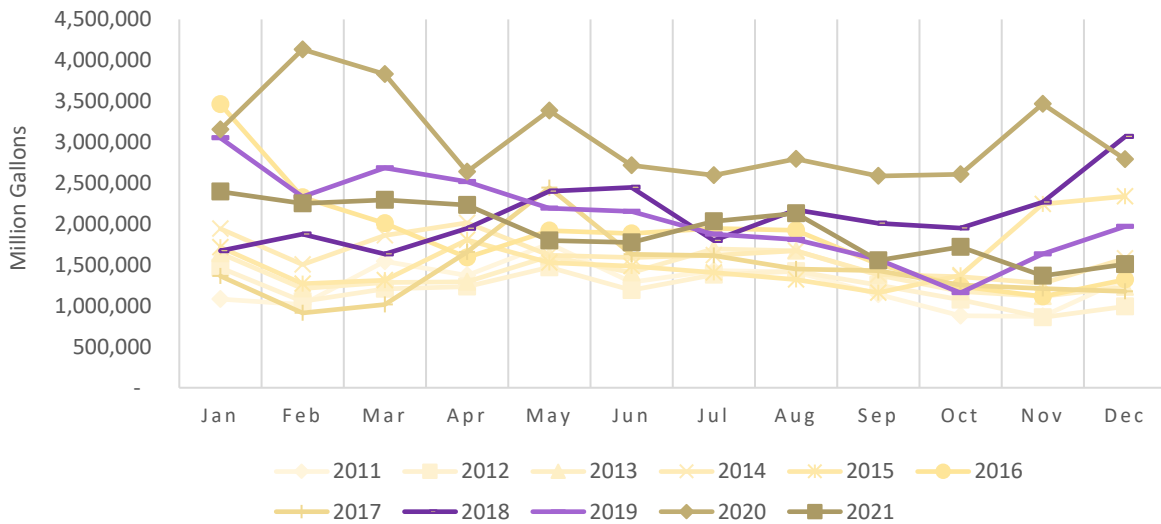


Figure 13: Total Surface Water Monthly Reported Use, 2011 to 2021

## Total Reported Water Use 2011 through 2021 (No Power)

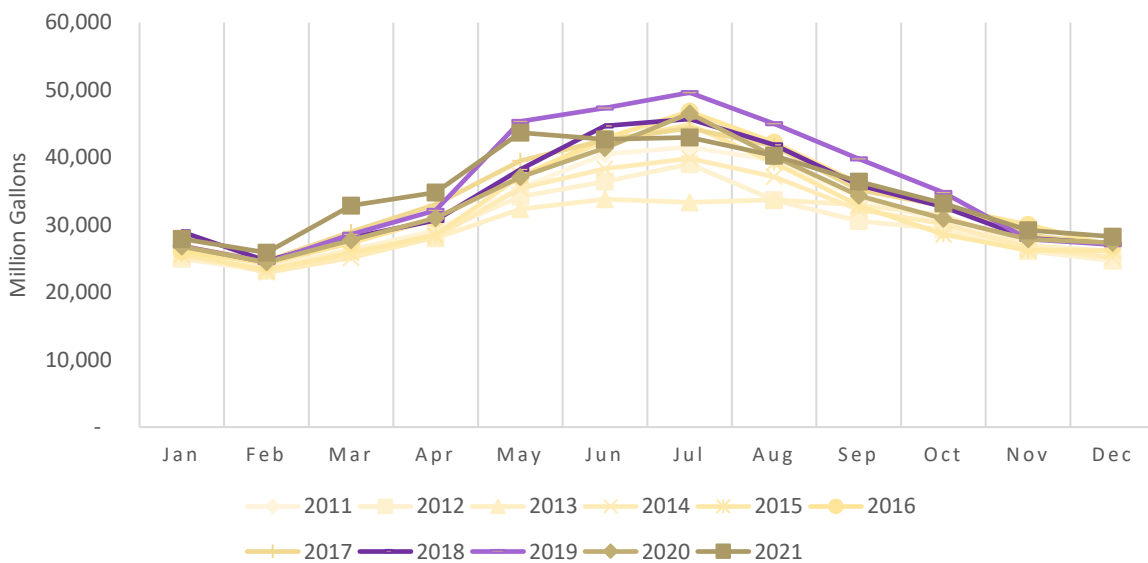
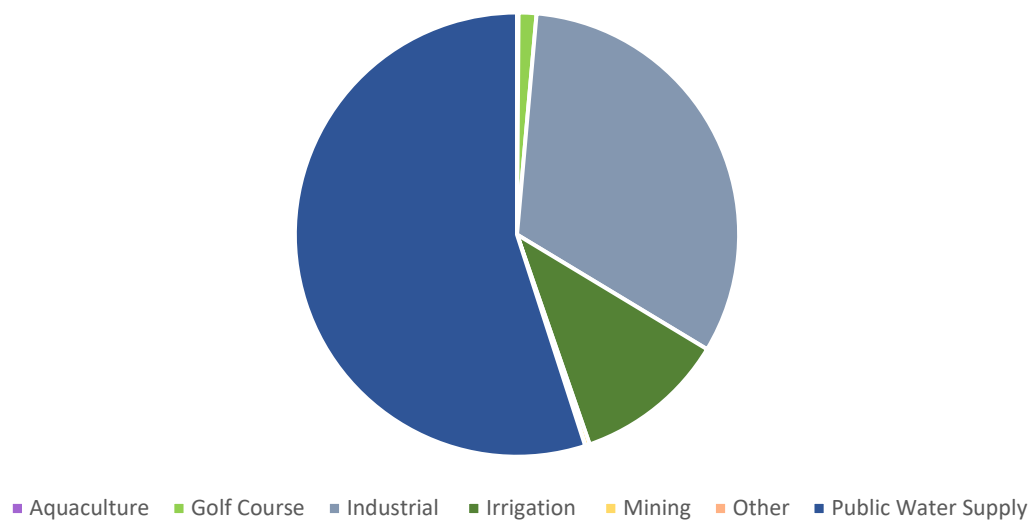


Figure 14: Total Surface Water Monthly Reported Use, 2011 to 2021 (No Power Production)

### Total Reported Surface Water Use 2021 by Type Use (No Power)



*Figure 15: Total Reported Surface Water Use by Basin 2021*



## Total Reported Groundwater Use by County 2021 (No Power)

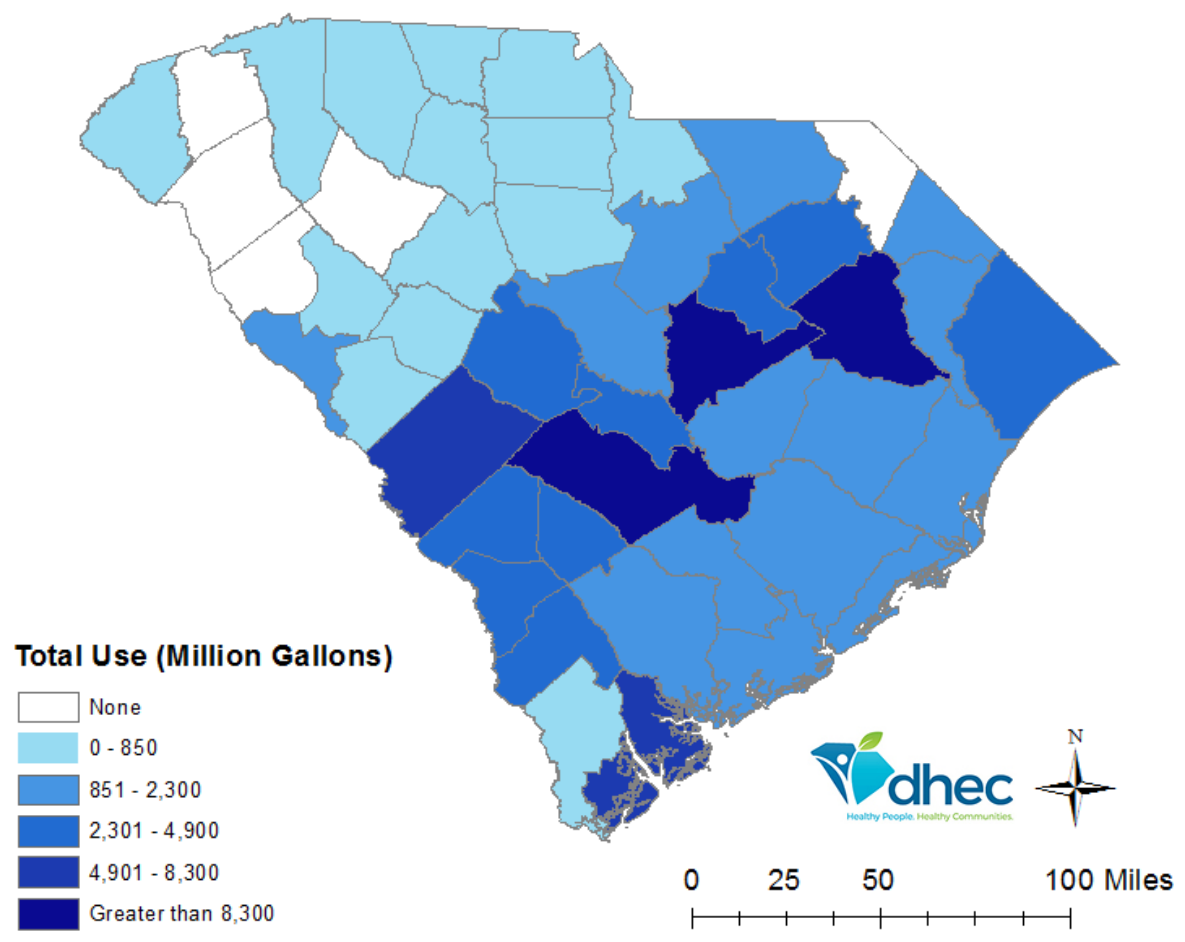


Figure 16: Total Reported Groundwater Use by County 2021

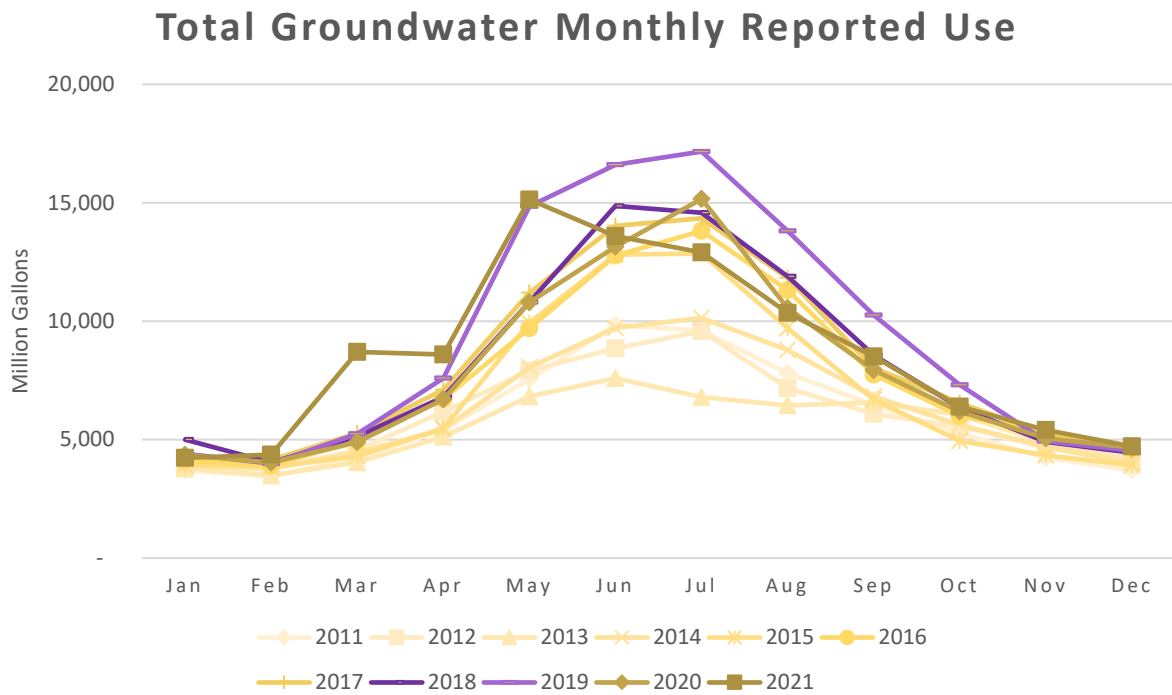


Figure 17: Total Groundwater Monthly Reported Use, 2011 to 2021

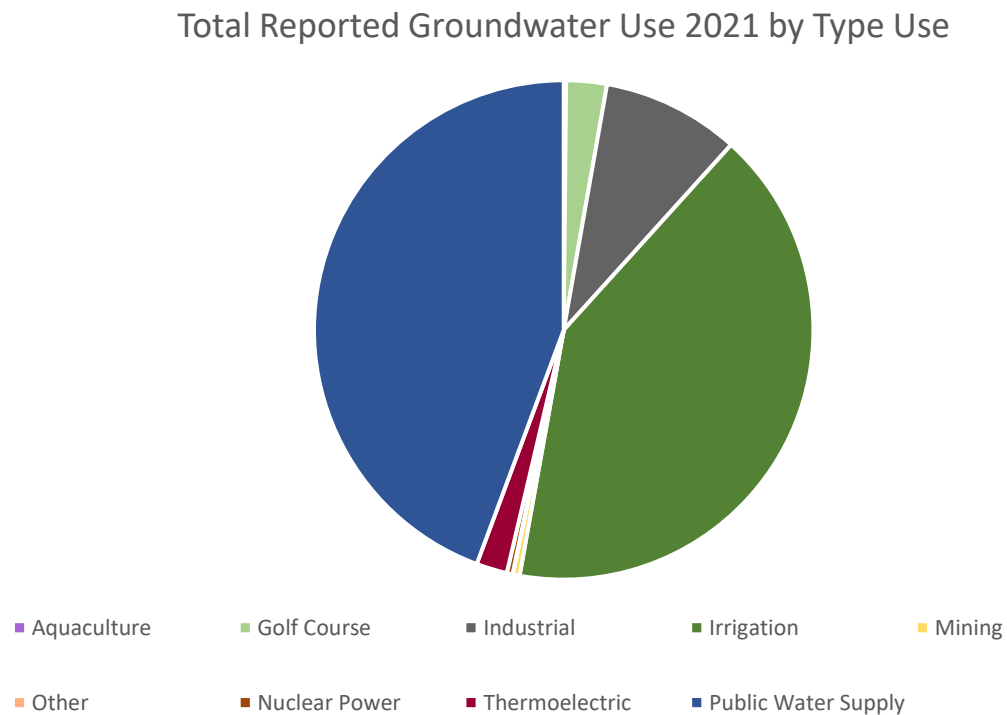


Figure 18: Reported Groundwater Use by Type in 2021

## Historic Water Use by Basin<sup>2</sup>

Historical reported water use data was presented by basin to show how groundwater and surface water are used across basin boundaries. During this review, a decrease was shown in reported water use between 2012 and 2013 in several basins. Upon separating out the inactive users from the currently active users, the dip was determined to be due to the passing of the Surface Water Act. The Act went into effect January 1, 2011, and the following regulation came into effect June 22, 2012. The Department sent letters to all entities reporting surface water use informing them of the new requirements for reporting and exemptions in September 2012. This notification resulted in many users submitting letters of exemption from participating in the surface water program. The reported water use took a dip in the reported 2013 use based on these users going inactive.

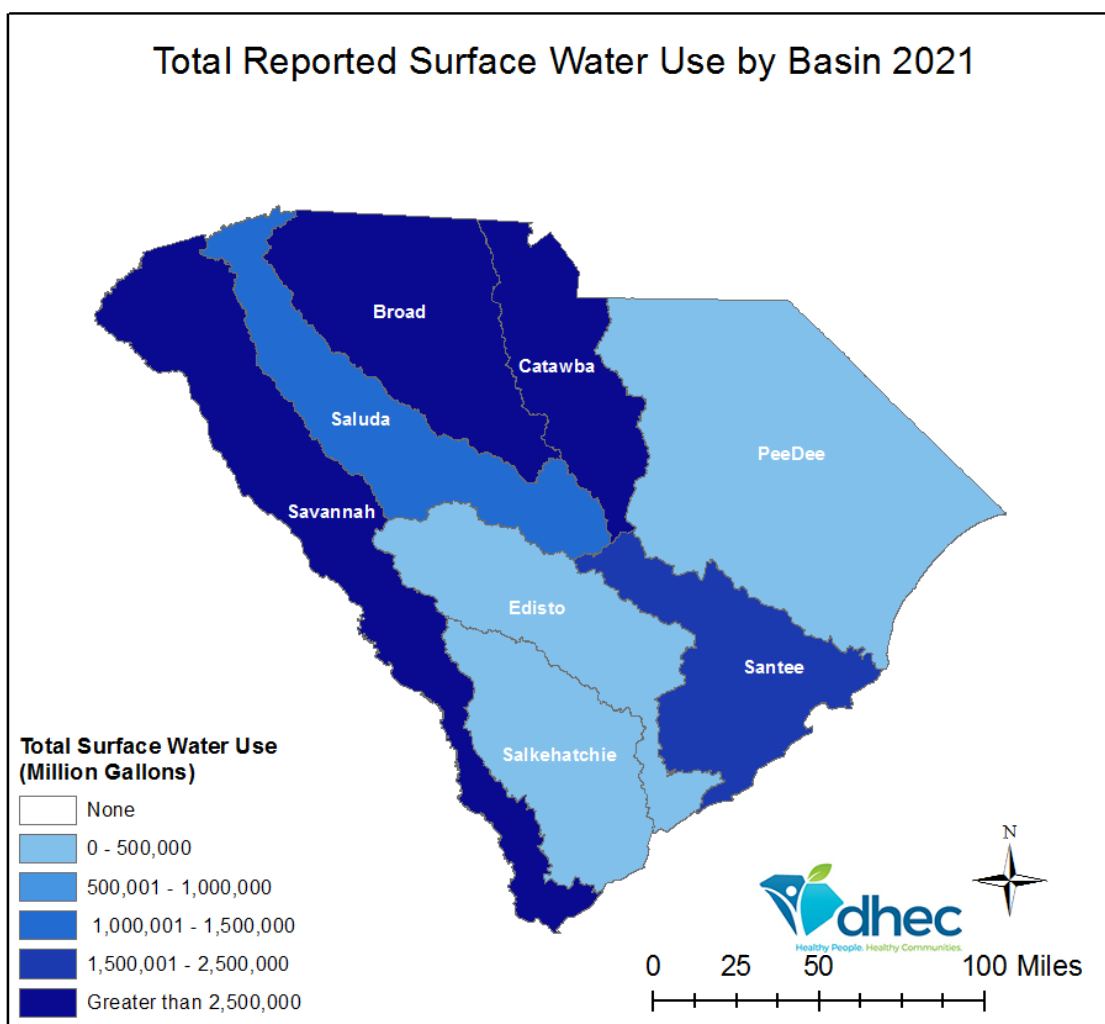


Figure 19: Total Reported Surface Water Use by Basin 2021

<sup>2</sup> Map legend range differs per map figure

## Total Reported Surface Water Use by Basin 2021(No Power)

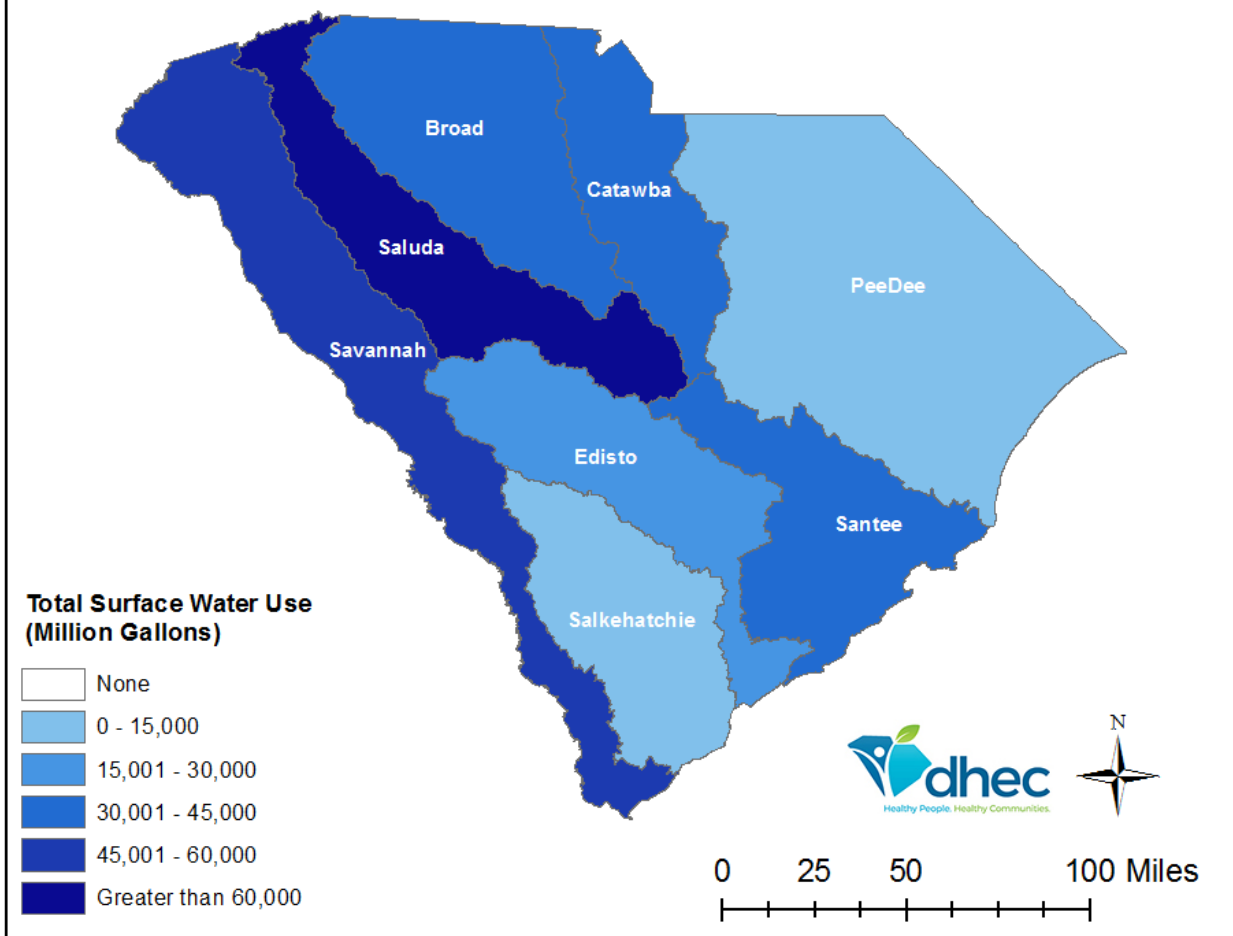


Figure 20: Total Reported Surface Water Use by Basin 2021 (No Power Production)

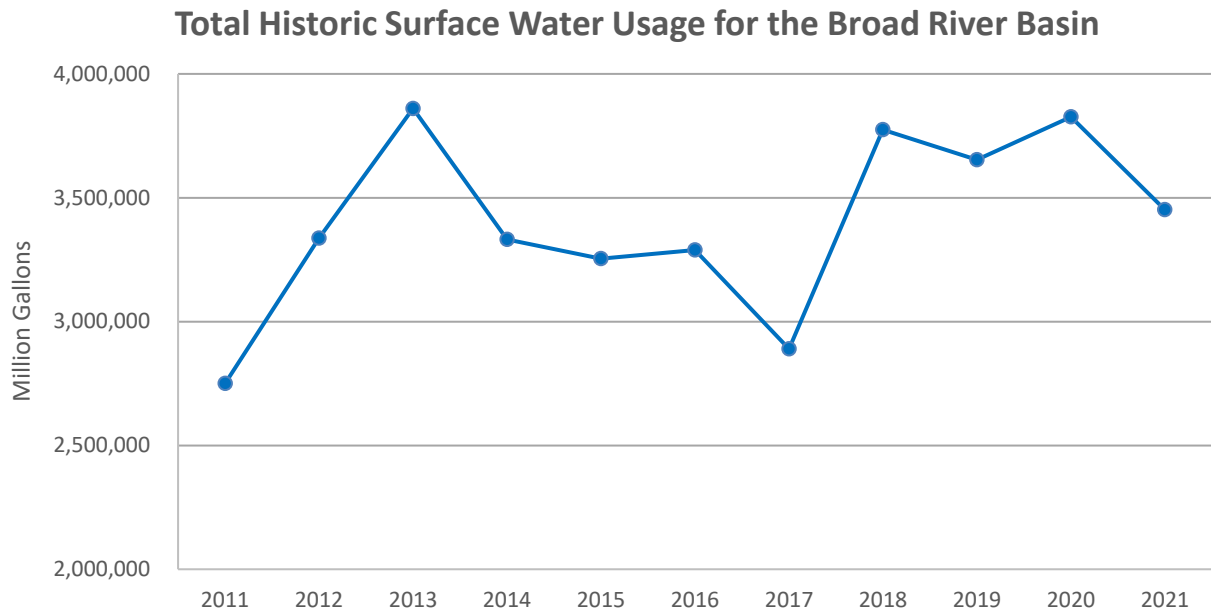


Figure 21: Total Historic Surface Water Reported Use in the Broad Basin, 2011-2021

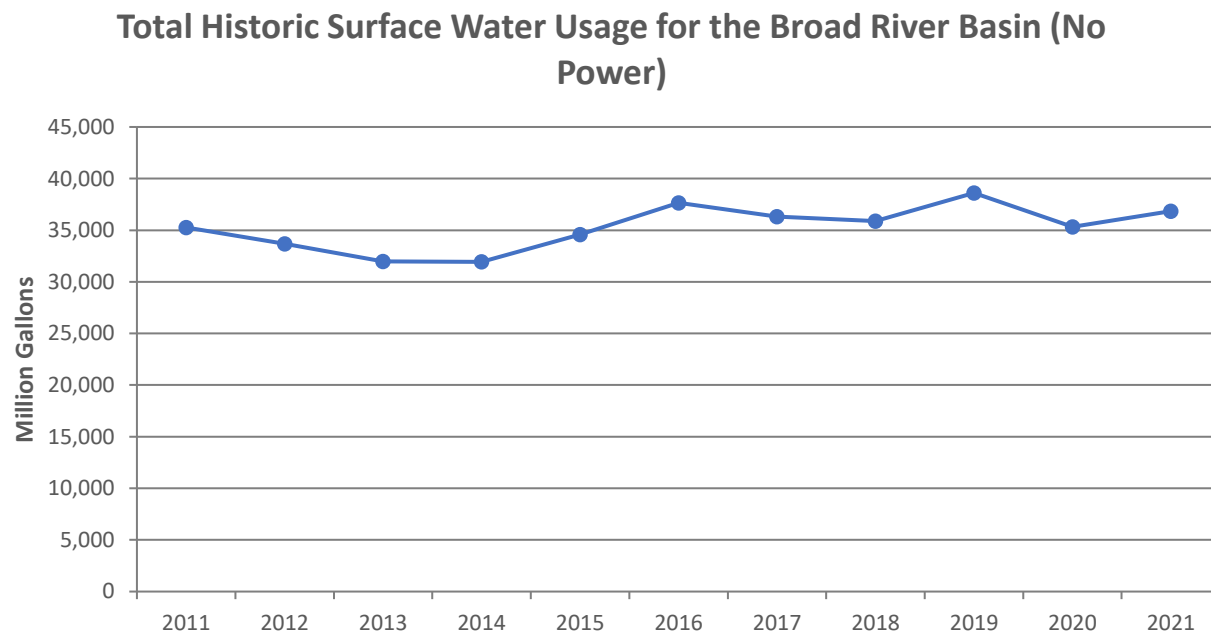


Figure 22: Total Historic Surface Water Reported Use in the Broad Basin excluding power production, 2011-2021

### Total Monthly Historic Surface Water Usage for the Broad River Basin

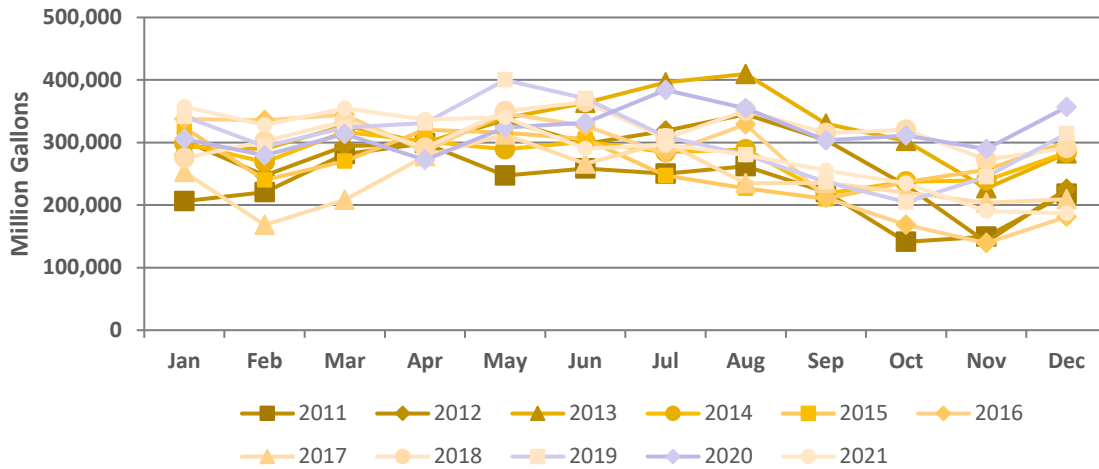


Figure 23: Total Historic Surface Water Reported Monthly Use in the Broad Basin, 2011-2021

### Total Monthly Historic Surface Water Usage for the Broad River Basin (No Power)

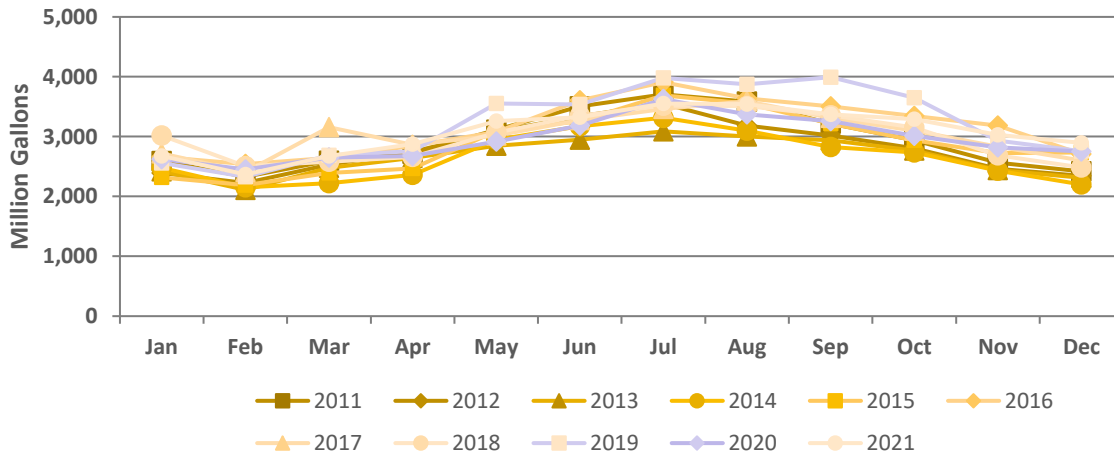


Figure 24: Total Historic Surface Water Reported Monthly Use in the Broad Basin with no power production users, 2011-2021

### Total Historic Surface Water Usage for the Catawba River Basin

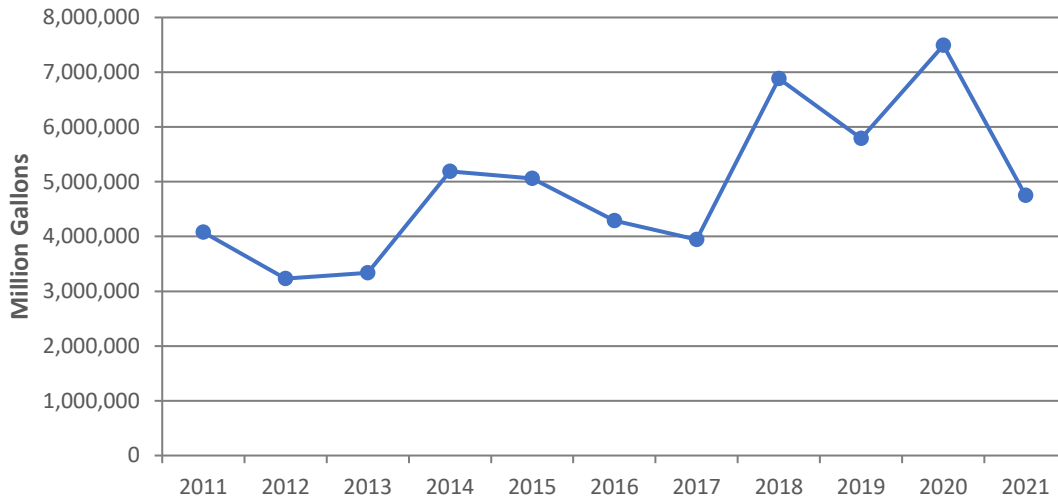


Figure 25: Total Historic Surface Water Reported Use in the Catawba Basin, 2011-2021

### Total Historic Surface Water Usage for the Catawba River Basin (No Power)

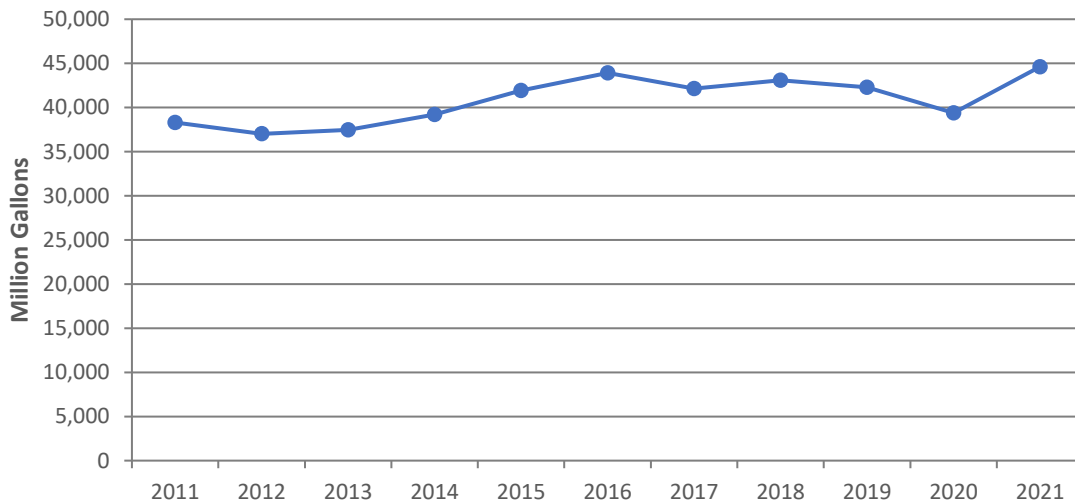


Figure 26: Total Historic Surface Water Reported Use in the Catawba Basin excluding power production, 2011-2021

### Total Monthly Historic Surface Water Usage for the Catawba River Basin

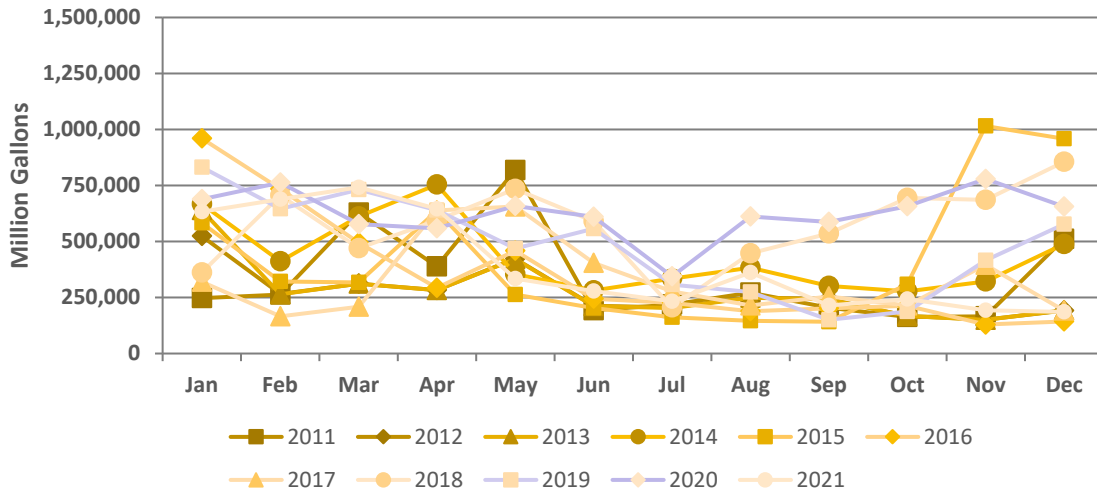


Figure 27: Total Historic Groundwater Reported Monthly Use in the Catawba Basin, 2011-2021

### Total Monthly Historic Surface Water Usage for the Catawba River Basin (No Power)

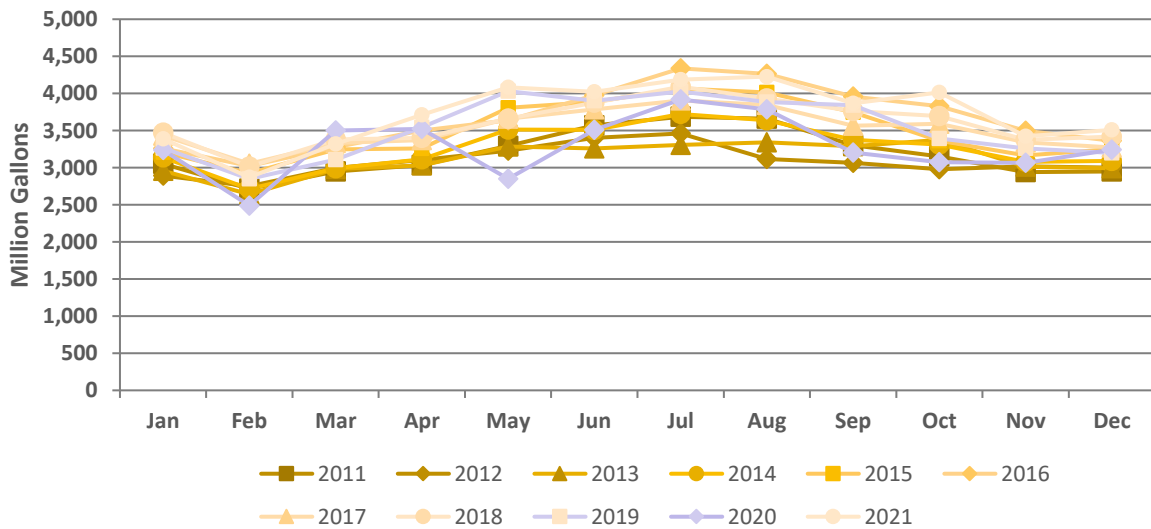


Figure 28: Total Historic Groundwater Reported Monthly Use in the Catawba Basin with no power production users, 2011-2021

The Edisto River Basin saw a significant loss of water in 2012 due to users requesting exemptions made available in the 2011 Surface Water Act.



### Total Historic Surface Water Usage for the Edisto River Basin

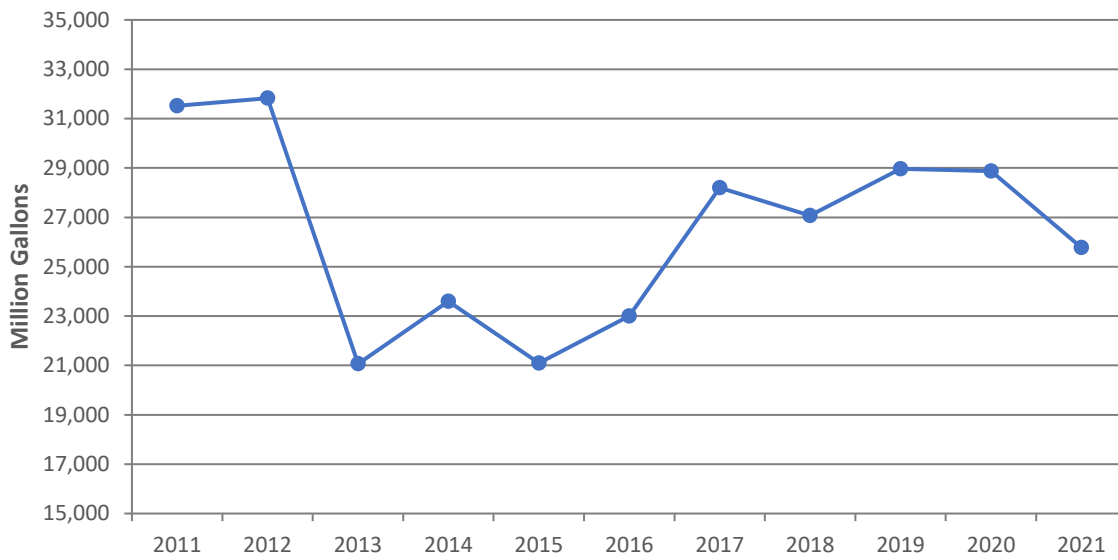


Figure 29: Total Historic Surface Water Reported Use in the Edisto Basin, 2011-2021

### Total Historic Surface Water Usage for the Edisto River Basin (No Power)

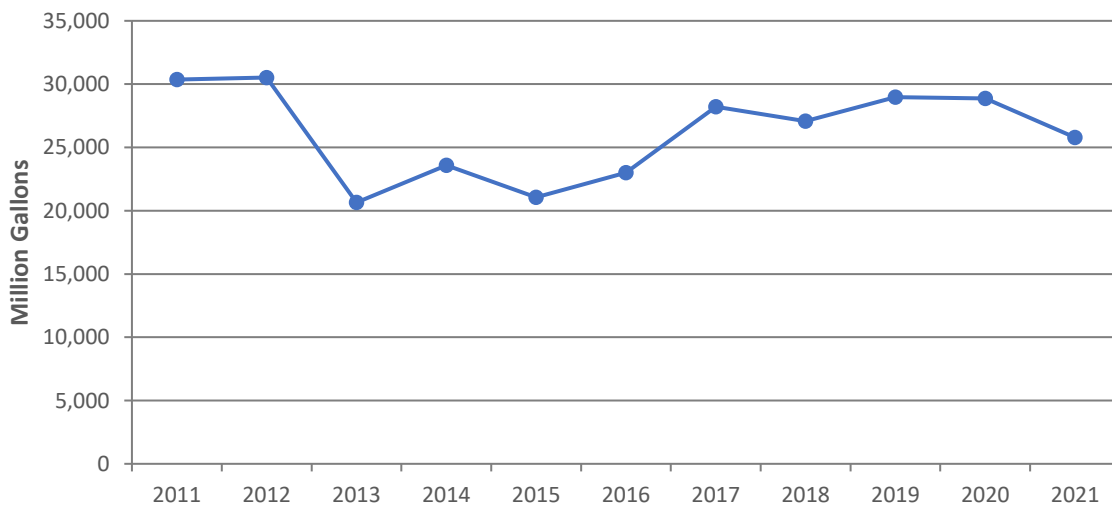


Figure 30: Total Historic Surface Water Reported Use in the Edisto Basin excluding power production, 2011-2021

### Total Monthly Historic Surface Water Usage for the Edisto River Basin

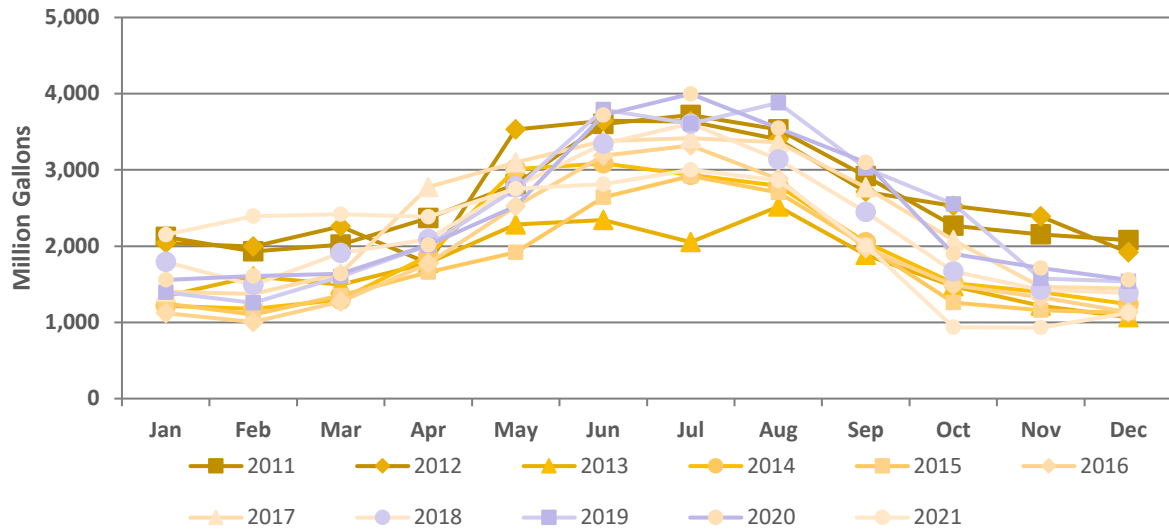


Figure 31: Total Historic Surface Water Reported Monthly Use in the Edisto Basin, 2011-2021

### Total Monthly Historic Surface Water Usage for the Edisto River Basin (No Power)

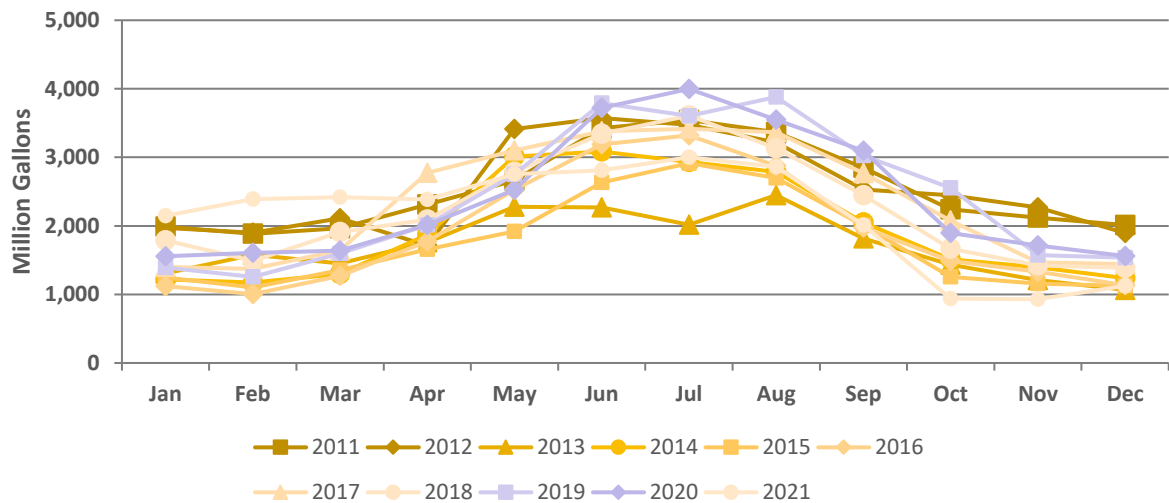


Figure 32: Total Historic Surface Water Reported Monthly Use in the Edisto Basin with no power production users 2011-2021

### Total Historic Surface Water Usage for the Pee Dee River Basin

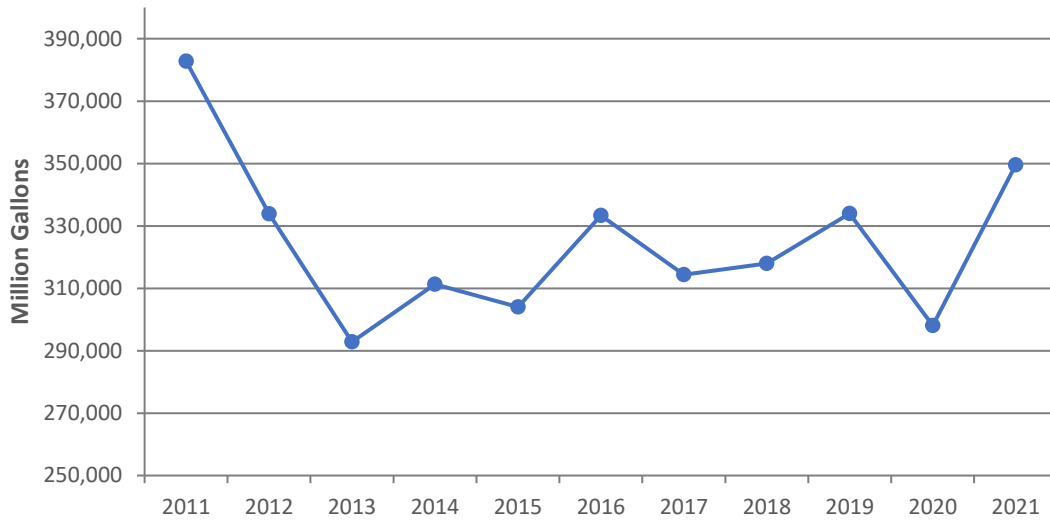


Figure 33: Total Historic Surface Water Reported Use in the Pee Dee Basin excluding non-active users, 2011-2021

### Total Historic Surface Water Usage for the Pee Dee River Basin (No Power)

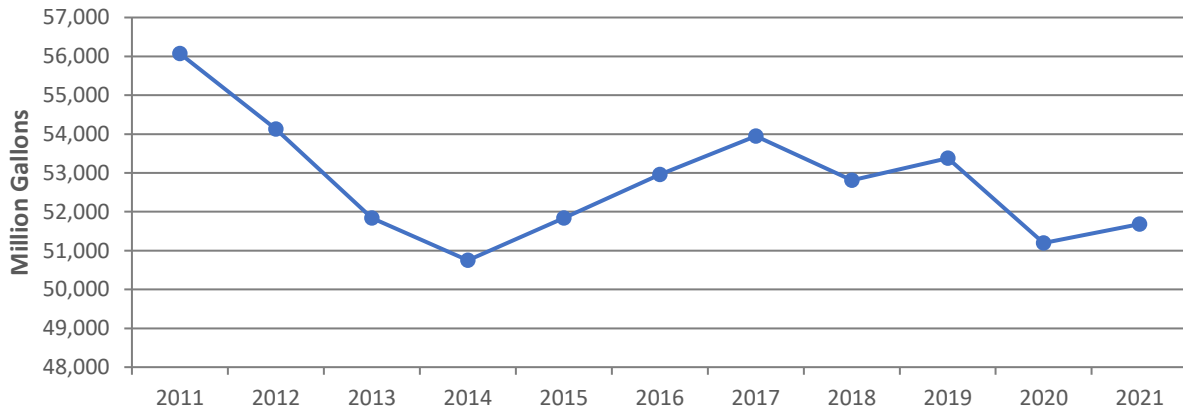


Figure 34: Total Historic Surface Water Reported Use in the Pee Dee Basin excluding power production, 2011-2021

### Total Monthly Historic Surface Water Usage for the Pee Dee River Basin

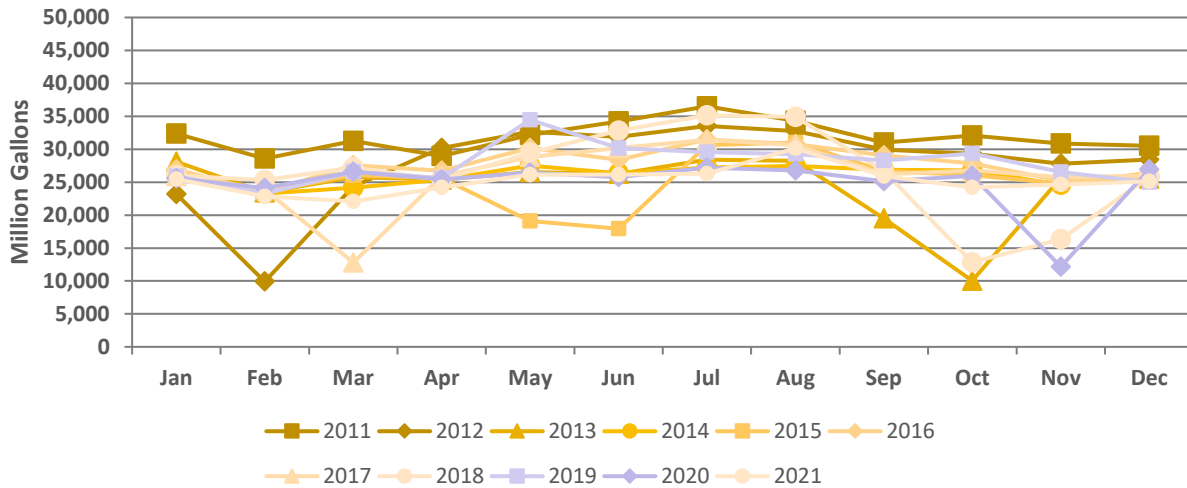


Figure 35: Total Historic Surface Water Reported Monthly Use in the Pee Dee Basin, excluding non-active users, 2011-2021

### Total Monthly Historic Surface Water Usage for the Pee Dee River Basin (No Power)

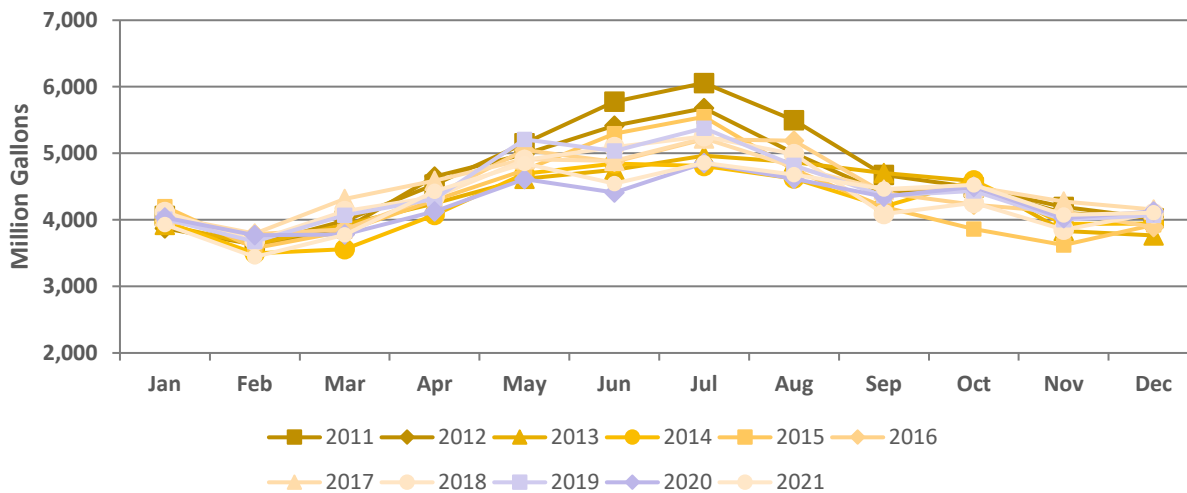


Figure 36: Total Historic Surface Water Reported Monthly Use in the Pee Dee Basin with no power production users, 2011-2021

### Total Historic Surface Water Usage for the Salkehatchie River Basin

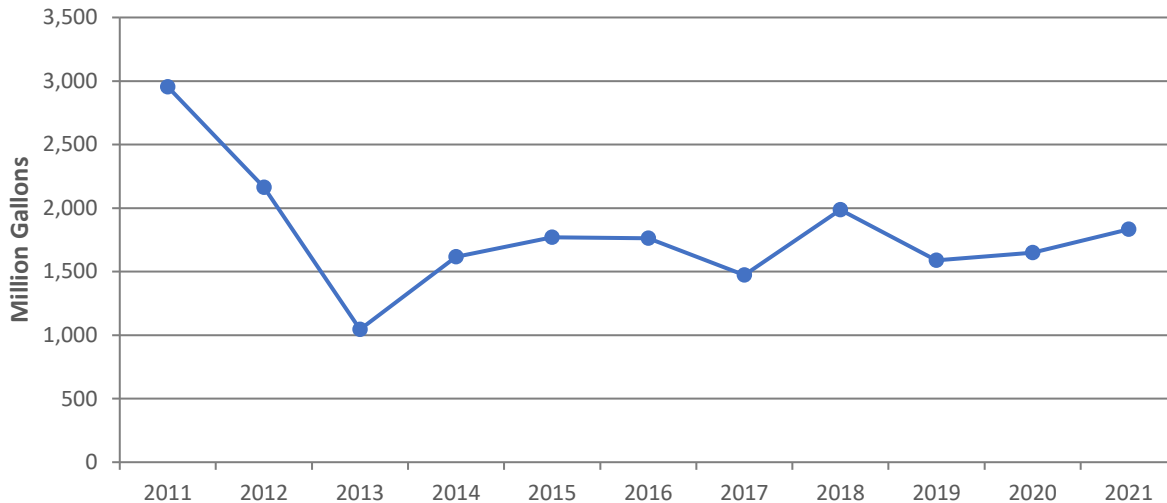


Figure 37: Total Historic Surface Water Reported Use in the Salkehatchie Basin excluding power production, 2011-2021

### Total Monthly Historic Surface Water Usage for the Salkehatchie River Basin

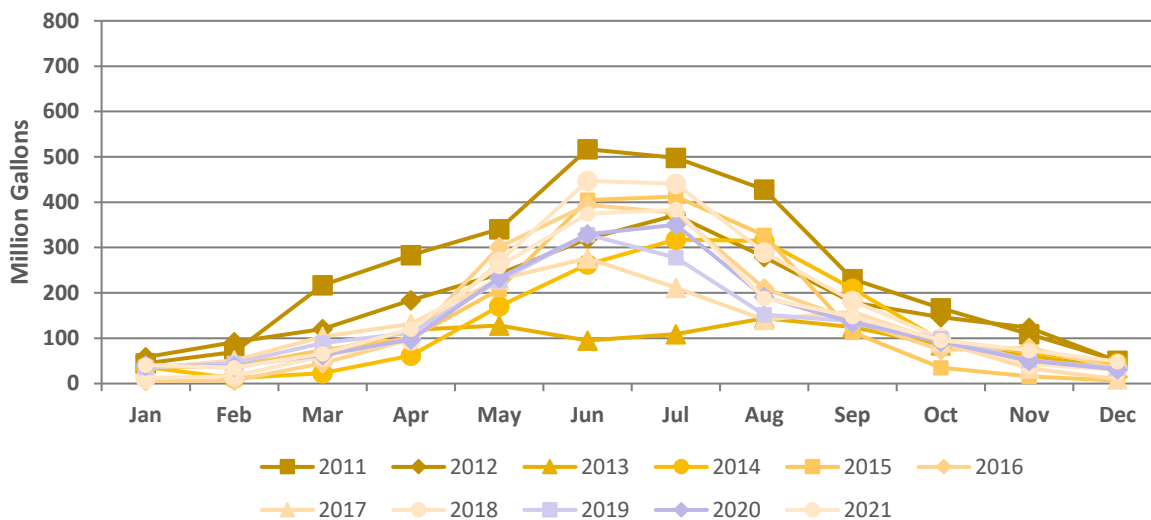


Figure 38: Total Historic Surface Water Monthly Reported Use in the Salkehatchie Basin with no power production users, 2011-2021

### Total Historic Surface Water Usage for the Saluda River Basin

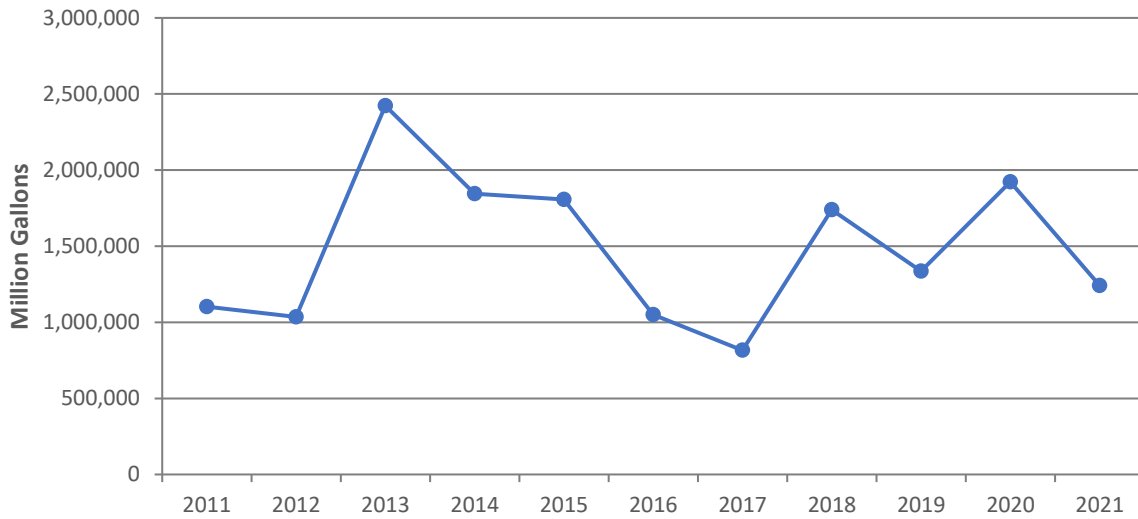


Figure 39: Total Historic Surface Water Reported Use in the Saluda Basin, 2011-2021

### Total Historic Surface Water Usage for the Saluda River Basin (No Power)

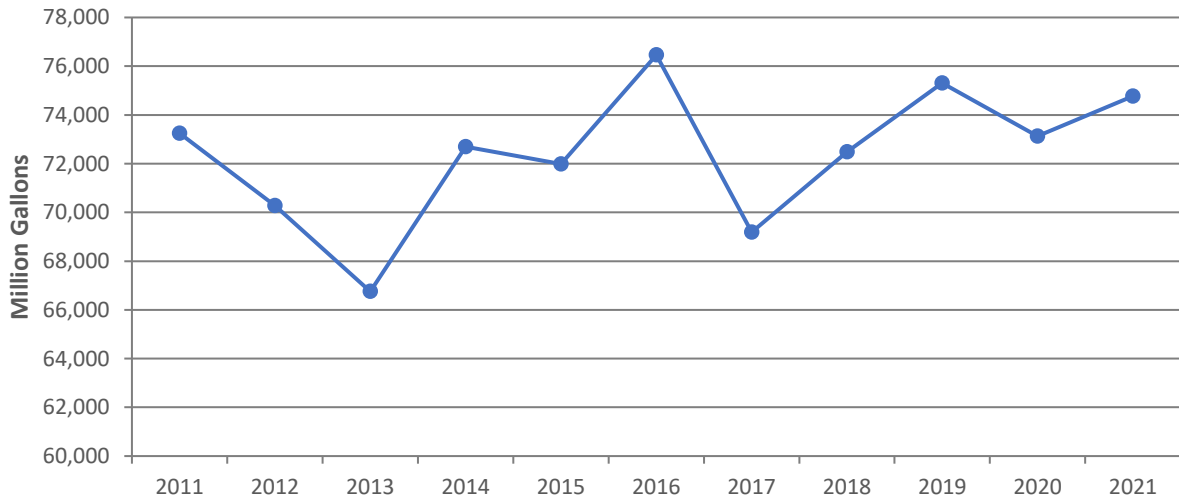


Figure 40: Total Historic Surface Water Reported Use in the Saluda Basin excluding power production, 2011-2021

### Total Monthly Historic Surface Water Usage for the Saluda River Basin

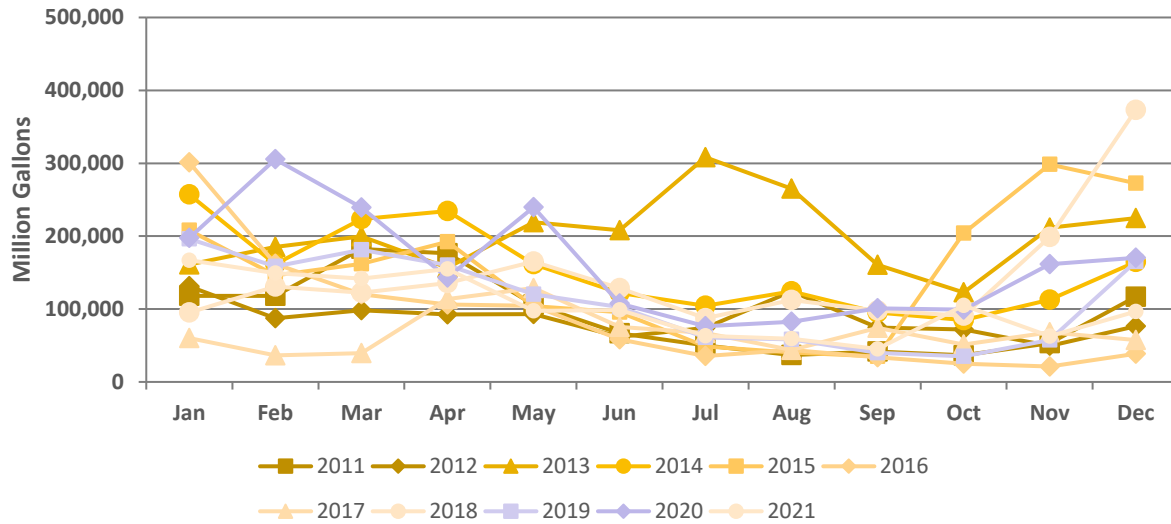


Figure 41: Total Historic Surface Water Monthly Reported Use in the Saluda Basin, 2011-2021

### Total Monthly Historic Surface Water Usage for the Saluda River Basin (No Power)

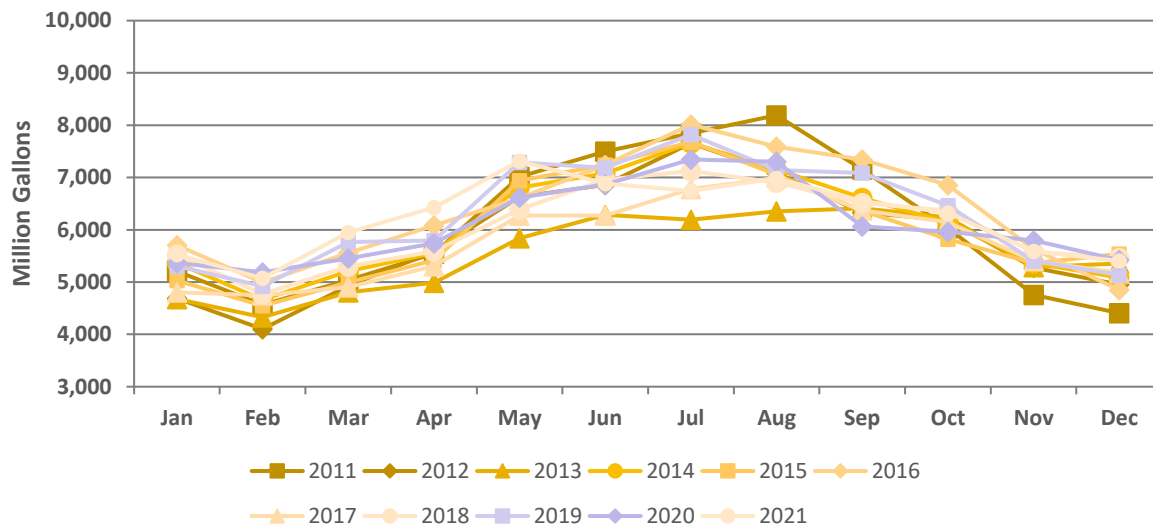


Figure 42: Total Historic Surface Water Monthly Reported Use in the Saluda Basin with no power production users, 2011-2021

### Total Historic Surface Water Usage for the Santee River Basin

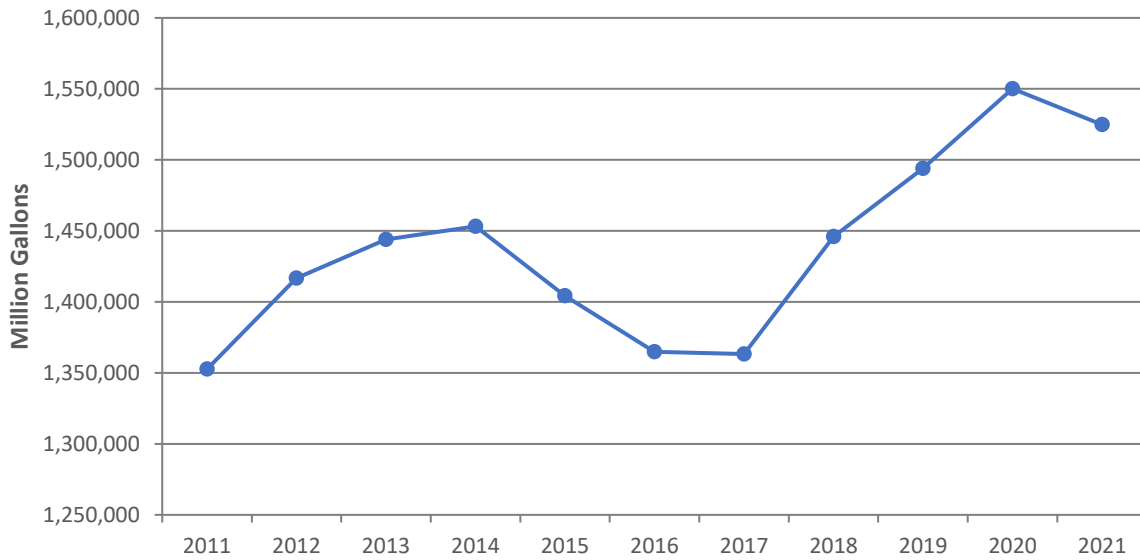


Figure 43: Total Historic Surface Water Reported Use in the Santee Basin, 2011-2021

### Total Historic Surface Water Usage for the Santee River Basin (No Power)

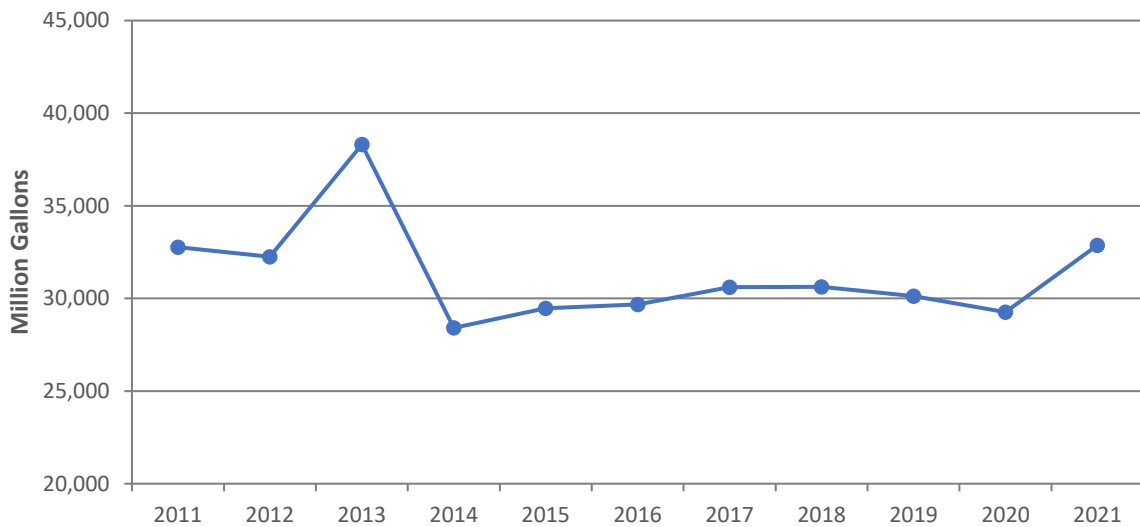


Figure 44: Total Historic Surface Water Reported Use in the Santee Basin excluding power production, 2011-2021  
\*2013 had the addition of Golf Course and Mining users in the basin



### Total Monthly Historic Surface Water Usage for the Santee River Basin

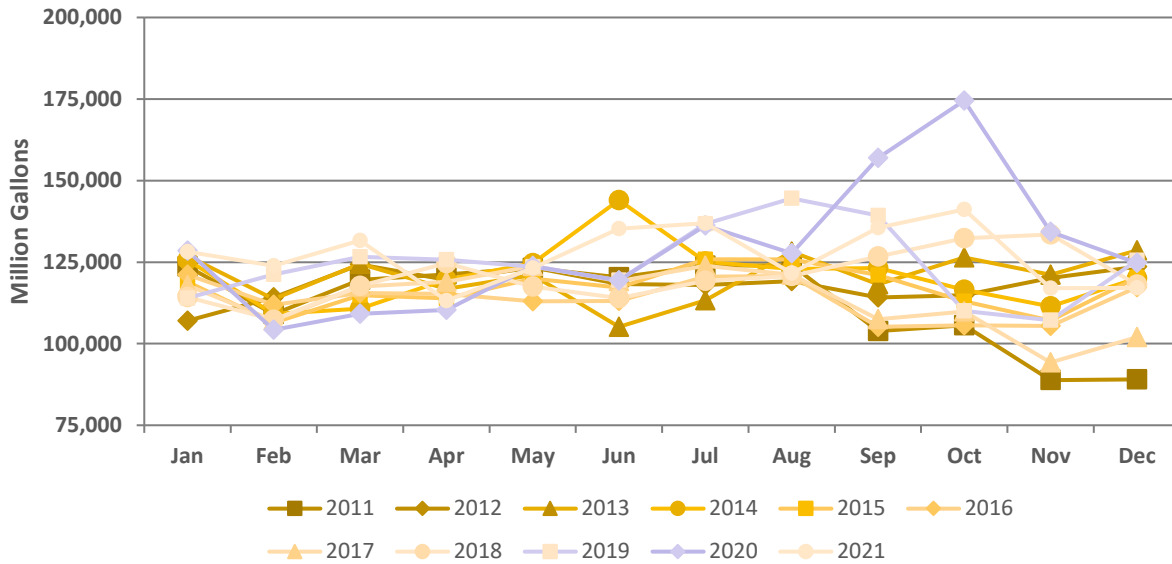


Figure 45: Total Historic Surface Water Reported Monthly Use in the Savannah Basin, 2011-2021

### Total Monthly Historic Surface Water Usage for the Santee River Basin (No Power)

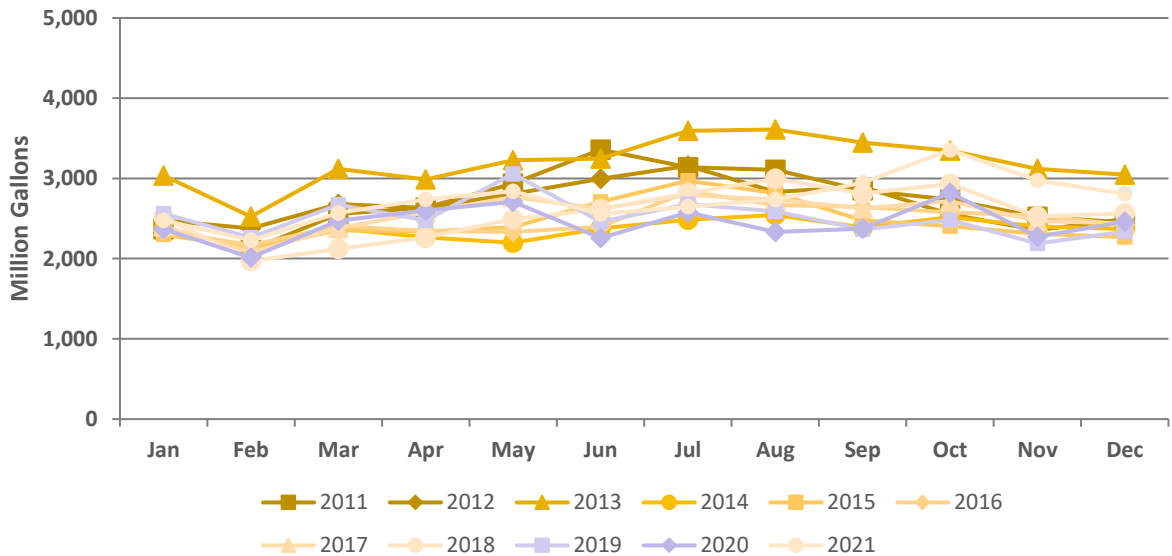


Figure 46: Total Historic Surface Water Monthly Reported Use in the Santee Basin with no power production users, 2011-2021

### Total Historic Surface Water Usage for the Savannah River Basin

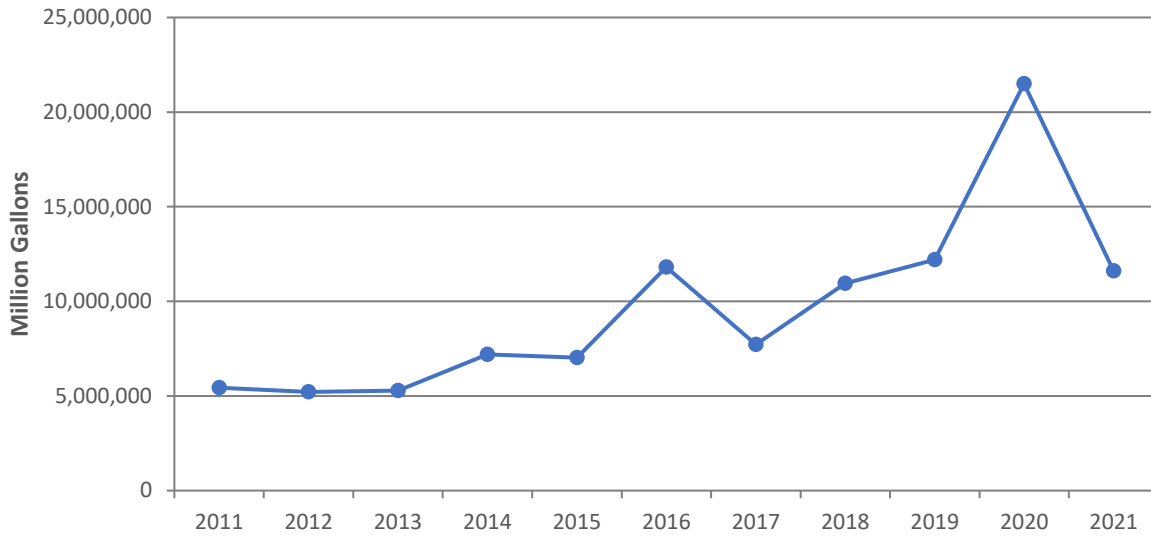


Figure 47: Total Historic Surface Water Reported Use Over Time in the Savannah Basin, 2011-2021 \*2015 to present saw an increase use for hydroelectric power users, including the installation of 3 new power plants

### Total Historic Surface Water Usage for the Savannah River Basin (No Power)

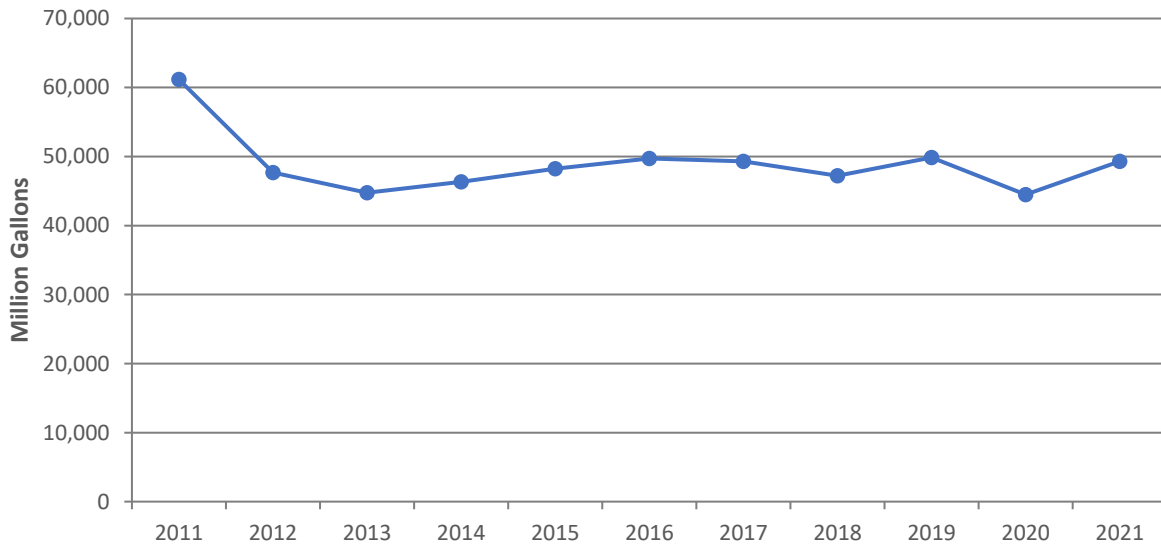


Figure 48: Total Historic Surface Water Reported Use Over Time in the Savannah Basin excluding power production, 2011-2021

### Total Monthly Historic Surface Water Usage for the Savannah River Basin

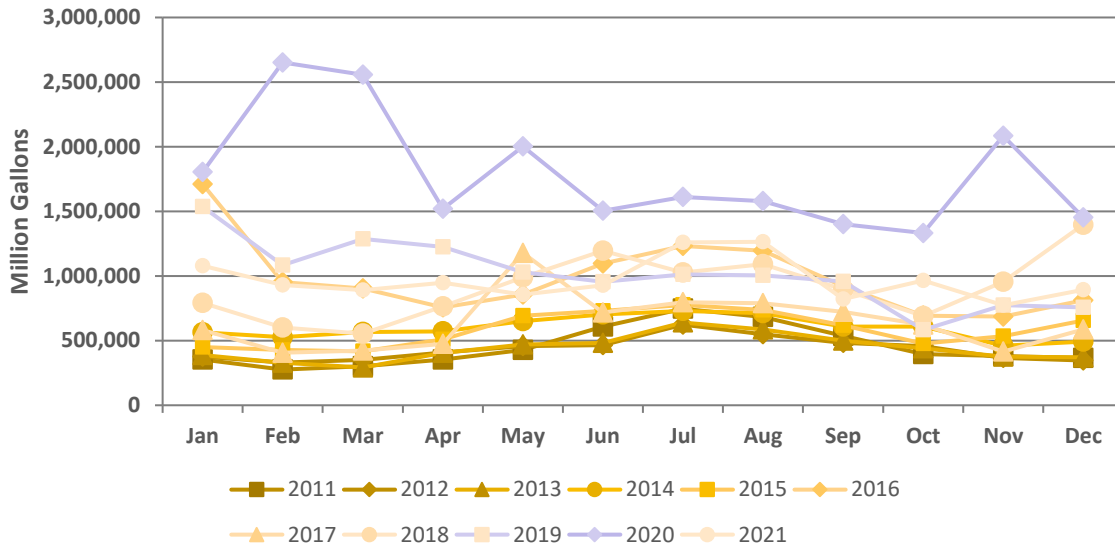


Figure 49: Total Historic Surface Water Monthly Reported Use in the Savannah Basin, 2011-2021

### Total Monthly Historic Surface Water Usage for the Savannah River Basin (No Power)

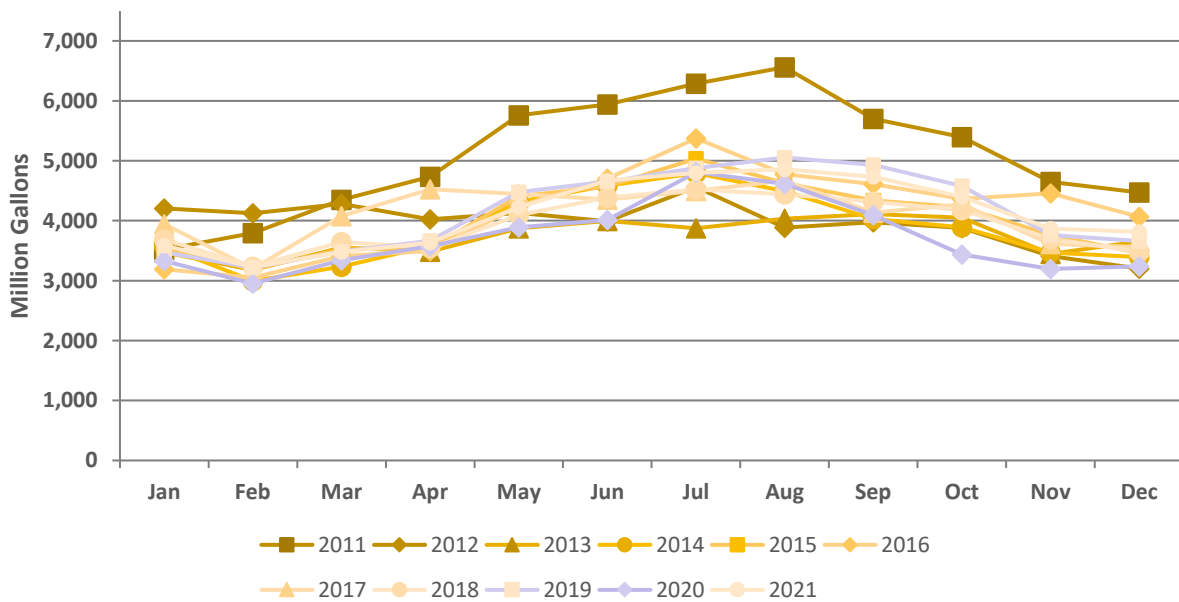


Figure 50: Total Historic Surface Water Monthly Reported Use in the Savannah Basin with no power production users, 2011-2021

## Total Reported Groundwater Use by Basin 2021

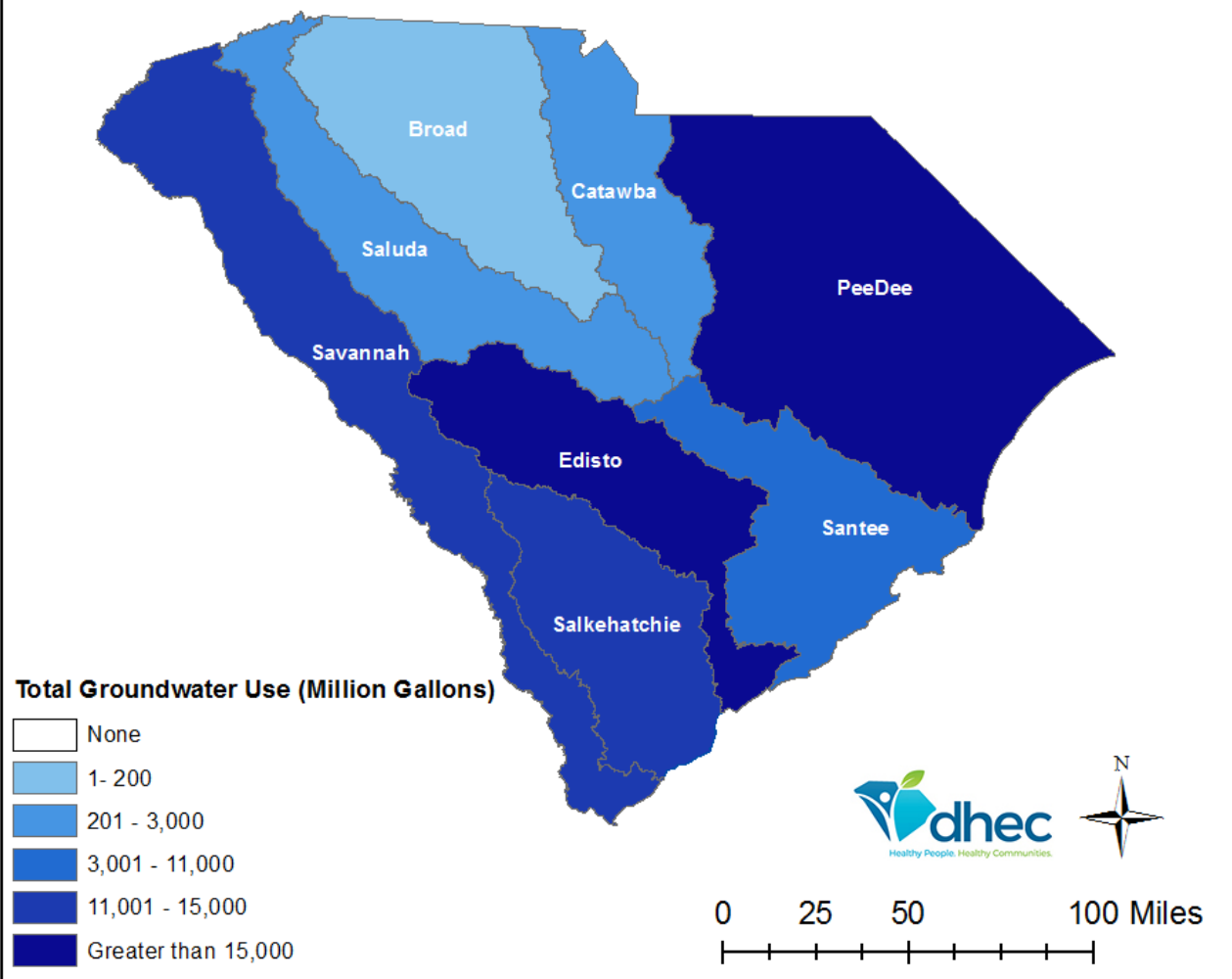


Figure 51: Total Reported Groundwater Use by Basin 2021

## Monthly Groundwater Usage in the Broad River Basin

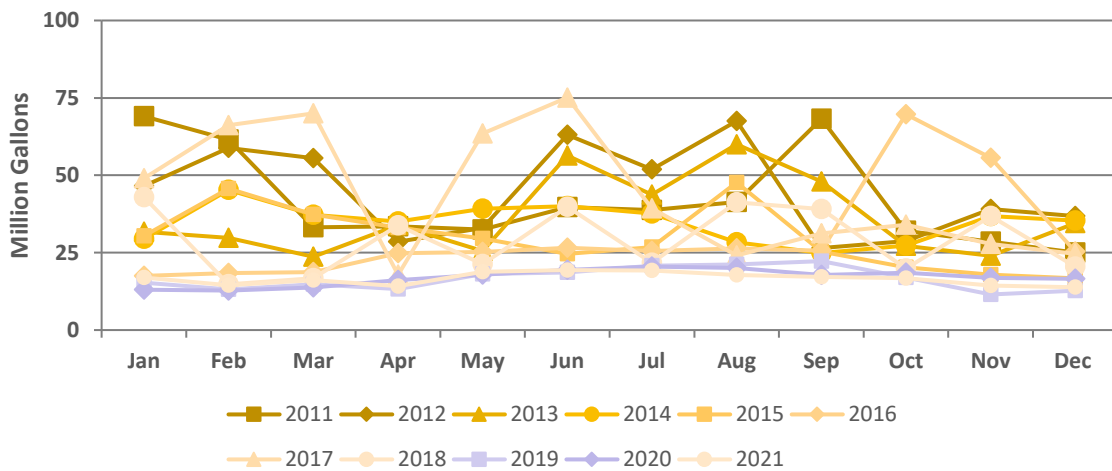


Figure 52: Total Historic Groundwater Monthly Reported Use in the Broad Basin, 2011-2021

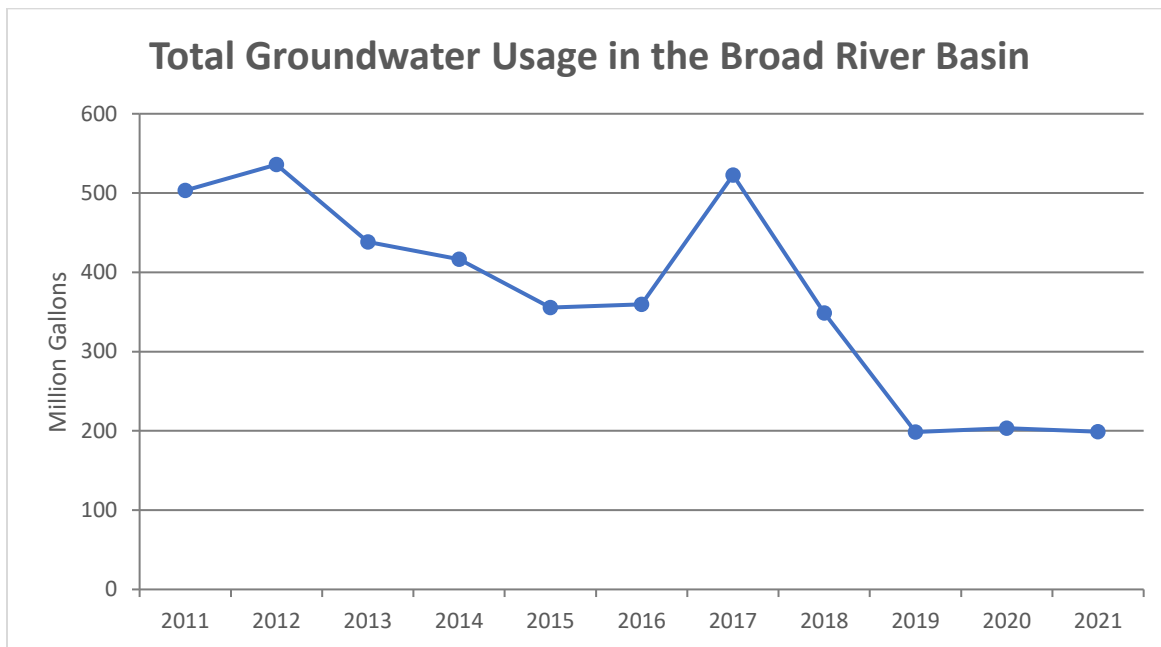


Figure 53: Total Historic Groundwater Reported Use Over Time in the Broad Basin 2011-2021

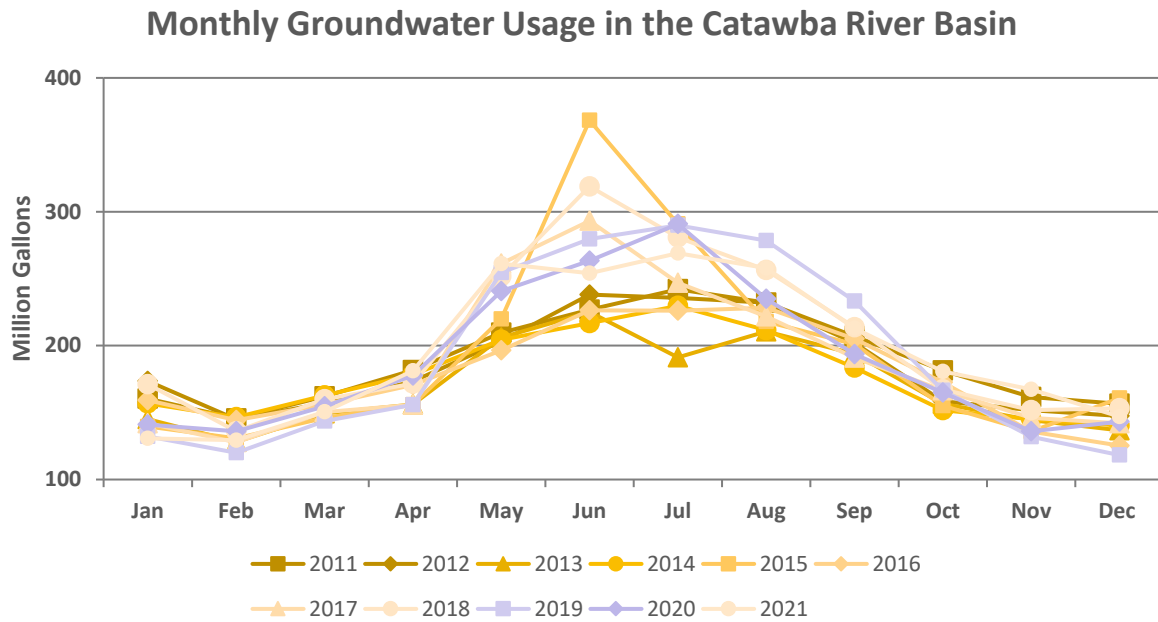


Figure 54: Total Historic Groundwater Monthly Reported Use in the Catawba Basin, 2011-2021

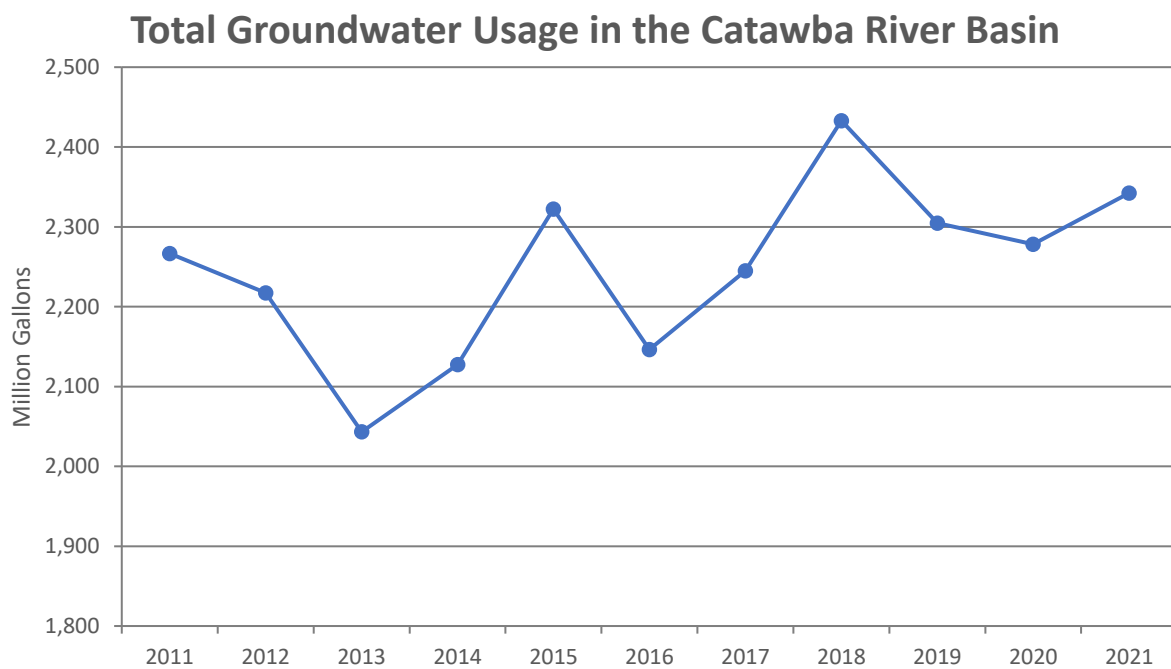


Figure 55: Total Historic Groundwater Reported Use Over Time in the Catawba Basin 2011-2021

## Monthly Groundwater Usage in the Edisto River Basin

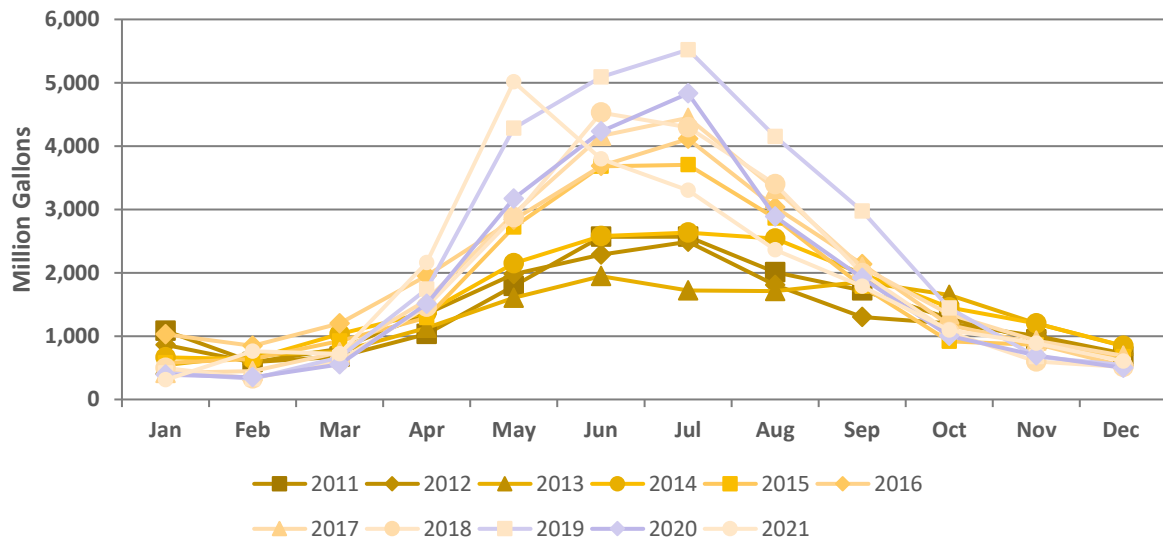


Figure 56: Total Historic Groundwater Monthly Reported Use in the Edisto Basin, 2011-2021

## Total Groundwater Usage in the Edisto River Basin

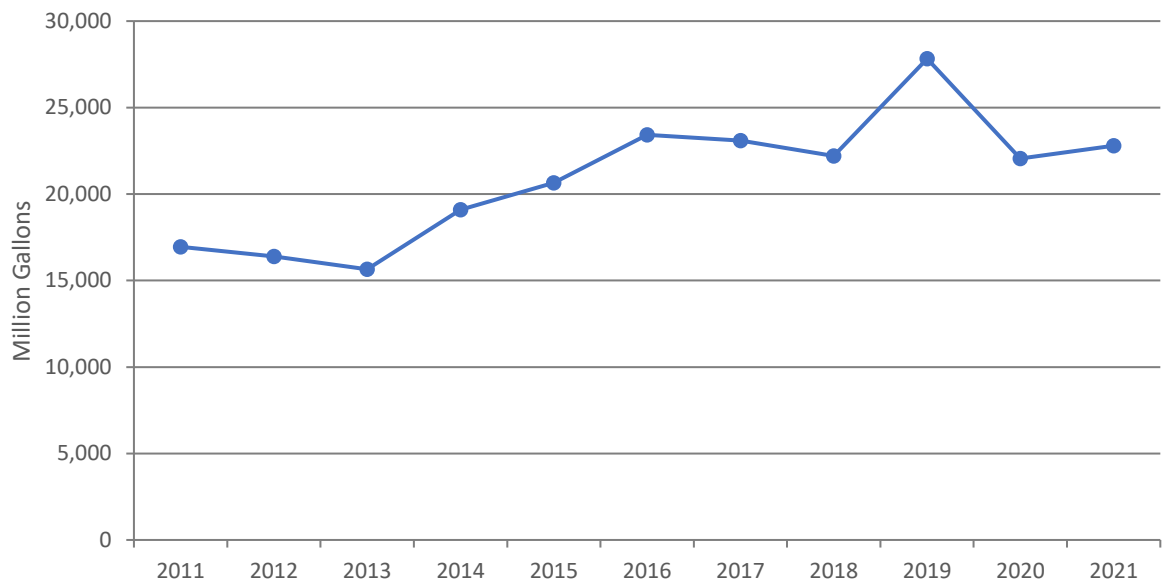


Figure 57: Total Historic Groundwater Reported Use Over Time in the Edisto Basin 2011-2021

## Monthly Groundwater Usage in the Pee Dee River Basin

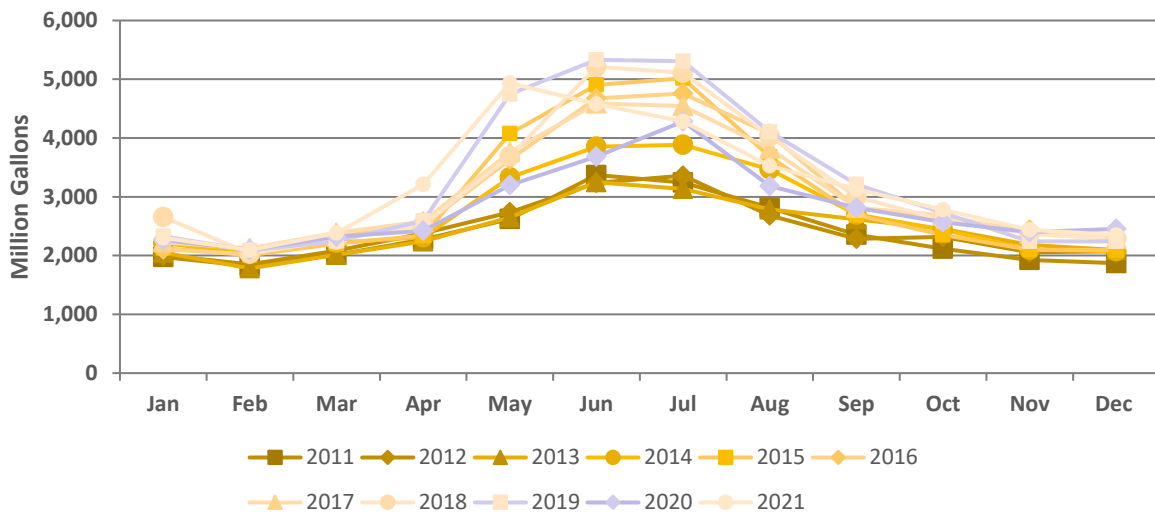


Figure 58: Total Historic Groundwater Monthly Reported Use in the Pee Dee Basin, 2011-2021

## Total Groundwater Usage in the Pee Dee River Basin

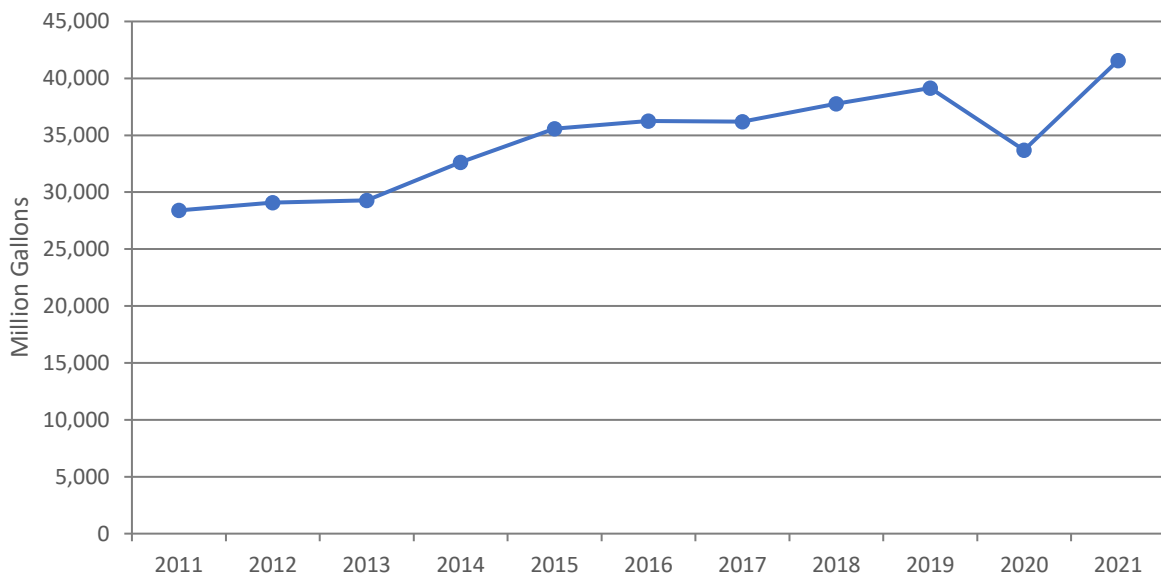


Figure 59: Total Historic Groundwater Reported Use Over Time in the Pee Dee Basin 2011-2021



## Monthly Groundwater Usage in the Salkehatchie River Basin

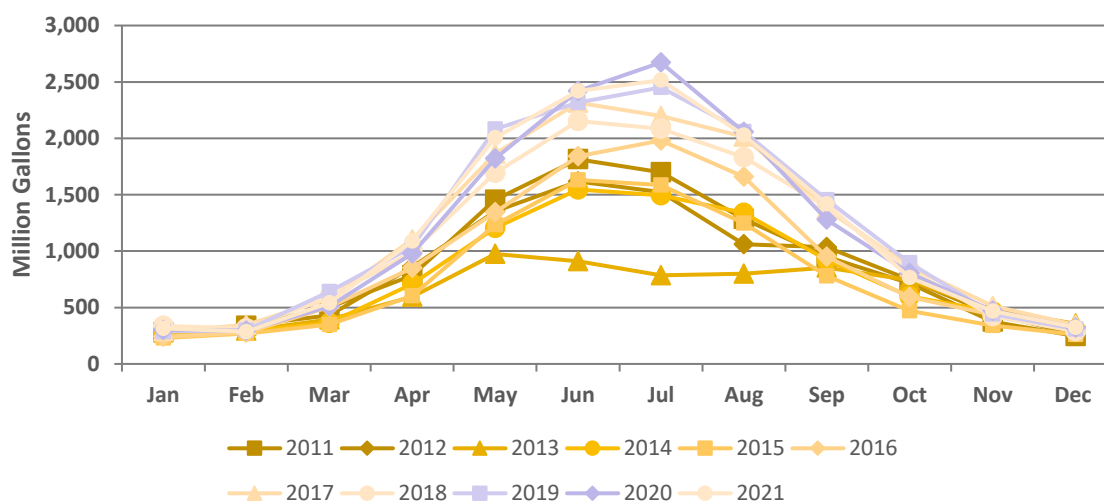


Figure 60: Total Historic Groundwater Monthly Reported Use in the Salkehatchie Basin, 2011-2021

## Total Groundwater Usage in the Salkehatchie River Basin

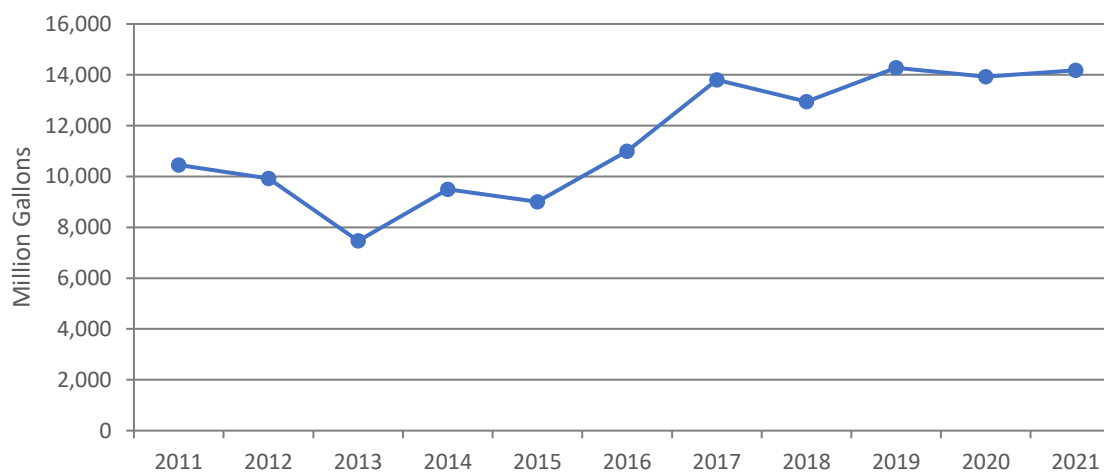


Figure 61: Total Historic Groundwater Reported Use Over Time in the Salkehatchie Basin 2011-2021

## Monthly Groundwater Usage in the Saluda River Basin

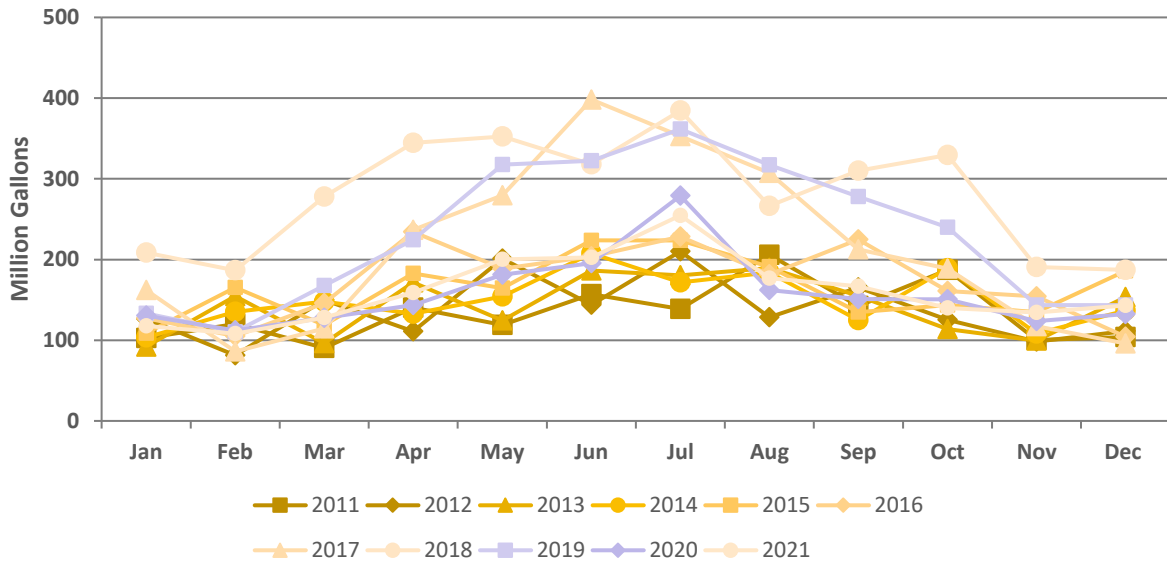


Figure 62: Total Historic Groundwater Monthly Reported Use in the Saluda Basin, 2011-2021

## Total Groundwater Usage in the Saluda River Basin

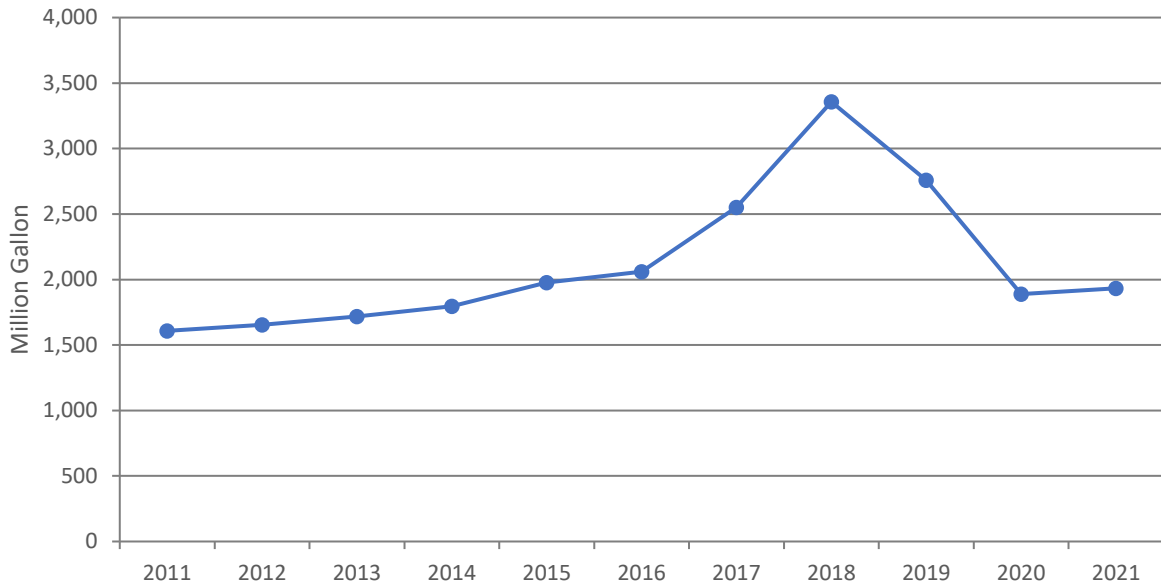


Figure 63: Total Historic Groundwater Reported Use Over Time in the Saluda Basin 2011-2021

## Monthly Groundwater Usage in the Santee River Basin

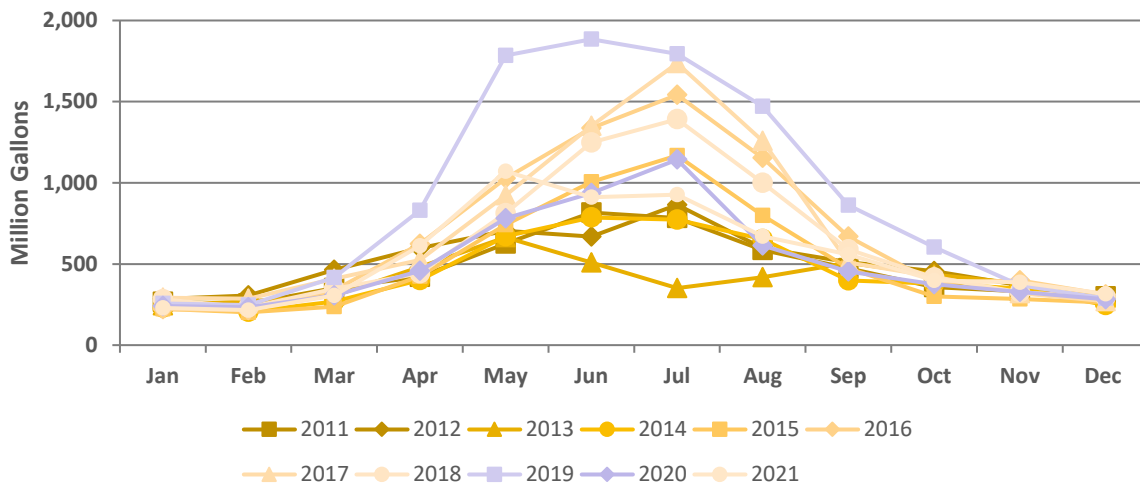


Figure 64: Total Historic Groundwater Monthly Reported Use in the Santee Basin, 2011-2021

## Total Groundwater Usage in the Santee River Basin

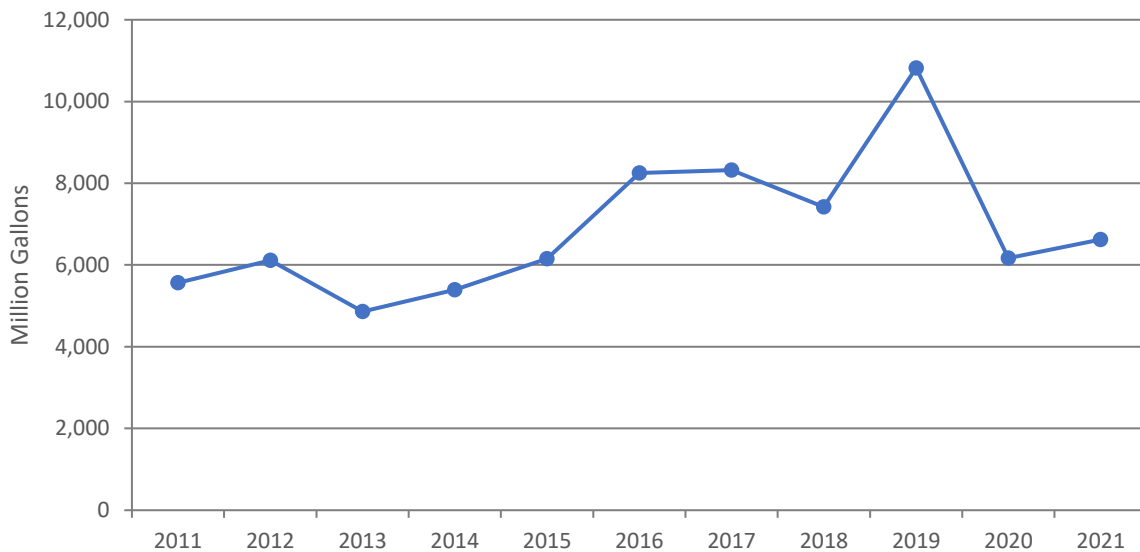


Figure 65: Total Historic Groundwater Reported Use Over Time in the Santee Basin 2011-2021

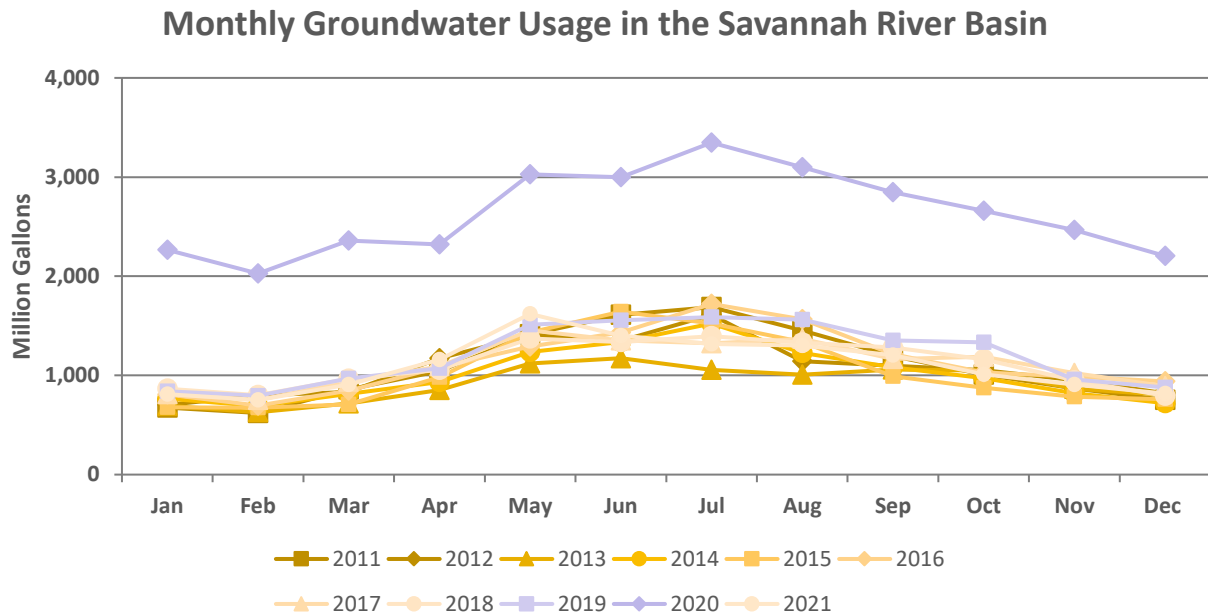


Figure 66: Total Historic Groundwater Monthly Reported Use in the Savannah Basin, 2011-2021

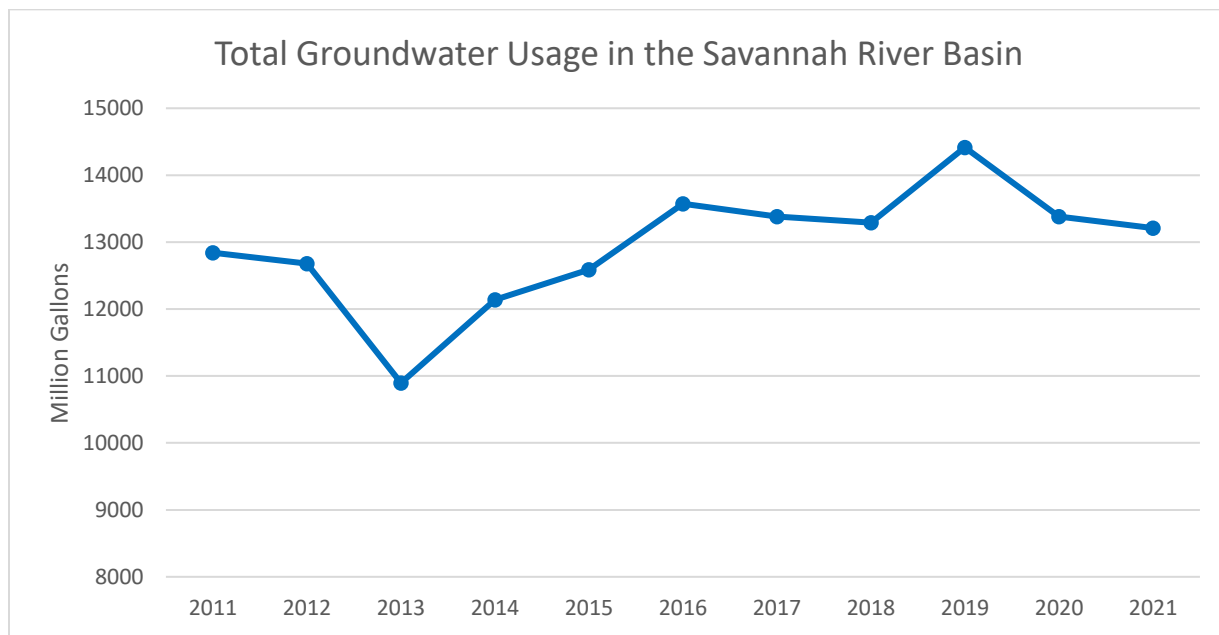


Figure 67: Total Historic Groundwater Reported Use Over Time in the Savannah Basin 2011-2021

## Water Use Categories<sup>3</sup>

### Aquaculture

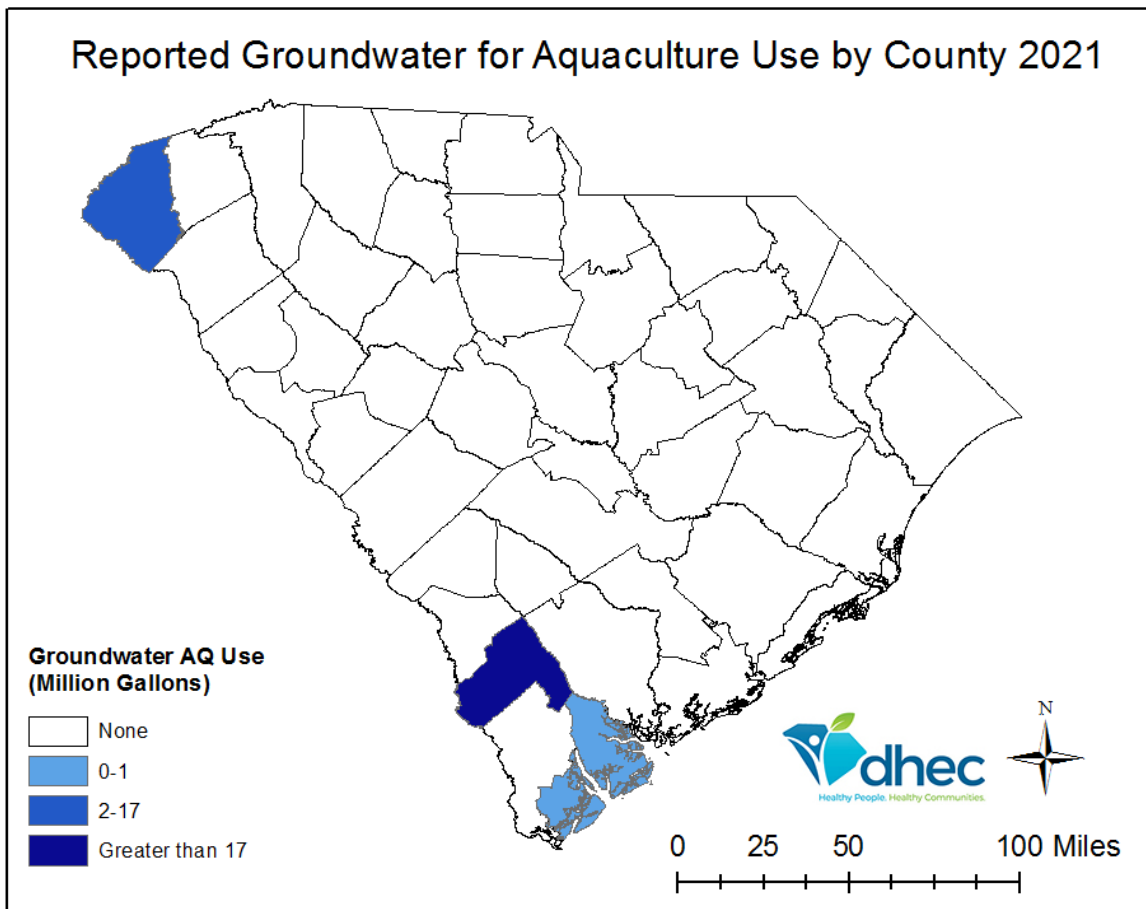


Figure 68: Total Reported Groundwater Use for Aquaculture by County 2021

<sup>3</sup> Map legend range differs per map figure

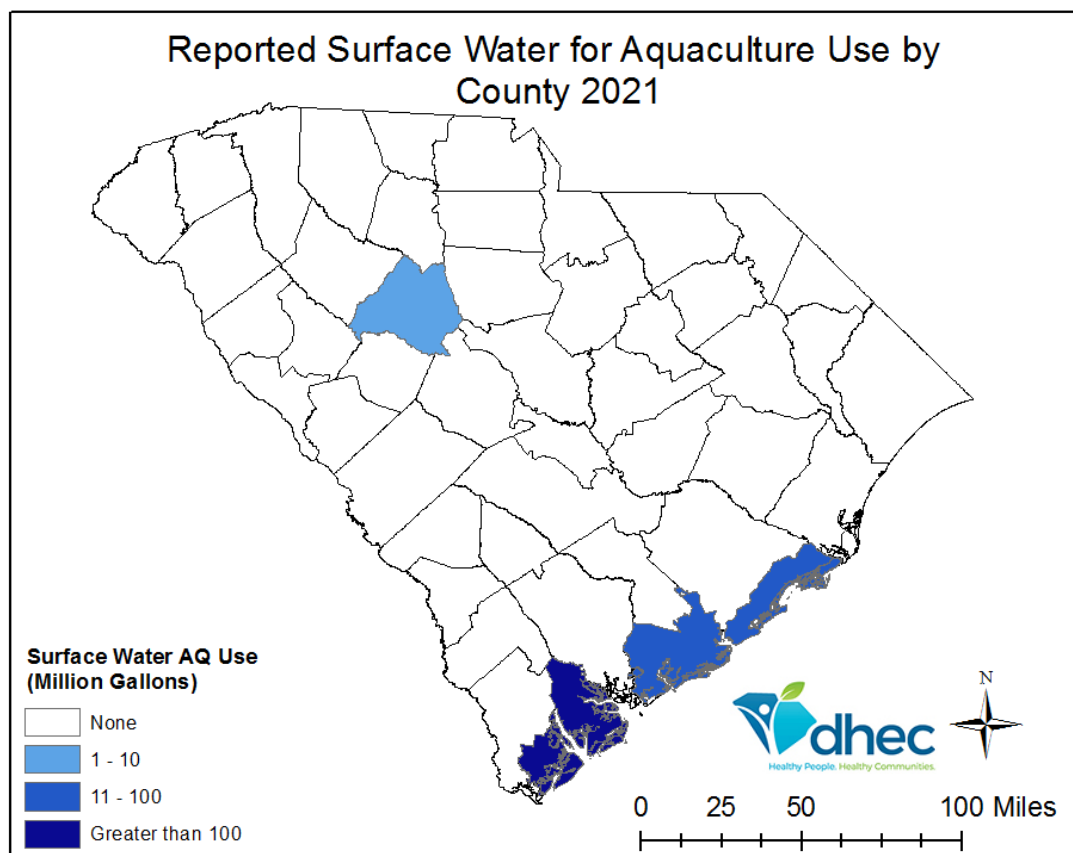


Figure 69: Total Reported Surface Water Use for Aquaculture by County 2021

## Reported Active Groundwater Use for Aquaculture

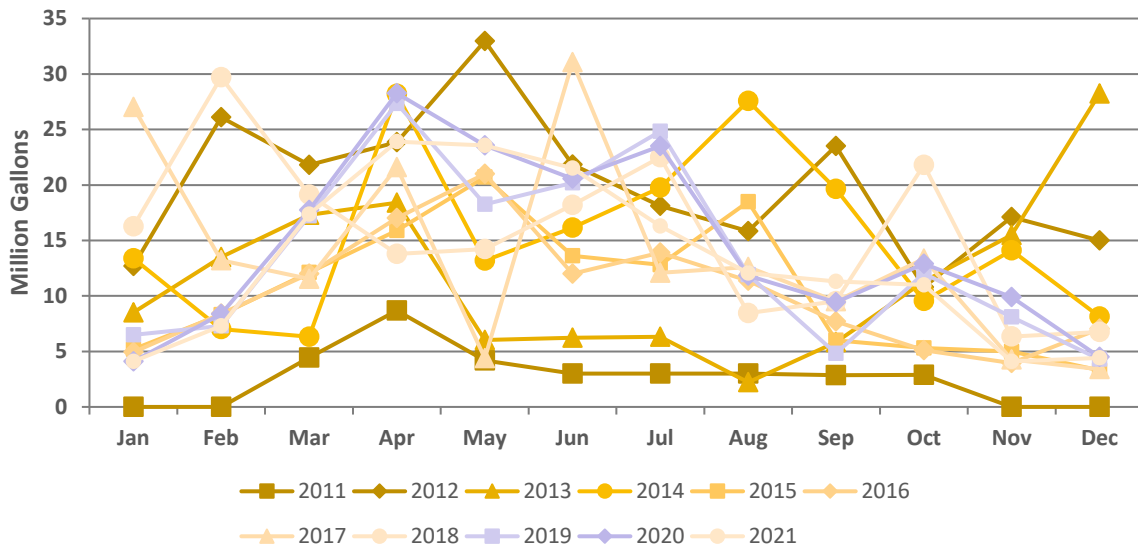


Figure 70: Reported Groundwater Use for Aquaculture by Month, 2011-2021

## Reported Active Surface Water Use for Aquaculture

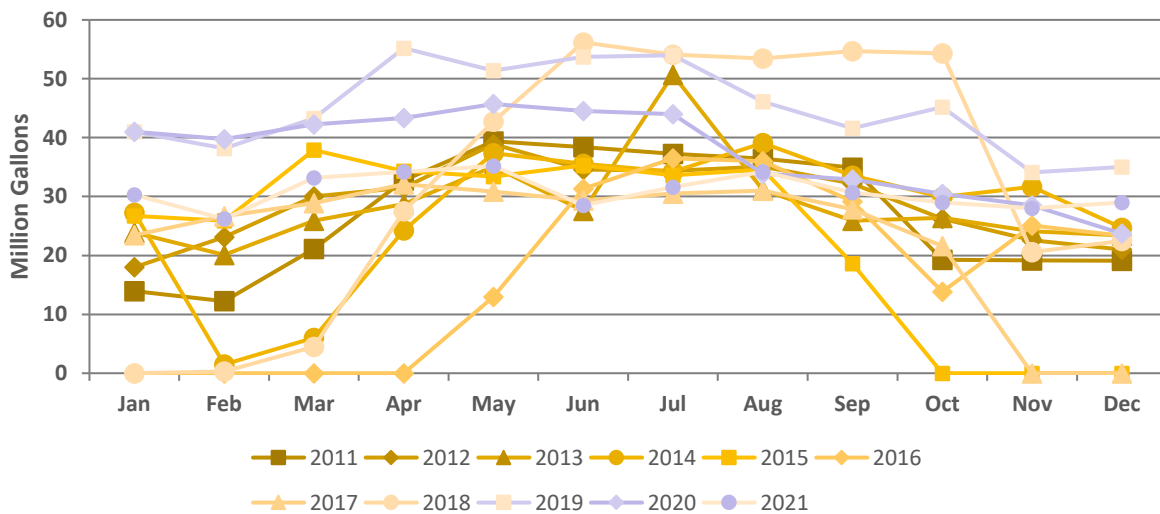


Figure 71: Reported Surface Water Use for Aquaculture by Month, 2011-2021

## Golf Courses

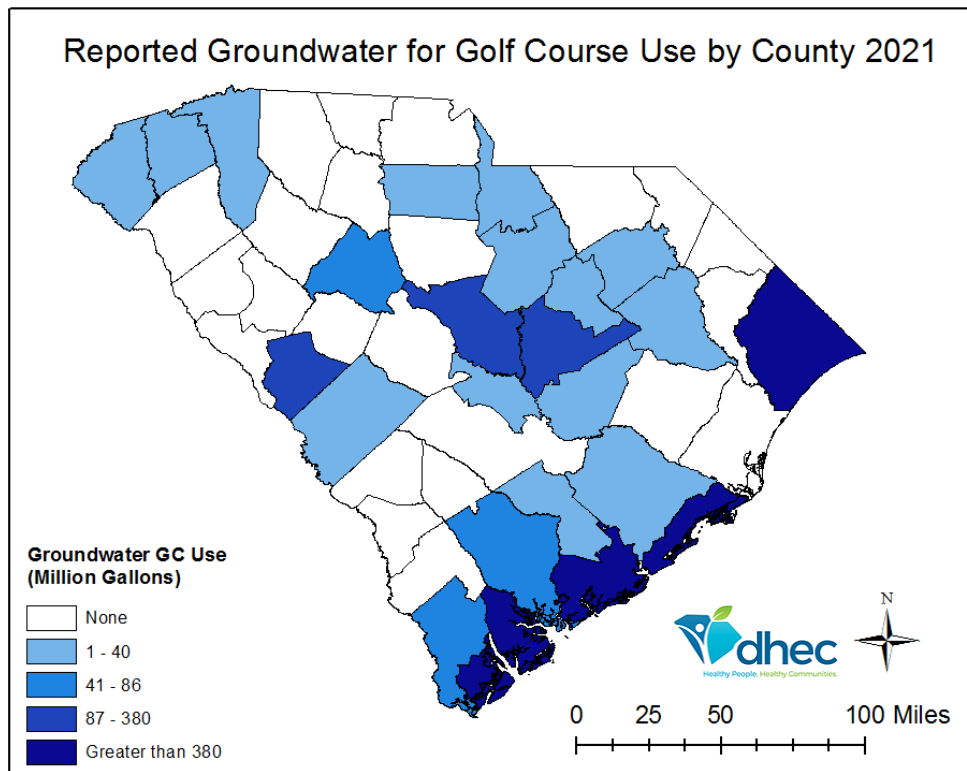


Figure 72: Total Reported Groundwater Use for Golf Courses by County 2021

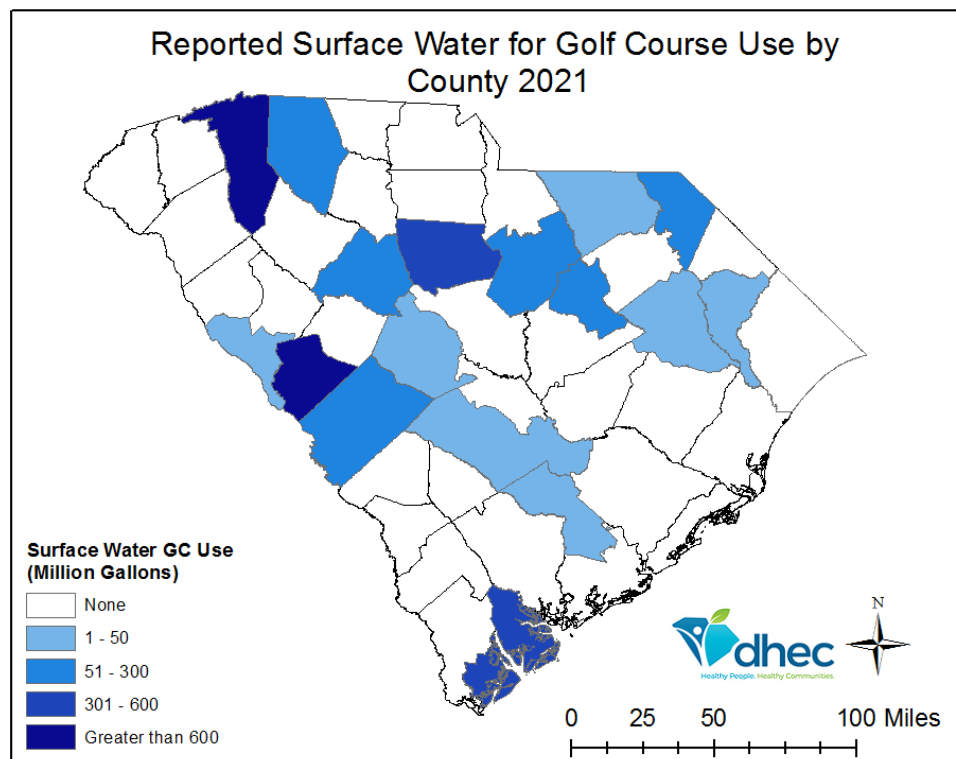


Figure 73: Total Reported Surface Water Use for Golf Courses by County 2021



## Reported Active Groundwater Use for Golf Courses

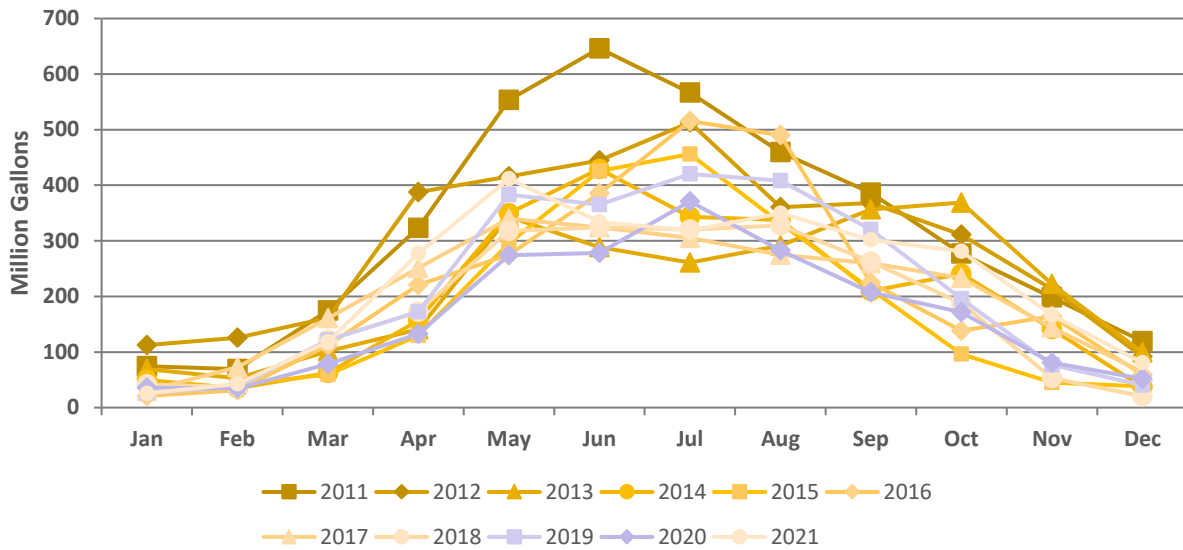


Figure 74: Reported Groundwater Use for Golf Courses by Month, 2011-2021

## Reported Active Surface Water Use for Golf Course

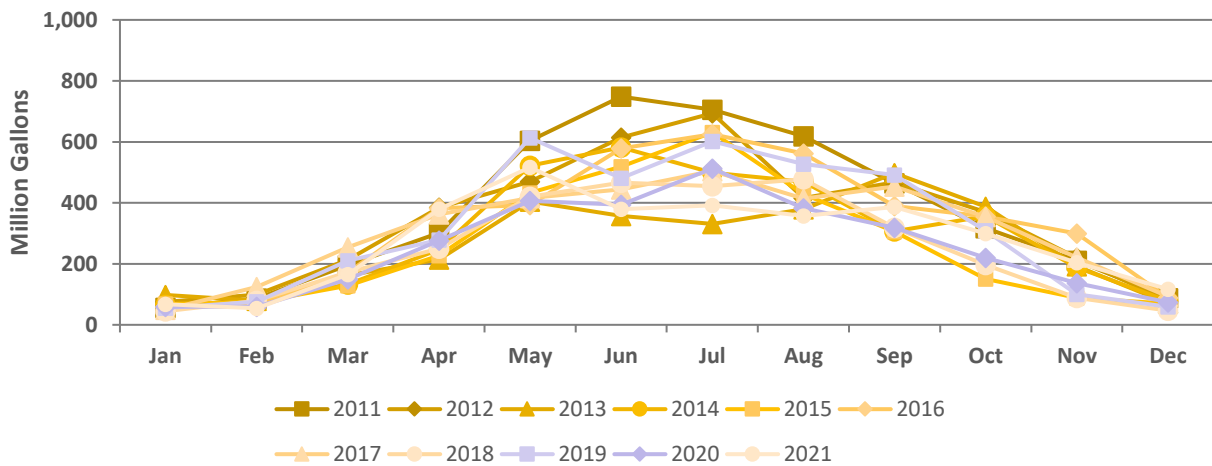


Figure 75: Reported Surface Water Use for Golf Courses by Month, 2011-2021

## Hydroelectric Power

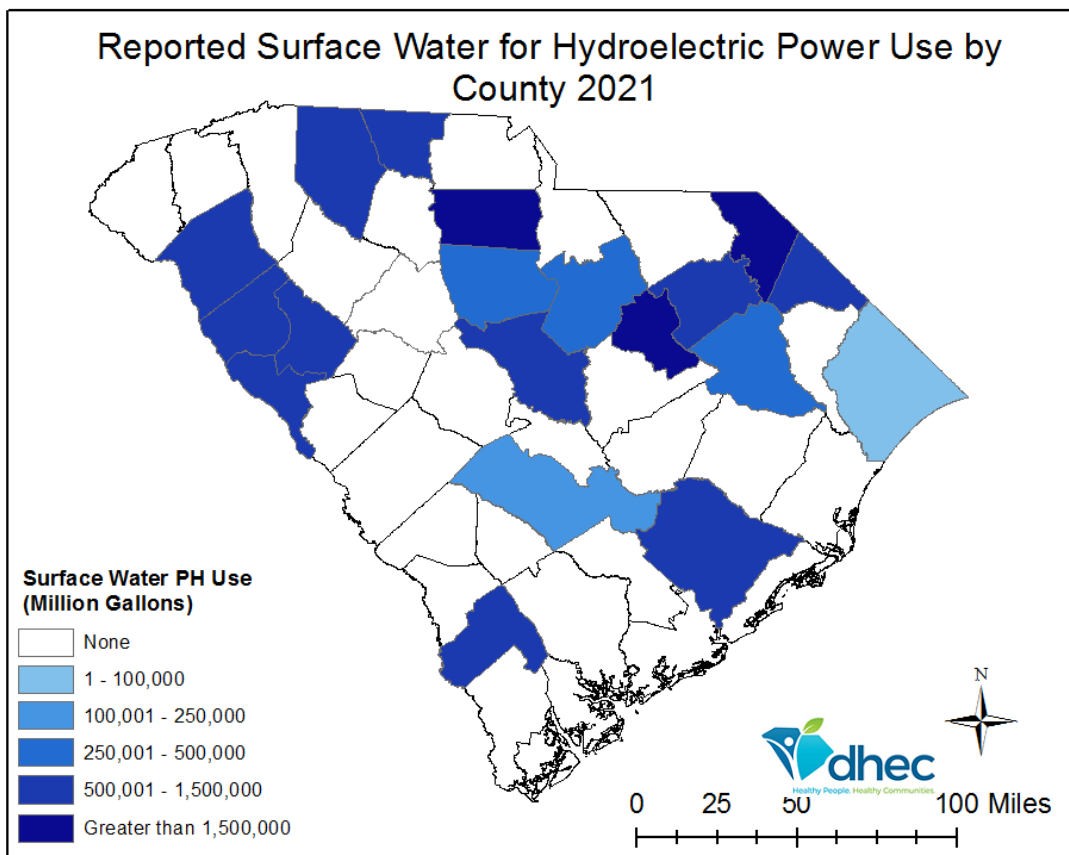


Figure 76: Reported Surface Water Use for Hydroelectric Power by County for 2021. \*No Groundwater usage for Hydroelectric use category

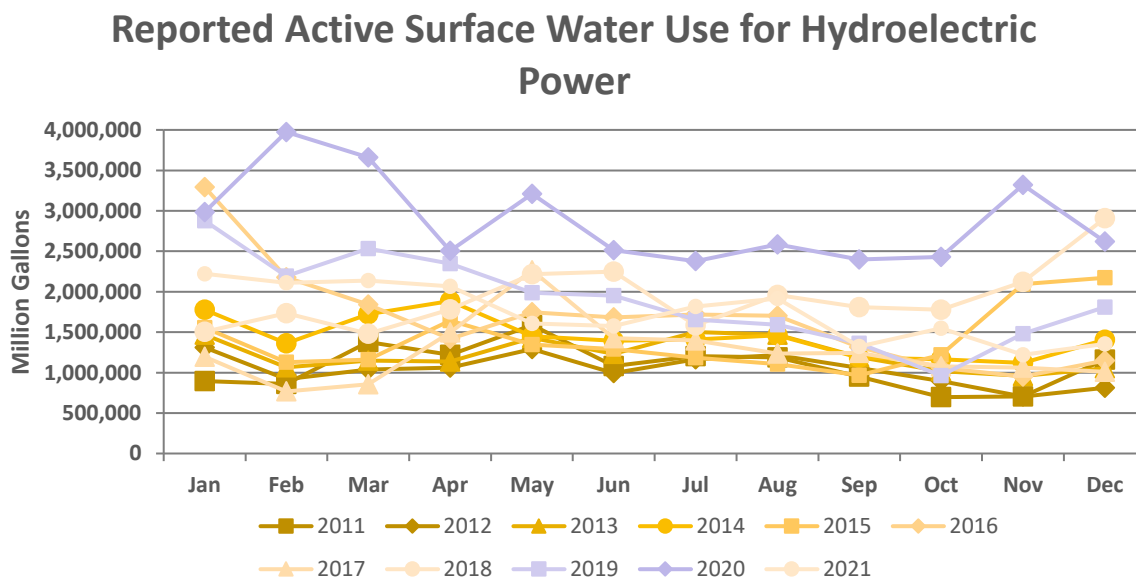


Figure 77: Reported Surface Water Use for Hydroelectric Power by Month, 2011-2021

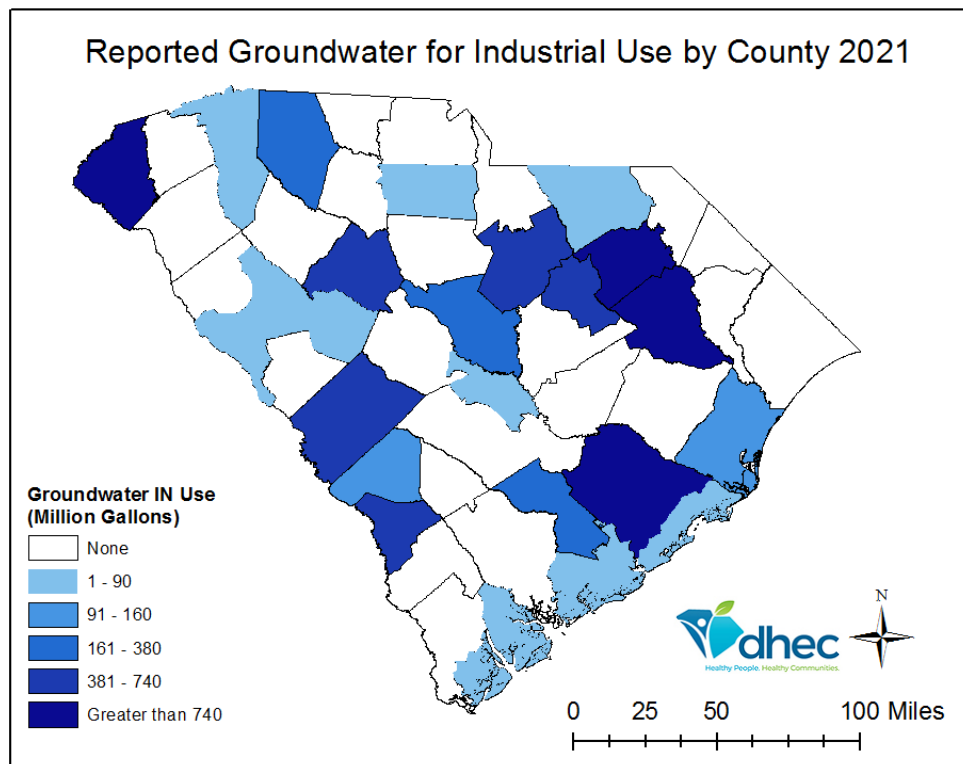


Figure 78: Reported Groundwater Use for Industrial Processes by County, 2021

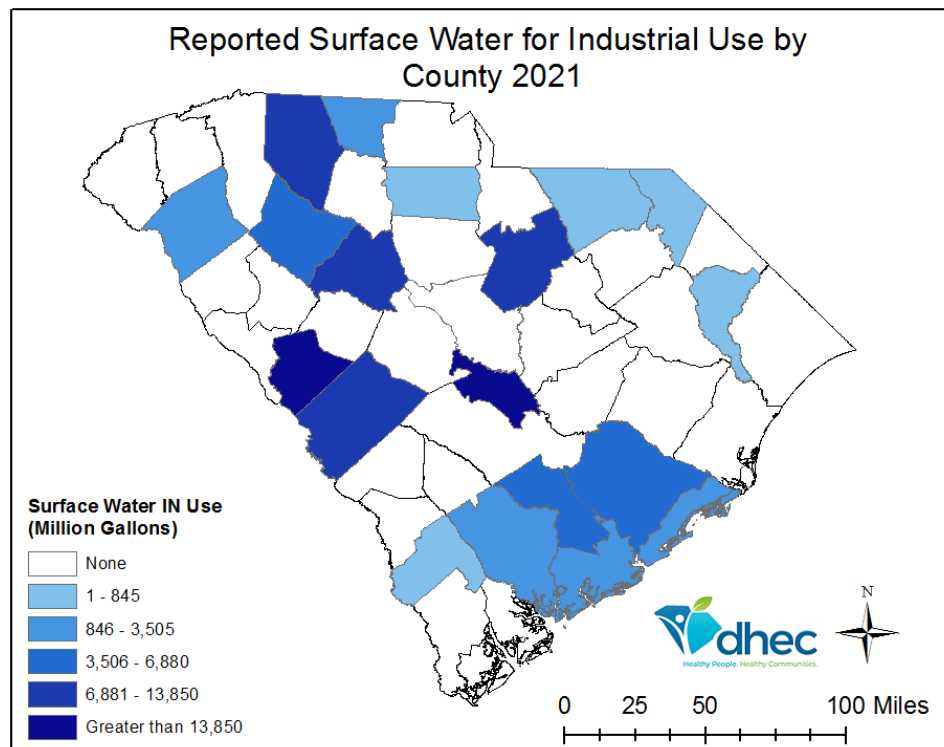


Figure 79: Reported Surface Water Use for Industrial Processes by County, 2021

## Reported Active Groundwater Use for Industrial

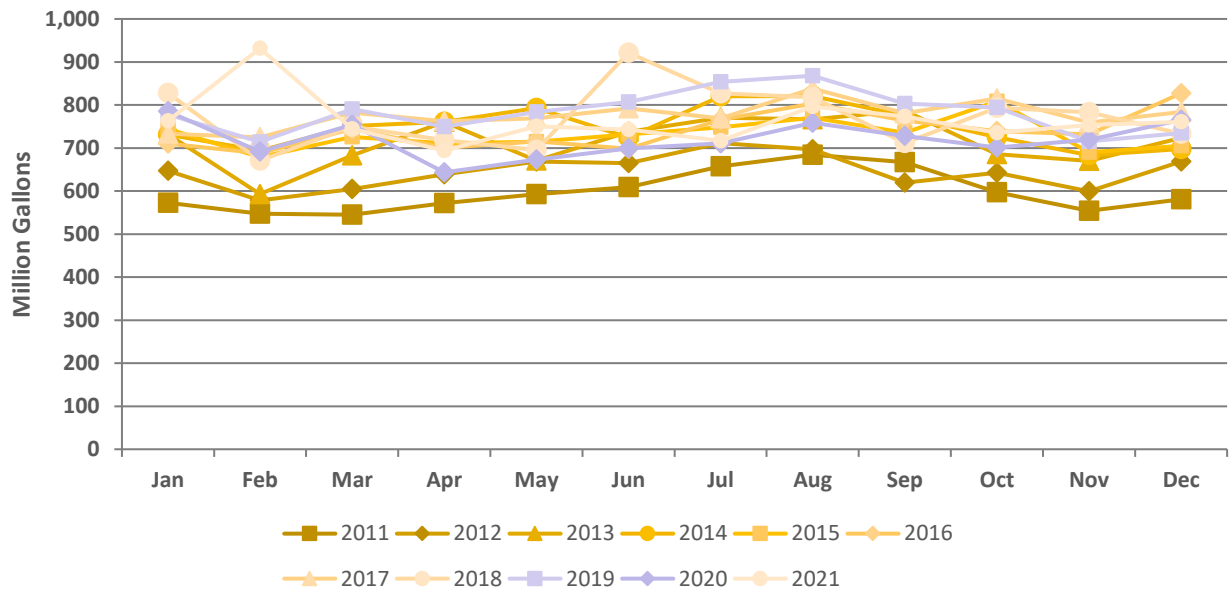


Figure 80: Reported Groundwater Use for Industrial Processes by Month, 2011-2021

## Reported Active Surface Water Use for Industry

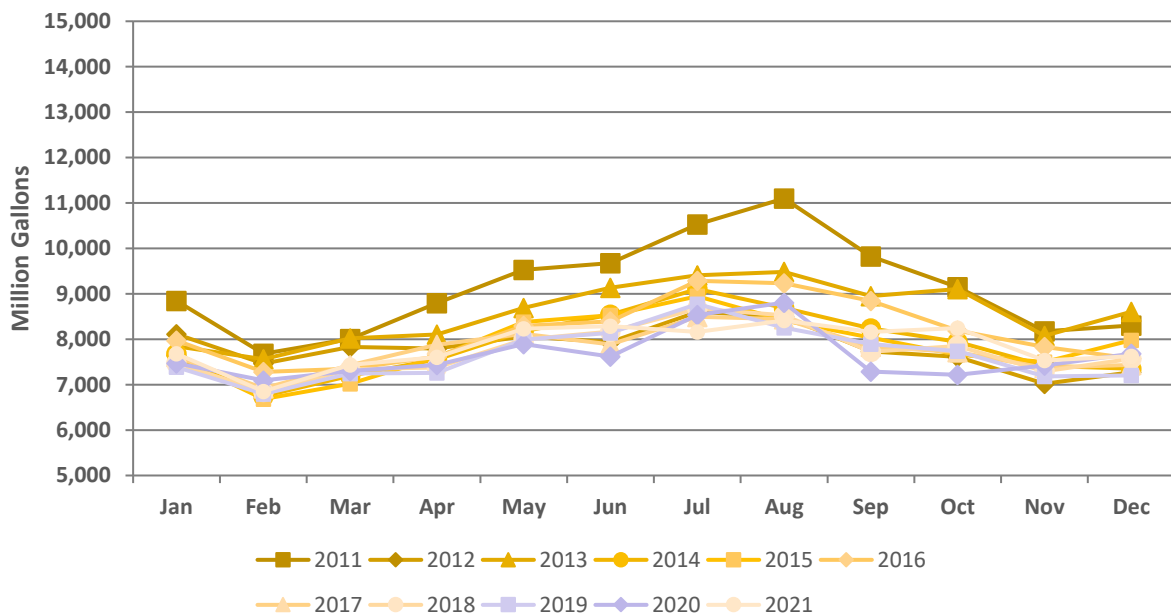


Figure 81: Reported Surface Water Use for Industrial Processes by Month, 2011-2021

## Agricultural Irrigation

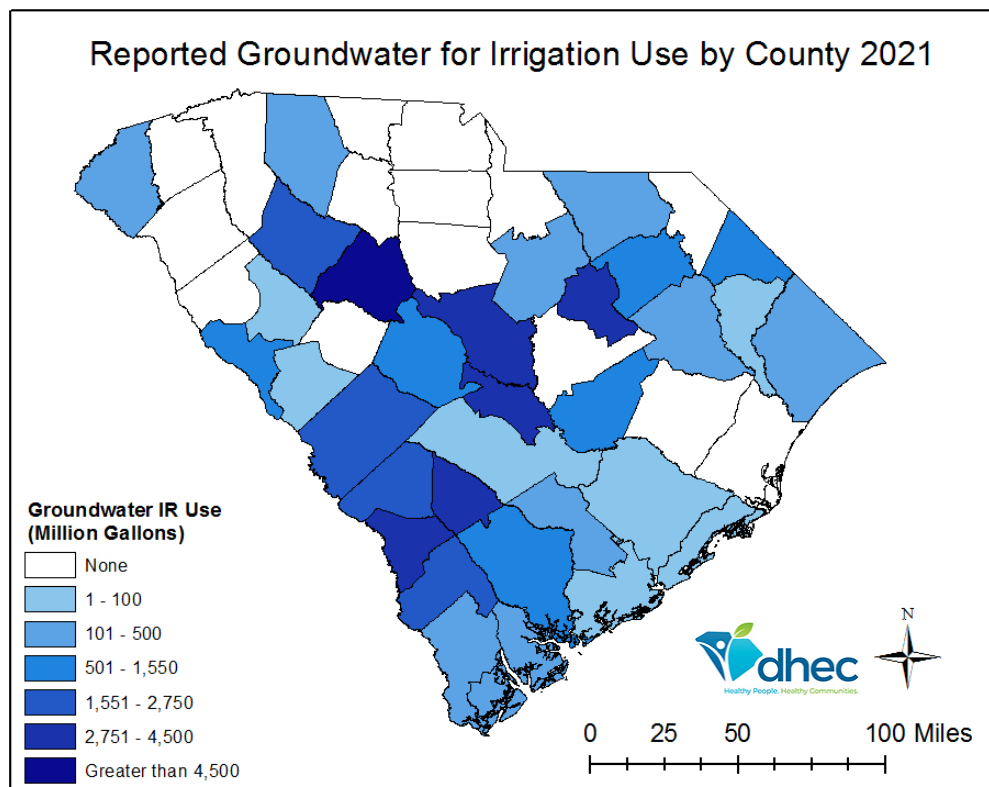


Figure 82: Reported Groundwater Use for Agricultural Irrigation by County for 2021

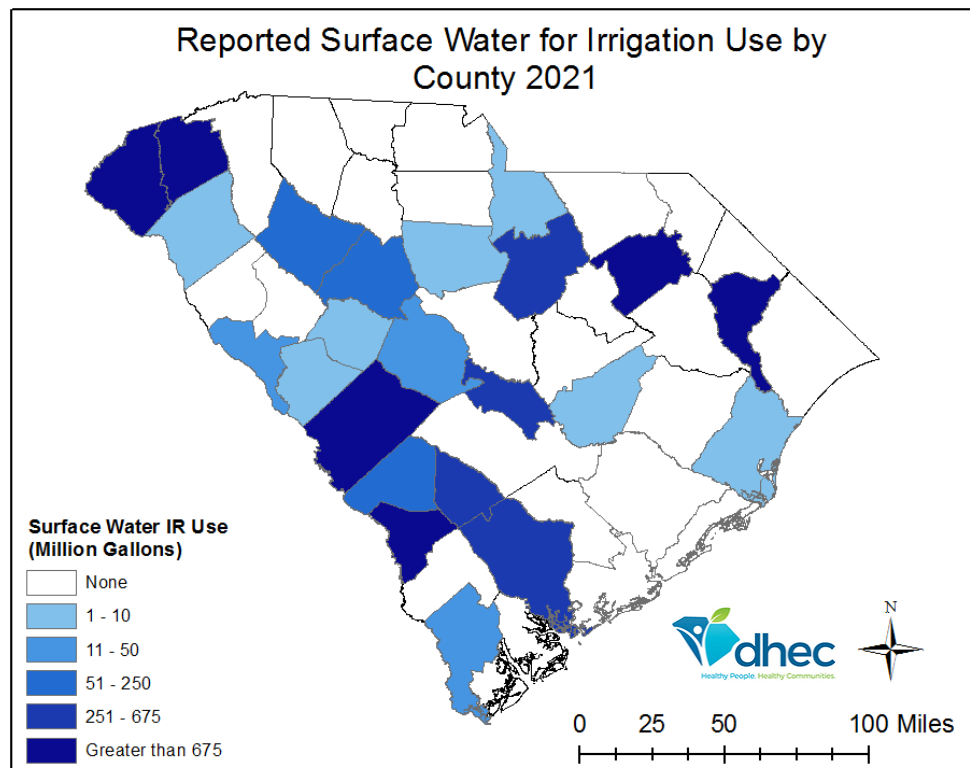


Figure 83: Reported Surface Water Use for Agricultural Irrigation by County for 2021

## Reported Active Groundwater Use for Agricultural

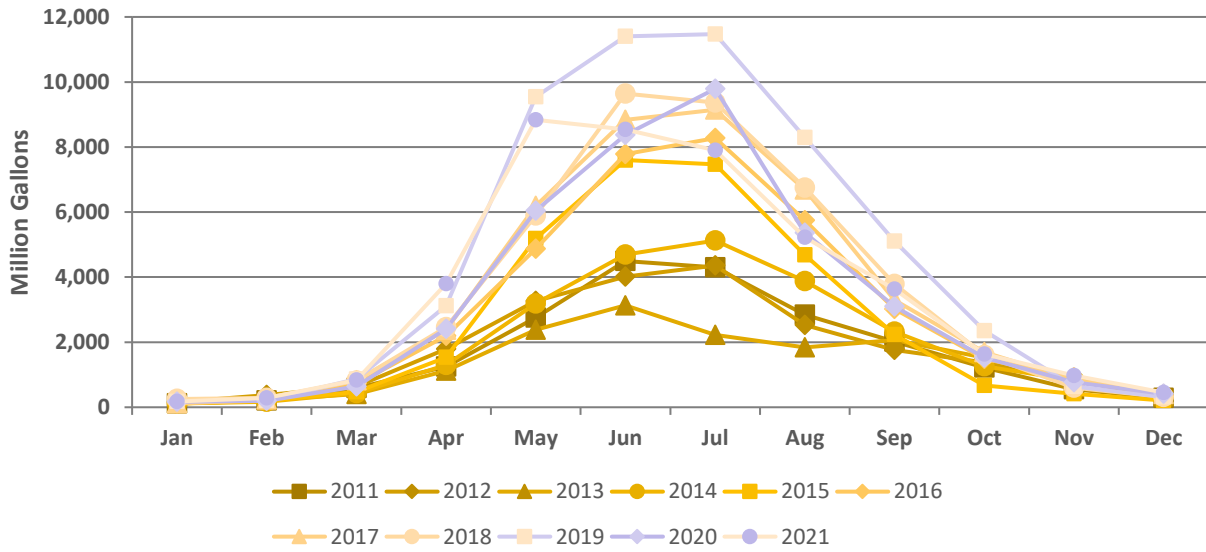


Figure 84: Reported Groundwater Use for Agricultural Irrigation by Month, 2011-2021

## Reported Active Surface Water Use for Irrigation

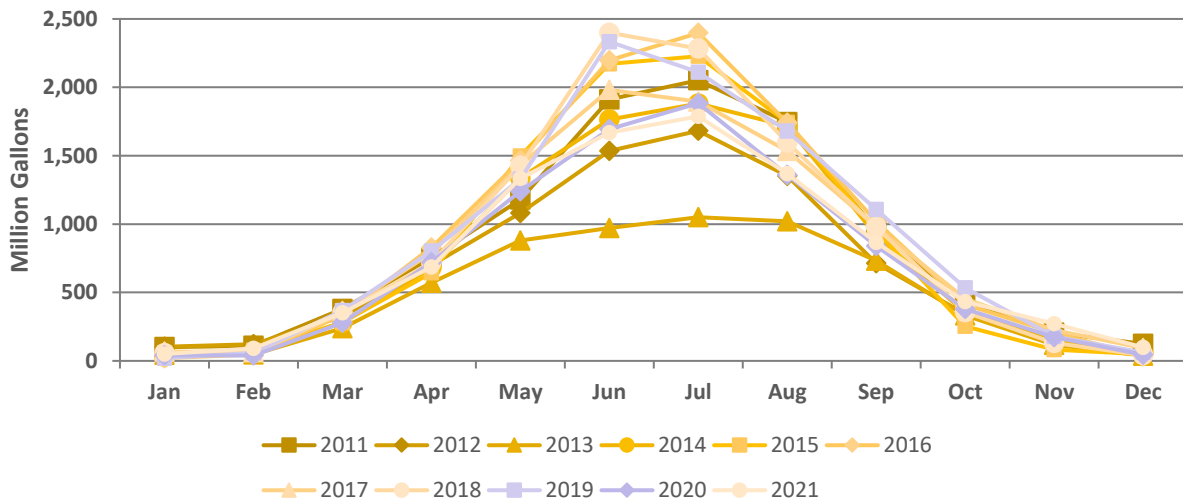


Figure 85: Reported Surface Water Use for Agricultural Irrigation by Month, 2011-2021

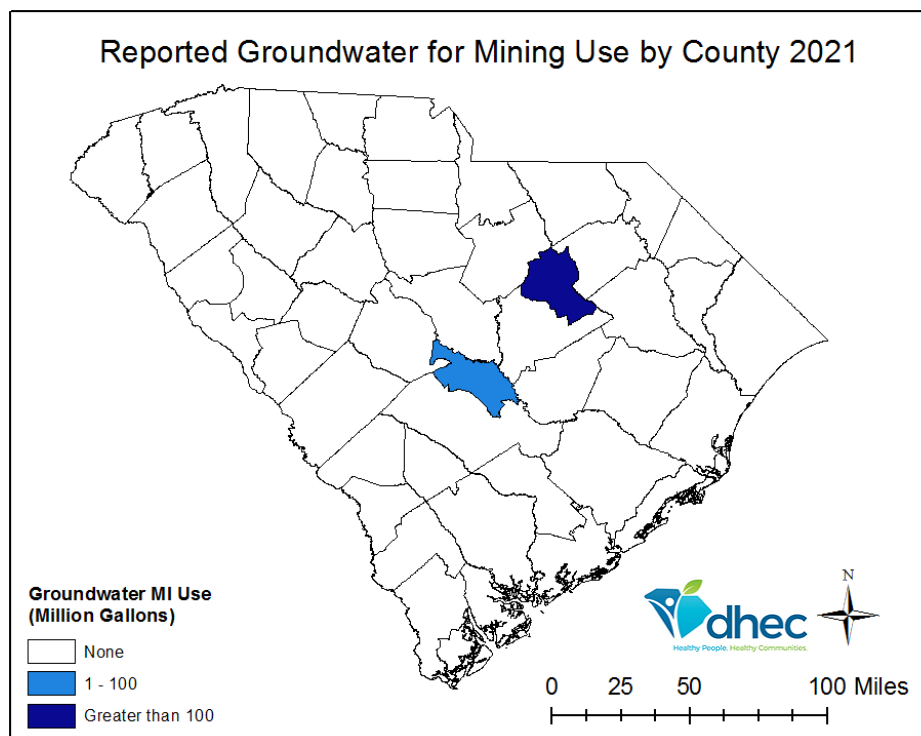


Figure 86: Reported Groundwater Use for Mining Operations by County in 2021

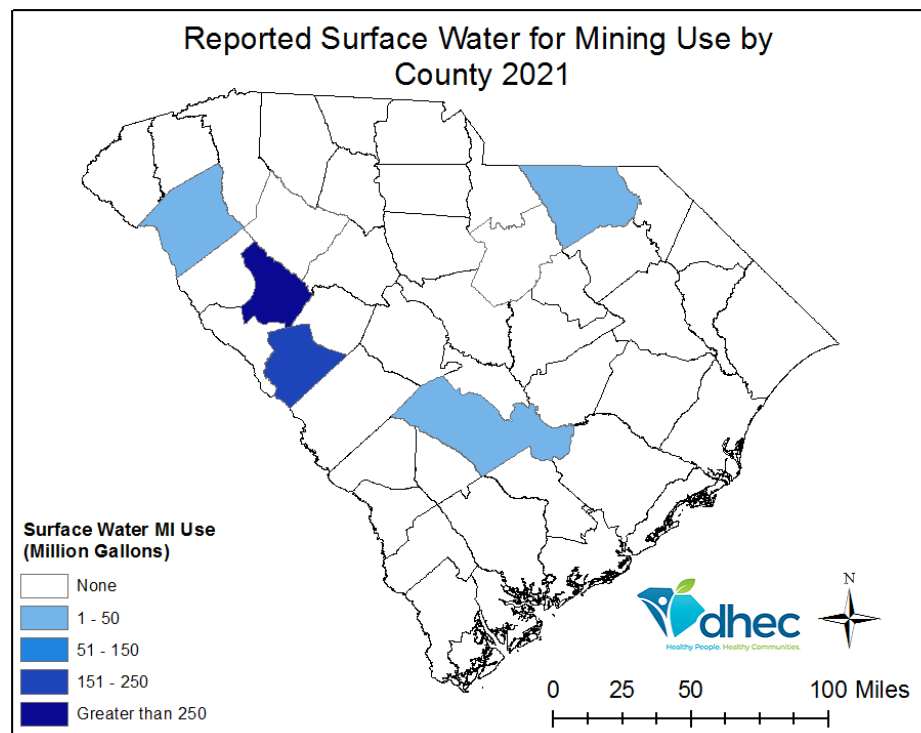


Figure 87: Reported Surface Water Use for Mining Operations by County in 2021

## Reported Active Groundwater Use for Mining

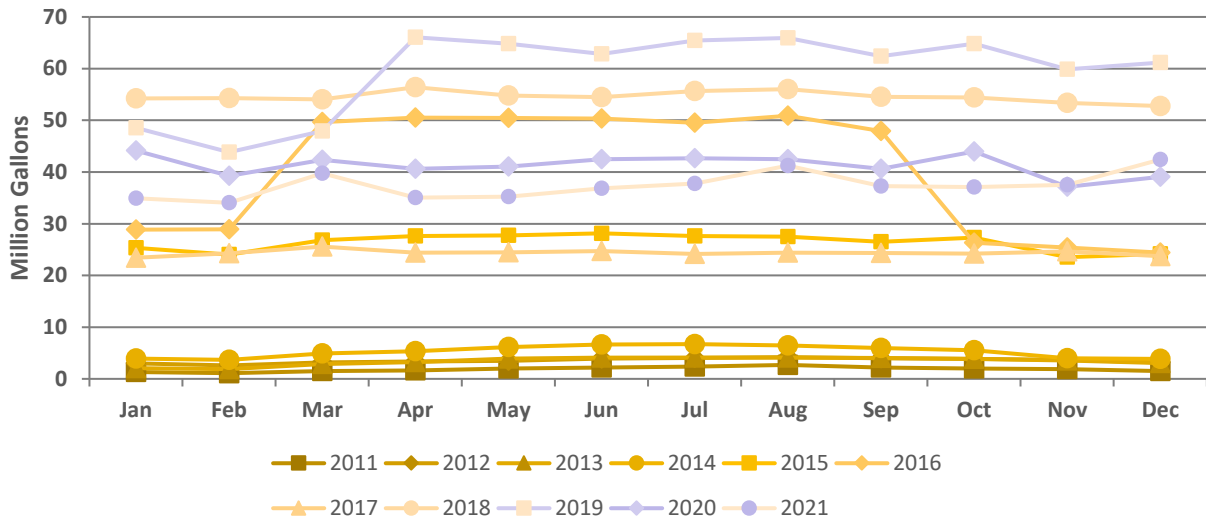


Figure 88: Reported Groundwater Use for Mining Operations by Month, 2011-2021

## Reported Active Surface Water Use for Mining

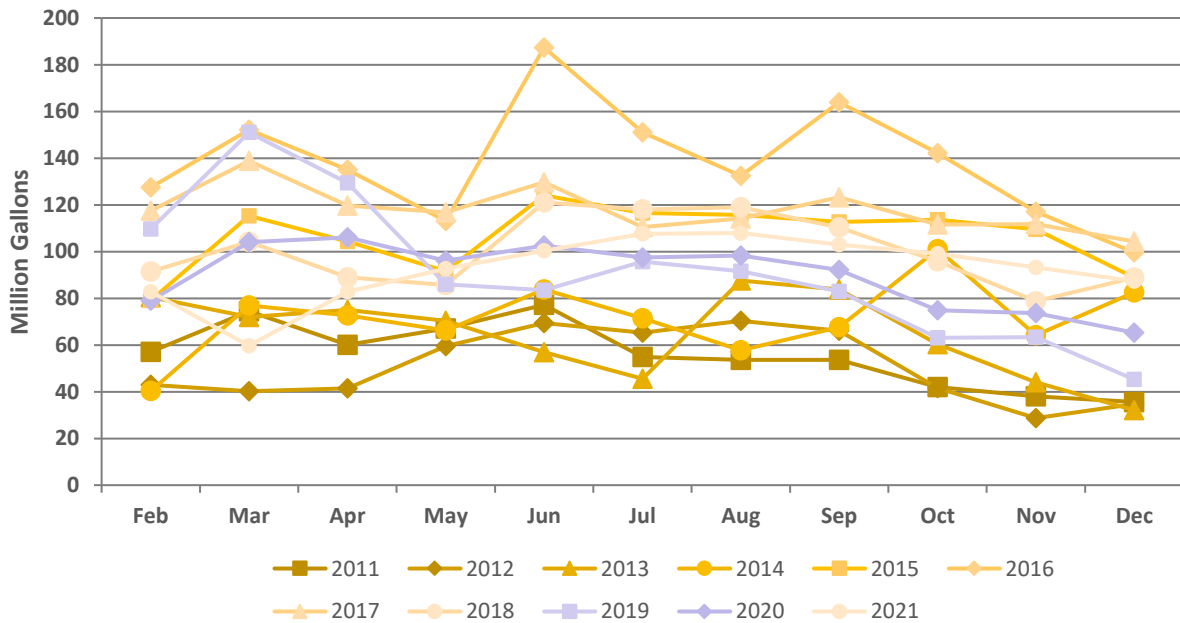


Figure 89: Reported Surface Water Use for Mining Operations by Month, 2011-2021



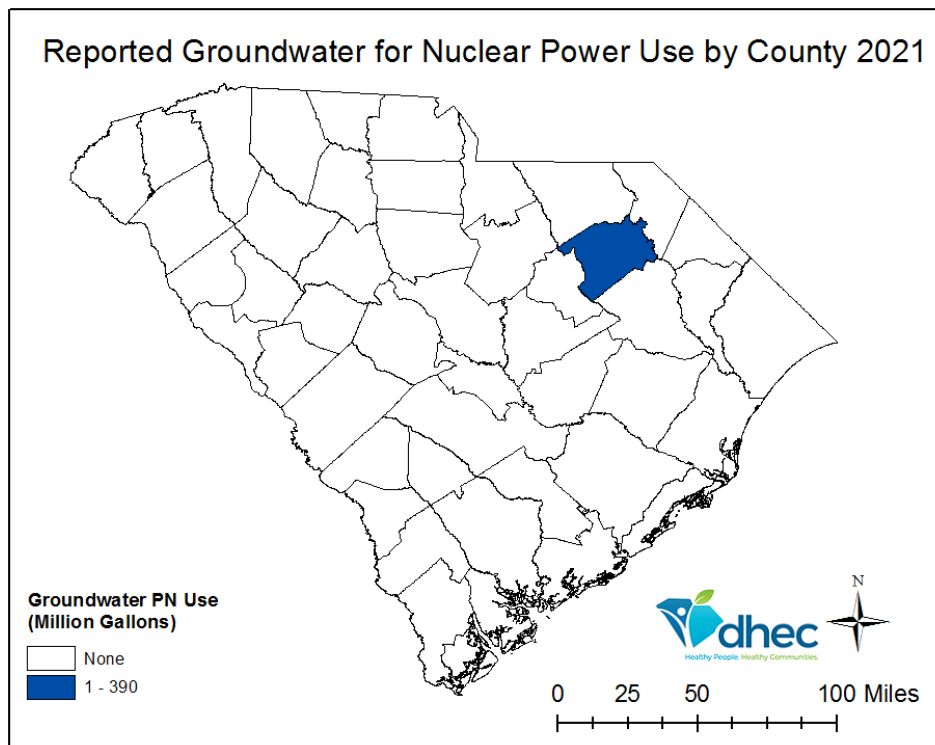


Figure 90: Reported Groundwater Use for Nuclear Power Production by County for 2021

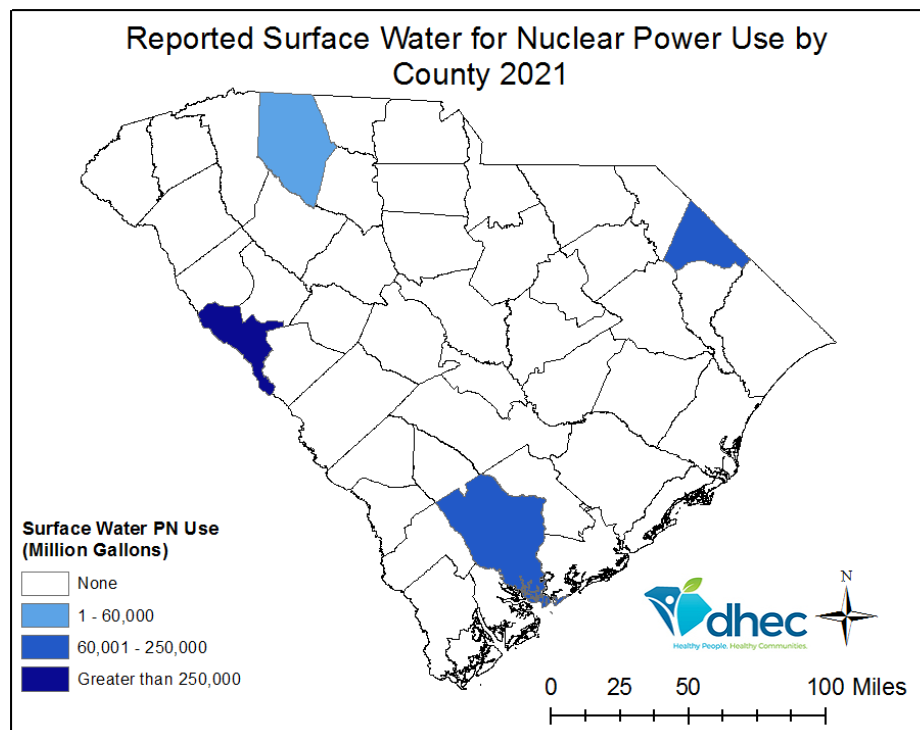


Figure 91: Reported Surface Water Use for Nuclear Power Production by County for 2021

## Reported Active Groundwater Use for Nuclear Power

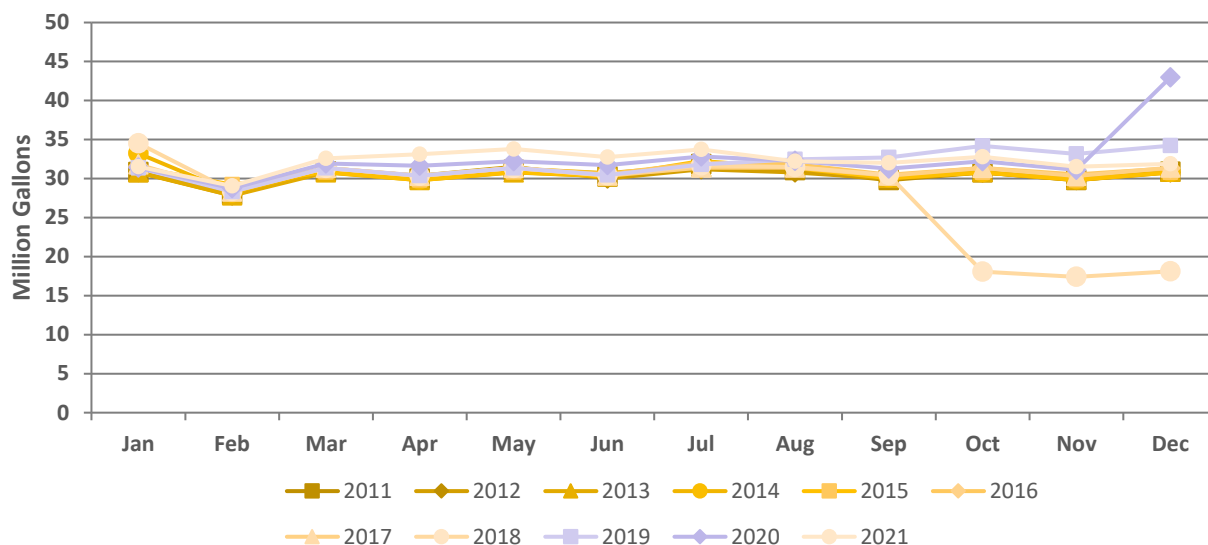


Figure 92: Reported Groundwater Use for Nuclear Power Production by Month, 2011-2021

## Reported Active Surface Water Use for Nuclear Power

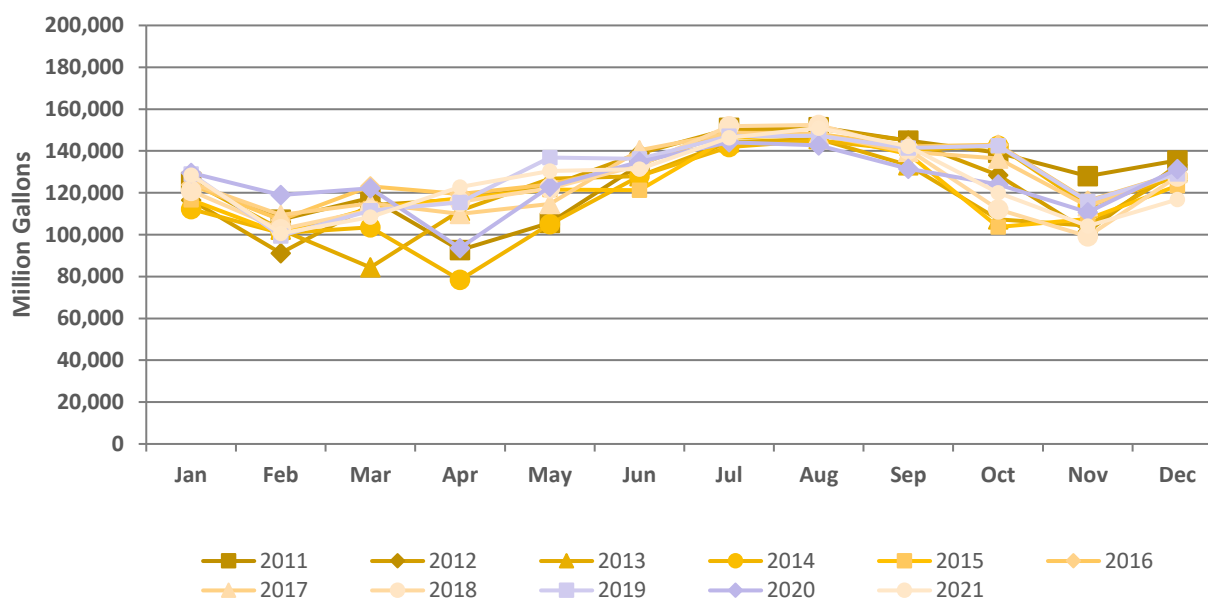


Figure 93: Reported Surface Water Use for Nuclear Power Production by Month, 2011-2021

## Other Use

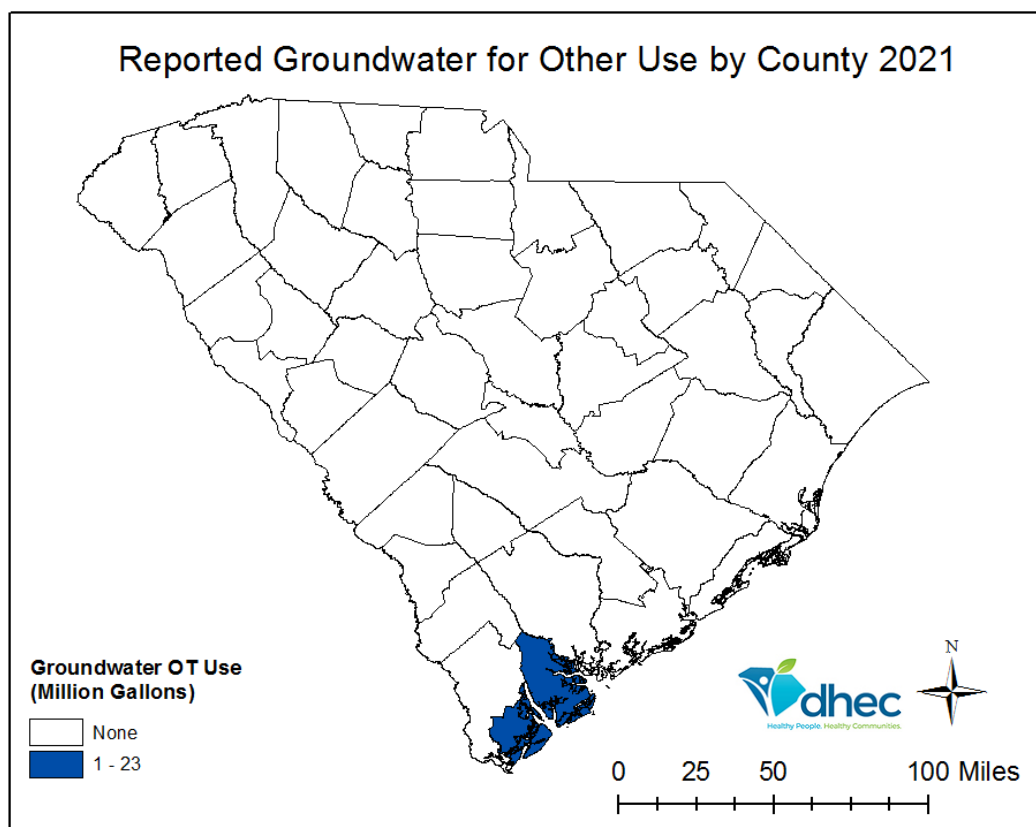


Figure 94: Reported Groundwater Use for Other Use by County 2021. \*No Surface Water usage in the Other water category

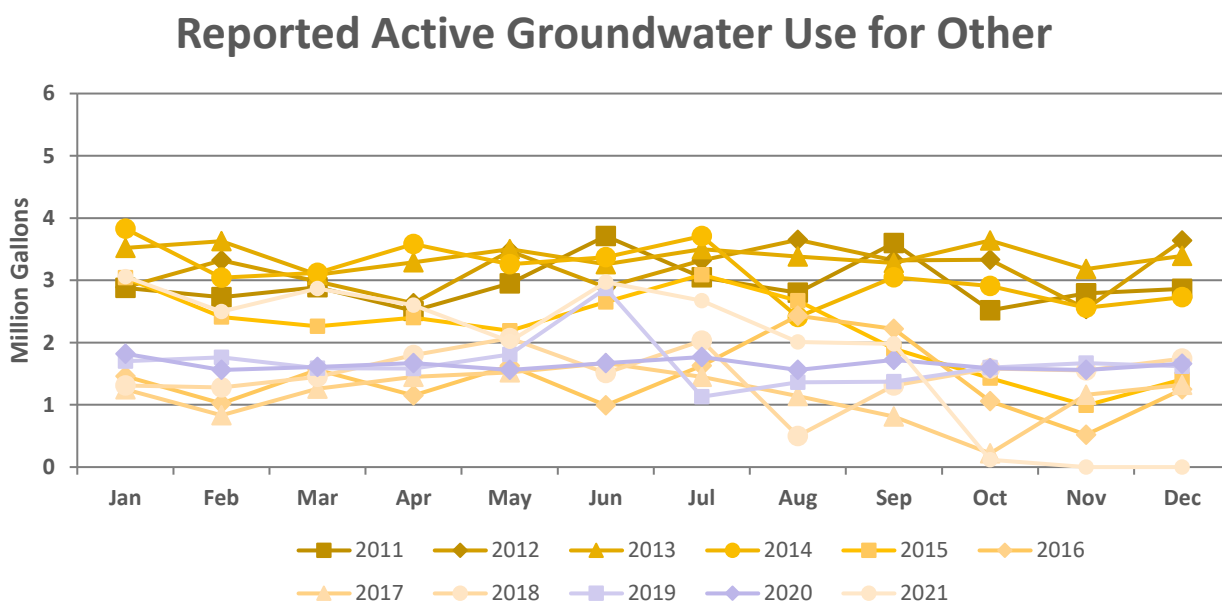


Figure 95: Reported Groundwater Use for Other Use by Month, 2011-2021

## Thermoelectric Power

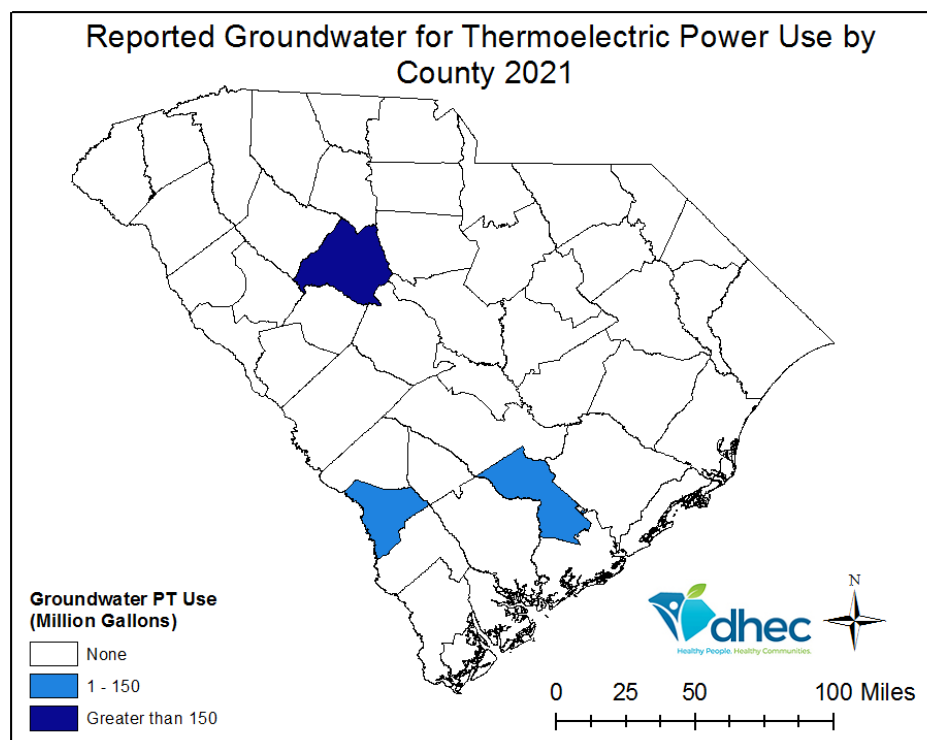


Figure 96: Reported Groundwater Use for Thermal Power Production by County for 2021

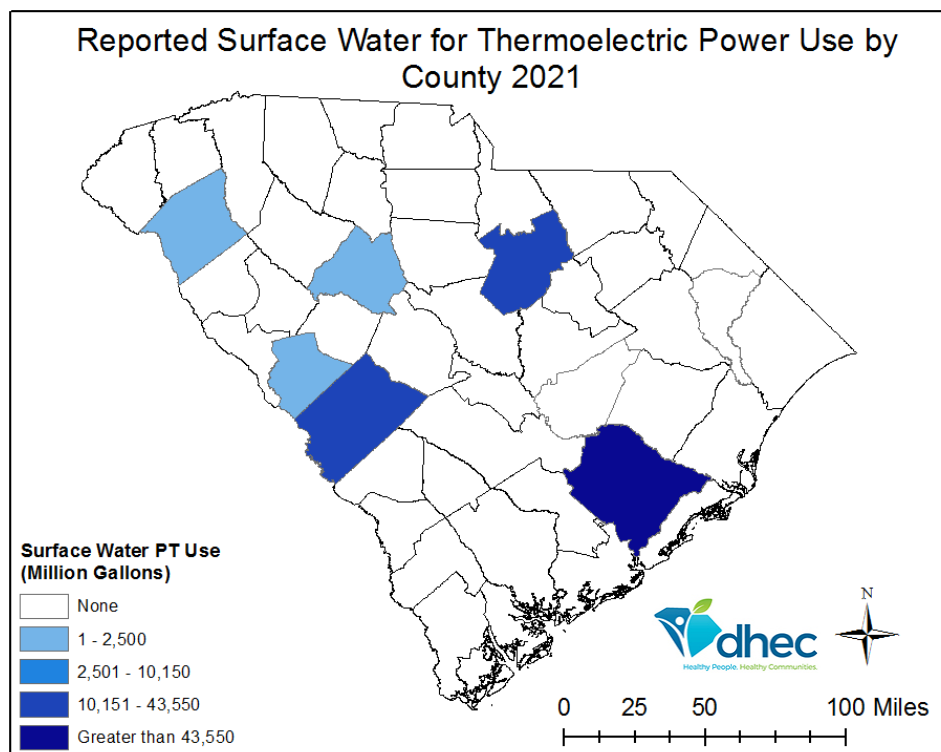


Figure 97: Reported Surface Water Use for Thermal Power Production by County for 2021

## Reported Active Groundwater Use for Thermoelectric Power

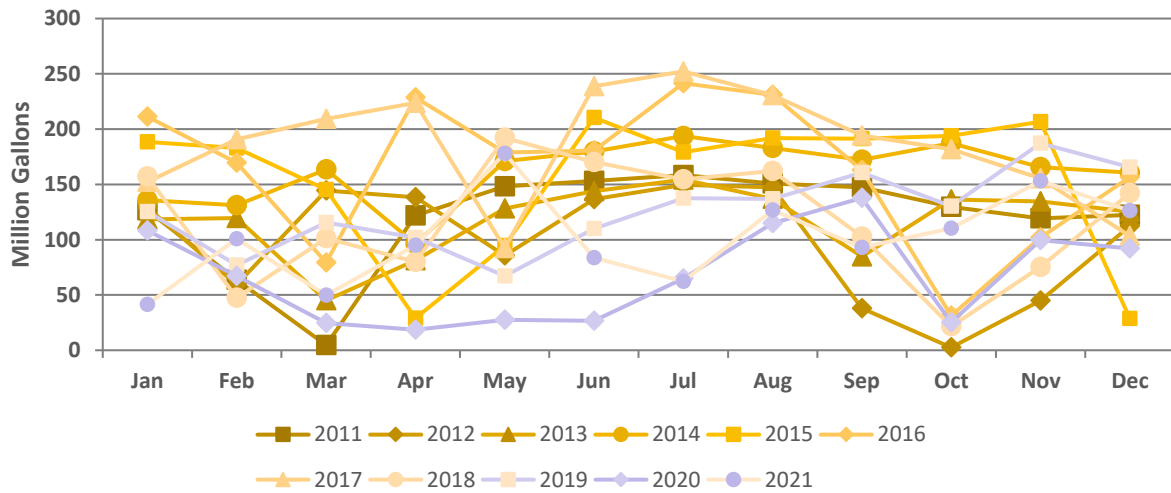


Figure 98: Reported Groundwater Use for Thermal Power Production by Month, 2011-2021

## Reported Active Surface Water Use for Thermoelectric Power

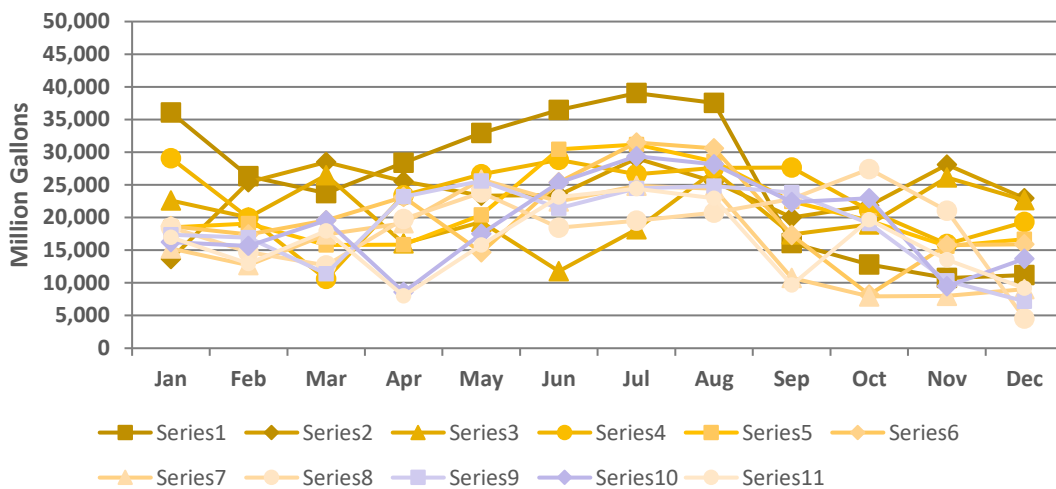


Figure 99: Reported Surface Water Use for Thermal Power Production by Month, 2011-2021

## Public Water Supply

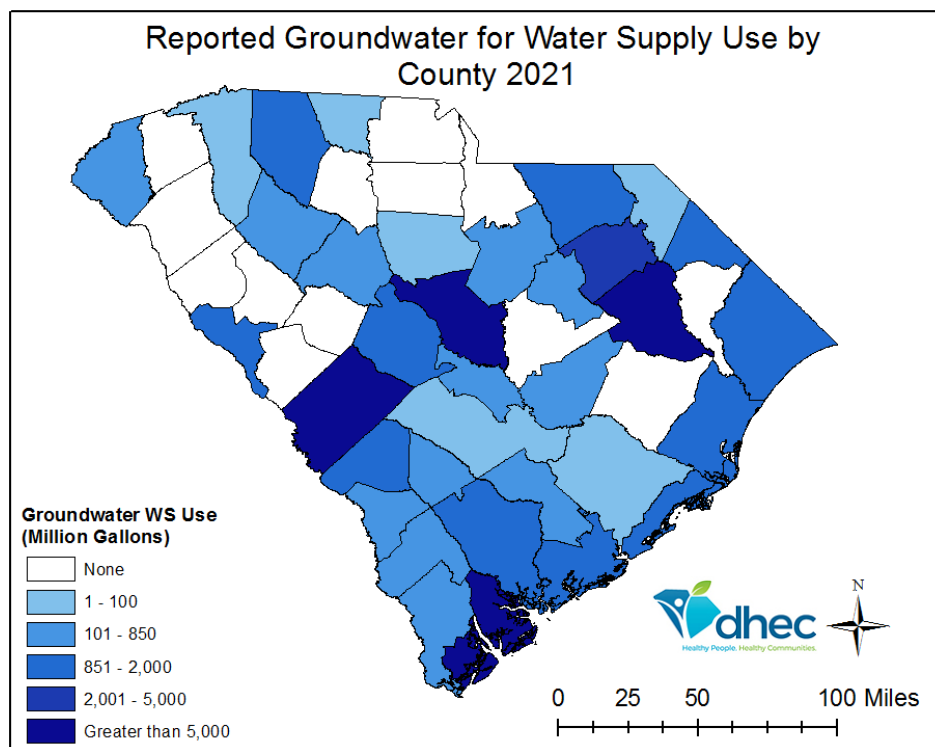


Figure 100: Reported Groundwater Use for Public Water Supply by County 2021

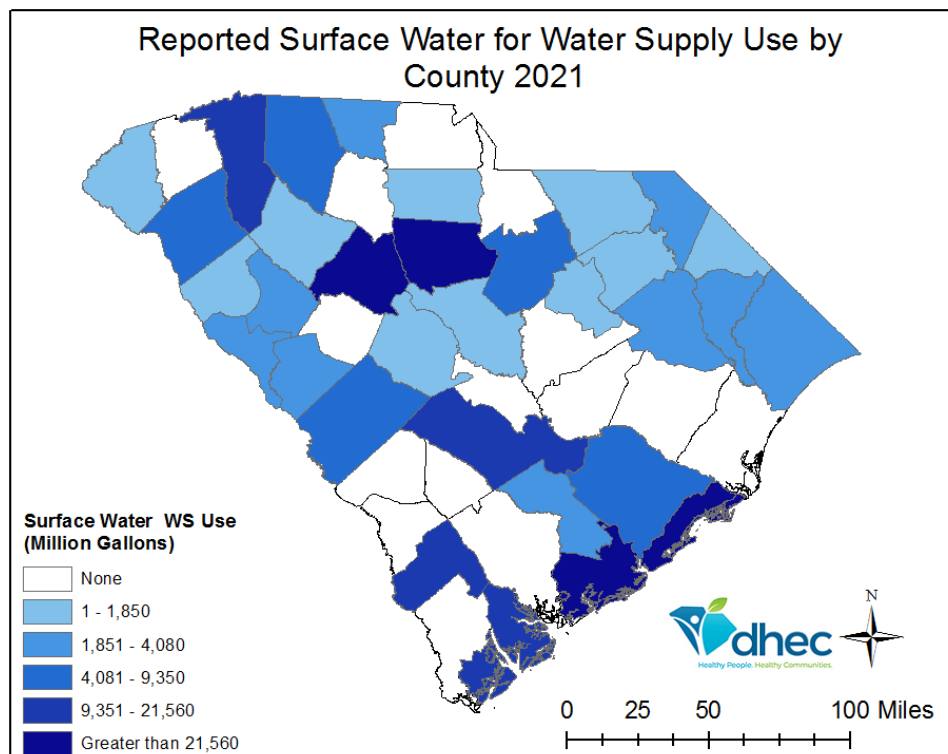


Figure 101: Reported Surface Water Use for Public Water Supply by County for 2021

## Reported Active Groundwater Use for Water Supply

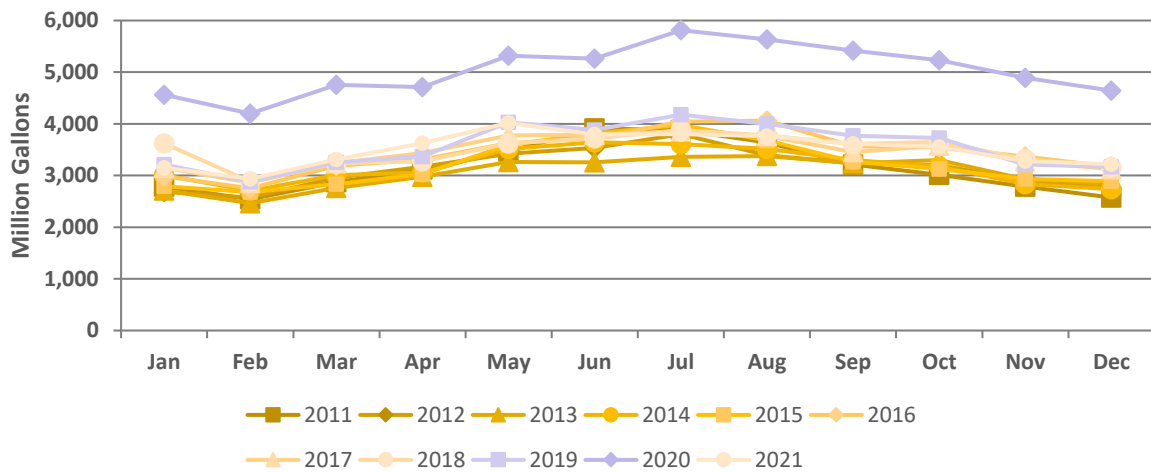


Figure 102: Reported Groundwater Use for Public Water Supply by Month, 2011-2021

## Reported Active Surface Water Use for Water Supply

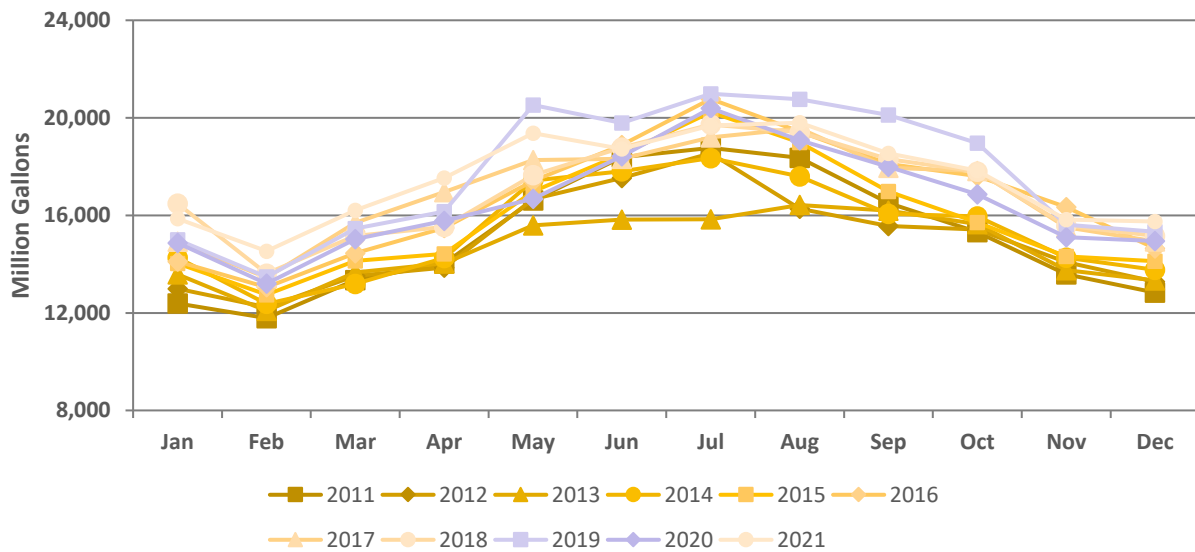


Figure 103: Reported Surface Water Use for Public Water Supply by Month, 2011-2021

## Appendix A: Bibliography

- Gellici, J. A., & Lautier, J. C. (2010). *Groundwater Availability in the Atlantic Coastal Plain of North and South Carolina, Chapter B: Hydrogeologic Framework of the Atlantic Coastal Plain, North and South Carolina*. Reston, VA: USGS.
- NOAA National Centers for Environmental Information. (2021). *Monthly and Seasonal Climate Information*. Retrieved May 19, 2022 from Southeast Regional Climate Center: [www.sercc.com/climateinfo\\_files/monthly/South%20Carolina\\_prcp\\_DivNew.htm](http://www.sercc.com/climateinfo_files/monthly/South%20Carolina_prcp_DivNew.htm)
- South Carolina Department of Natural Resources. (2018). *South Carolina State Climatology Office*. Retrieved May 19, 2022 from SC DNR: [www.dnr.sc.gov/climate/sco/ClimateData/cli\\_sc\\_climate.php](http://www.dnr.sc.gov/climate/sco/ClimateData/cli_sc_climate.php)
- Southeast Regional Climate Center. (2021, May). *Monthly and Seasonal Climate Information*. Retrieved May 19, 2022 from The Southeast Regional Climate Center: [www.sercc.com/climateinfo/monthly\\_seasonal](http://www.sercc.com/climateinfo/monthly_seasonal)



# Appendix B: Surface and Groundwater Use Summary Table

\*Use in Millions of Gallons

±Source Type: G is Groundwater and S is Surface Water

County	Source	Use Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ABBEVILLE	G	Water Supply	0	0	0	0	0	0	0	0	0	0	0	0
ABBEVILLE	S	Hydroelectric	145777	107896	116171	128585	92980	84614	117904	115522	96063	149407	97253	111412
ABBEVILLE	S	Water Supply	72	58	64	67	77	81	71	60	63	61	55	67
AIKEN	G	Golf Course	0	0	0	0	1	1	0	0	0	1	0	0
AIKEN	G	Industry	52.647	46.037	78.658	50.883	53.386	54.397	55.469	56.024	52.581	60.345	63.798	60.084
AIKEN	G	Irrigation	9.543	79.0882	111.202	314.2614	548.5706	448.8534	354.1376	210.1198	172.1511	104.717	112.1866	25.93
AIKEN	G	Water Supply	368.8545	334.9458	382.38	439.209	477.3008	477.3232	484.4143	472.599	466.2765	427.5616	385.7131	365.9611
AIKEN	S	Golf Course	0.61	2.92	9.835	18.05	38.733	27.212	32.512	31.426	20.461	15.73	3.332	0.791
AIKEN	S	Industry	622	645	705	626	596	654	602	726	637	559	654	645
AIKEN	S	Irrigation	6.476	4.887	33.701	102.307	198.246	242.787	205.133	90.812	54.721	38.442	31.288	9.451
AIKEN	S	Thermoelectric	902.6	411.1	2740.5	2280	2784.4	2676.9	3205.6	3574.9	2907.4	4676.1	5481.7	2040.4
AIKEN	S	Water Supply	499.919	414.034	460.658	525.635	585.602	566.369	599.986	276.62	245.647	212.472	163.909	146.674
ALLENDALE	G	Industry	55.332	47.676	53.853	44.022	56.811	56.028	50.46	53.505	54.897	52.11	40.281	41.76
ALLENDALE	G	Irrigation	1.7	2.9	64.2	213.44	609.8616	725.251	790.4815	681.663	449.458	183.5	65.76	8.9
ALLENDALE	G	Thermoelectric	22.5925	0.003	6.6429	1.6621	13.3222	13.1424	11.4623	9.5929	8.1729	9.3826	9.8325	
ALLENDALE	G	Water Supply	40.846	36.5045	38.344	38.684	40.083	37.487	39.81	41.561	39.112	39.601	37.744	44.8
ALLENDALE	S	Irrigation	0	0	7.4	19.1	128.4	239.8	224.6	63.4	31	2	0	0
ANDERSON	G	Industry	0	0	0	0	0	0	0	0	0	0	0	0
ANDERSON	S	Hydroelectric	180.445	144.778	162.778	147.516	164.147	155.675	167.36	164.716	156.074	162.98	161.751	162.841
ANDERSON	S	Industry	0	0	0	0	0	0	0	0	4.1	0	0	0
ANDERSON	S	Irrigation	3.42	3.6	3.17	3.24	3.46	2.95	3.64	6.78	2.88	3.06	3.38	3.6
ANDERSON	S	Mining	136820	95586	116398	151945	89992	87280	83396	101776	97177	108471	96910	73879
ANDERSON	S	Thermoelectric	174.234	157.898	64.947	187.796	213.116	217.011	238.557	243.011	227.59	237.215	152.706	193.658
ANDERSON	S	Water Supply	624.28	552.054	610.409	622.098	701.639	709.884	709.046	724.089	682.729	647.508	590.112	584.667
BAMBERG	G	Irrigation	20.37	28.87	107.319	291.1146	478.5818	561.1584	702.3712	504.284	334.393	92.6	61.38	31.04
BAMBERG	G	Water Supply	25.761	23.749	25.198	25.098	28.82	28.118	31.074	32.921	28.714	30.538	25.637	27.377
BAMBERG	S	Irrigation	3.4	1.2	11.6	43.7	64.1	78.91	90	73.7	68.14	21.63	18.9	3.7
BARNWELL	G	Industry	8.494	8.541	9.084	8.599	8.602	8.652	16.5	9.5	12.4	4.784	4.868	7.438
BARNWELL	G	Irrigation	0	34.416	37.911	174.1007	329.2716	400.7889	362.792	257.7751	161.9381	51.8911	20.381	9.363386
BARNWELL	G	Water Supply	80.059	77.893	68.025	64.625	76.406	70.435	88.9474	89.9955	76.0979	69.331	70.6965	74.2621
BARNWELL	S	Irrigation	0	0	1	3	13	29	38.4	37.15	29.6	6	0	0
BEAUFORT	G	Aquaculture	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
BEAUFORT	G	Golf Course	14.8707	26.0913	52.7664	97.1393	167.1404	126.0454	112.1391	98.0686	85.1382	65.0828	34.7878	19.7671
BEAUFORT	G	Industry	1.559	1.205	1.453	1.232	1.266	1.382	1.247	1.345	1.304	1.27	1.116	1.097
BEAUFORT	G	Irrigation	4.01	5.785404	17.466	46.99201	149.5753	145.2876	38.7257	33.73857	34.66232	7.326	1.05	1.02
BEAUFORT	G	Other	3.06	2.5	2.87	2.6	2.02	2.97	2.67	2.01	1.98	0.12	0	0
BEAUFORT	G	Water Supply	373.4124	356.5983	425.7285	518.233	569.3126	532.1515	508.6646	476.0111	467.2309	436.8543	404.5388	375.527
BEAUFORT	S	Aquaculture	29	26.2	29	28	28	20	29	29	28	29	28	29
BEAUFORT	S	Golf Course	8.581	9.397	34.237	68.804	77.829	69.558	68.33	52.535	48.07	52.257	31.904	19.867
BEAUFORT	S	Water Supply	357.175	437.19	423.539	472.683	828.027	835.352	849.078	1140.21	1270.04	1206.59	933.652	855.118
BERKELEY	G	Golf Course	0.169	0.12	0.906	2.112	2.569	1.619	2.143	2.144	1.726	0.911	1.51	0.292
BERKELEY	G	Industry	99.3633	84.4668	98.7932	99.7123	109.6565	102.5036	106.1615	109.1561	100.3194	102.6575	96.2603	91.511
BERKELEY	G	Water Supply	0	0	0	0	5	5	0	0	0	0	0	0
BERKELEY	S	Hydroelectric	112192.8	109846.2	118707.5	109174.7	108326.2	117337.1	118283.3	105260.9	131354.8	128280.5	109481.7	112353.1
BERKELEY	S	Industry	327.588	290.18	305.298	333.644	334.56	316.678	343.71	355.012	336.048	297.557	258.32	301.493
BERKELEY	S	Irrigation	0	0	0	0	0	0	0	0	0	0	0	0
BERKELEY	S	Thermoelectric	13574.58	11818.9	10352.56	1309.26	11985.4	15345.26	15972.55	13631.34	1278.04	9510.34	4570.06	1994.43
BERKELEY	S	Water Supply	673.393	561.011	661.816	754.698	826.586	673.256	701.861	679.818	652.767	655.249	629.534	636.602
CALHOUN	G	Golf Course	0	0	0	0.42	1.26	0.9	0	0	0	0	0.72	0.15
CALHOUN	G	Industry	0	0.03	0.16	0	0	0.14	0	0.1	0.18	0.17	0	0.04
CALHOUN	G	Irrigation	0.691	14	99.65	425.4882	995.1266	844.0829	795.3414	522.4549	339.4797	83.2516	23.2428	21.7024
CALHOUN	G	Mining	5.99	6.36	5.65	3.06	4.86	3.52	5.23	4.66	4.87	7.44	6.39	8.71
CALHOUN	G	Water Supply	32.253	29.828	33.429	34.385	38.704	37.051	37.128	38.861	37.942	37.673	42.076	44.581
CALHOUN	S	Industry	1552	1363	1617	1669	1812	1846	1911	2031	1853	1781	1625	1608
CALHOUN	S	Irrigation	0	4.7	61.3	39.2	77.565	67.692	62.306	44.692	32.798	13.4	5	4.38
CHARLESTON	G	Golf Course	3.2	3.3	14.5	58.841	67.286	58.214	55.293	54.486	44.606	31.736	35.508	14.798
CHARLESTON	G	Industry	2.46	4.11	4.5	4.4	3.93	3.89	3.93	4.31	4.1	2.59	4.05	4.12
CHARLESTON	G	Irrigation	0	0	0	0	0	1.8	0.85	0	0.85	0	0	0
CHARLESTON	G	Water Supply	67.7071	74.66091	101.324	168.7674	196.7619	160.6894	160.8322	142.9749	154.4259	120.481	109.9063	91.0096
CHARLESTON	S	Aquaculture	1.3	0	2.9	5.2	6.5	6.5	2.6	2.6	2.3	0	0	0
CHARLESTON	S	Industry	0	0	0	0	109	107	59	0	209	563	393	175
CHARLESTON	S	Irrigation	0	0	0	0	0	0	0	0	0	0	0	0
CHARLESTON	S	Water Supply	3266	3422	3457	3205	3027	2819	3064	3299	2843	2195	2171	2440
CHEROKEE	G	Thermoelectric	0	0	0	0	0	0	0	0	0	0	0	0
CHEROKEE	G	Water Supply	0.1	0	0	0.075	0	0	0.1	0	0	0.075	0	0
CHEROKEE	S	Hydroelectric	83500	76031	82548	74027	69503	54943	44933	47214	33347	42425	32563	17649
CHEROKEE	S	Industry	86.53	82.82	84.59	87.25	90.6	85.69	72.91	85.76	83.69	90.49	78.27	91.39
CHEROKEE	S	Water Supply	191.1	167.9	240.8	204	277.8	416.4	445.5	373.4	400.3	385.6	346	340.7
CHESTER	G	Golf Course	0	0	0	1.5	3	1.5	0	3	3	3	3	0
CHESTER	G	Industry	0.702	0.289	0.14	0.15	0.11	0.3	0.186	0.255	0.202	0.215	0.151	0.125
CHESTER	S	Hydroelectric	225755	246330	276547	220264	103806	72174	73101	136468	85282	99072	73339	69225
CHESTER	S	Industry	1.314	1.132	3.443	3.495	3.728	5.564	4.448	5.716	6.231	5.05	4.633	2.613
CHESTER	S	Water Supply	76.01	66.39	81.38	81.56	87.15	81.67	83.27	86.74	83.7	88.38	81.38	82.06
CHESTERFIELD	G	Industry	0.0995	0.1076	0.0575	0.2111	0.0662	0.1918	0.1504	0.193037	0.153748	0.2199	0.191	0.076
CHESTERFIELD	G	Irrigation	8.51	3.89	12.57	73.2	105.45	57.03	56.48	20.25	68.56	47.92	7.19	0.604
CHESTERFIELD	G	Water Supply	82.9375	81.0071	90.8644	102.1551	110.6531	105.0772	109.3665	104.5202	101.2013	98.9157	93.5638	103.0838

CHESTERFIELD	S	Golf Course	0.185	1.475	1.75	1.6	3.1	7.05	4.15	6.4	3.85	5.1	5.12	0.345
CHESTERFIELD	S	Industry	0	0	0	0	3.86	9.8	0	0	9.94	4.11	0	19.6
CHESTERFIELD	S	Irrigation	0	0	0	0	0	0	0	0	0	0	0	0
CHESTERFIELD	S	Mining	0.43	0.5	0.54	0.79	1.15	0.94	1.4	1.26	0.79	0.68	0.65	0.5
CHESTERFIELD	S	Water Supply	63.378	53.215	63.562	61.567	68.911	68.118	71.506	68.25	62.975	67.893	57.519	54.449
CLARENDON	G	Aquaculture	0	0	0	0	0	0	0	0	0	0	0	0
CLARENDON	G	Golf Course	0	0.75	0.75	0.75	1	1.25	1.75	1.5	1.25	0	0	0.5
CLARENDON	G	Irrigation	-1	0	7.19	81.876	268.753	364.289	338.519	62.45	19	32.7	70.19	37.4
CLARENDON	G	Water Supply	55.916	49.553	59.085	65.983	74.941	65.752	72.248	65.802	67.211	68.398	69.263	68.455
COLLETON	G	Golf Course	0	0	6.6636	6.968	12.6274	4.57714	1.624	3.62112	16.011	2.3	19	0
COLLETON	G	Irrigation	2	4	39.53	82.0084	145.397	185.617	213.32	165.594	135	98.7	65.5	6
COLLETON	G	Water Supply	61.841	56.592	66.774	71.765	88.603	85.534	93.05	84.775	76.347	74.157	65.862	66.297
COLLETON	S	Irrigation	0	0	0	0	0	2	2	0	0	0	0	0
COLLETON	S	Thermoelectric	0	0	0	0	0	0	0	0	0	0	0	0
DARLINGTON	G	Golf Course	0.1	0	0.5	0.5	5	9.5	9.2	8.9	1.9	0.5	0.1	0.2
DARLINGTON	G	Industry	164.112	124.8214	108.997	123.432	136.357	141.55	105.2	176.234	141.098	117.452	163.816	141.827
DARLINGTON	G	Irrigation	0.02	0.097	3.995	66.566	210.621	144.702	185.721	62.754	26.436	4.628	2.267	0.066
DARLINGTON	G	Nuclear	31.5286	29.0518	32.5828	33.11585	33.7963	32.74905	33.7424	32.22045	32.0016	32.8004	31.5328	31.9102
DARLINGTON	G	Water Supply	202.391	187.357	197.895	203.44	224.679	205.744	223.019	223.206	215.966	223.135	192.237	194.167
DARLINGTON	S	Industry	46.3	57.5	76.07	83.04	77.35	71.58	126.23	68.39	67.41	98.1	39.02	45.83
DARLINGTON	S	Irrigation	0	0	5.58	18.43	47.03	41.66	63.78	69.29	19.25	6.28	5.77	0.9
DARLINGTON	S	Nuclear	21320.26	19252.24	18198.04	19534.08	21046.92	21318.6	21303.72	25300	21317.52	19580.18	20480.48	20885
DILLON	G	Irrigation	0	0	4.5	67.2	142.3826	112.3571	81.64	83.52	89.8	41.3	0	3.4
DILLON	G	Water Supply	132.537	119.05	135.273	138.75	146.034	140.188	142.035	149.087	139.817	132.993	128.028	130.523
DORCHESTER	G	Golf Course	0	0	1	7.336	8.336	3	0	0	1	2	0	0
DORCHESTER	G	Industry	24.8034	26.5507	33.0406	27.4934	28.5039	31.3927	33.6616	26.1406	32.6625	29.0436	26.158	29.8149
DORCHESTER	G	Irrigation	0.4	0.4	0.4	1.9	95.52	122.62	161.02	35.4	17	9.8	2.1	2.1
DORCHESTER	G	Thermoelectric	5.3543	4.6366	3.8553	8.643	10.8945	8.3242	11.8344	10.6134	10.733	10.1548	11.4641	10.989
DORCHESTER	G	Water Supply	34.6842	33.1794	32.0631	35.6198	45.0574	46.5595	51.1647	46.8019	44.5146	42.8171	39.5402	39.7667
EDGEFIELD	G	Golf Course	0	0	1	11	23	19	24	15	8	6	5	5
EDGEFIELD	G	Irrigation	1.62	4.296	8.958	9.75	9.4	10.4	11.58	11.58	11.58	8.5	3	2
EDGEFIELD	S	Hydroelectric	153477.6	119896.5	101403.7	110155.8	94013.7	89269.17	101049.1	108549.5	99056.1	81403.98	91097.97	75878.29
EDGEFIELD	S	Irrigation	0	11.5	72.3	152.6	230	274.6	310.1	308.1	191.4	90.5	44.5	0
EDGEFIELD	S	Water Supply	110.47	95.55	116.82	148.71	176.47	166.45	158.45	164.96	146.79	134.25	122.37	115.04
FAIRFIELD	G	Water Supply	5.274	4.423	5.314	5.159	6.162	6.965	6.655	5.904	5.541	5.218	4.477	4.641
FAIRFIELD	S	Hydroelectric	90125.89	87448.55	115360.6	105475.7	124081.3	113929.1	144187.6	126633.6	135723.9	119914	102962.6	103190.7
FAIRFIELD	S	Nuclear	22530.58	19966.81	22915.9	22175.72	22915.73	20879.57	22914.64	22914.86	21845.99	4752.04	9913.72	15285.72
FAIRFIELD	S	Water Supply	54.91	50.98	66.93	55.83	55.83	57.67	59.39	60.29	57.27	60.79	102.57	66.97
FLORENCE	G	Golf Course	0	0	0.2	0.2	1.5	0.9	1.2	1.6	0.6	0	0	0
FLORENCE	G	Industry	97.74737	99.64808	111.8844	109.579	114.0201	113.1141	103.1734	106.2185	115.5951	115.5925	105.9055	135.5441
FLORENCE	G	Irrigation	0	0	7.65	26.86	47.67	27.3	27.475	10.676	7.739	17.543	18.37	5.9
FLORENCE	G	Water Supply	391.5034	352.3724	3937.962	403.4551	466.0379	438.9378	316.7965	361.5131	321.8836	390.1646	360.0087	353.4876
FLORENCE	S	Golf Course	0.02	0.11	0.13	0.15	0.45	0.35	1.41	1.32	1.55	1.02	0.74	0.24
FLORENCE	S	Industry	405.06	318.8	347.61	339.64	364.2	368.87	394.61	390.73	398.19	421.56	335.83	373.48
FLORENCE	S	Water Supply	134.158	129.053	146.218	135.054	147.31	147.483	216.259	225.386	209.893	188.036	171.625	189.547
GEORGETOWN	G	Golf Course	0	0	0	0	0	0	0	0	0	0	0	0
GEORGETOWN	G	Industry	12.36	10.08	10.24	9.73	9.62	9.06	10.34	10.07	8.01	8.59	8.09	9.56
GEORGETOWN	G	Water Supply	85.571	74.617	86.188	90.687	121.902	110.807	105.664	107.735	112.176	96.186	86.944	86.541
GEORGETOWN	S	Golf Course	18.0443	26.1729	39.525	74.608	98.541	52.758	52.928	57.81	62.815	53.803	49.992	28.8338
GEORGETOWN	S	Industry	1244.1	1055.44	973.09	1206.59	1249.9	1199.53	1174.9	1224.53	47428.62	1184.79	1111.54	1189.89
GEORGETOWN	S	Irrigation	0	0	0	0	0	0	0	0	0	0.18	0.14	0
GEORGETOWN	S	Mining	22.23	19.35	18.9	9	11.16	22.32	21.96	22.86	22.59	23.31	23.13	22.32
GEORGETOWN	S	Thermoelectric	240	151	108	249	259	272	144	158	122	121	111	134
GEORGETOWN	S	Water Supply	163.047	139.508	173.971	216.011	224.267	218.576	239.816	210.303	196.378	185.963	172.779	162.784
GREENVILLE	G	Golf Course	0.08	0.11	0.048	0.05	0.065	0.079	0.05	0.524	0.039	0.069	0.074	0.4
GREENVILLE	G	Industry	7.15	6.39	6.79	3.81	7.76	6.7	6.774	5.82	6.26	6.47	6.3	6.053
GREENVILLE	G	Water Supply	3.4785	3.1392	3.5956	4.7344	4.4399	5.0268	5.1773	5.4818	4.8084	4.4648	3.1574	2.4187
GREENVILLE	S	Golf Course	14.4472	1.43	6.76	34.628	40.019	46.719	38.0283	45.579	45.681	27.623	17.169	7.873
GREENVILLE	S	Hydroelectric	28331	27744	25154	39574	23988	16497	15623	16083	13781	18082	11770	13686
GREENVILLE	S	Irrigation	0	0	0	0	0	0	0	0	0	0	0	0
GREENVILLE	S	Water Supply	2066.684	1831.49	2123.784	2305.575	2686.545	2714.942	2786.387	2824.39	2579.249	2467.707	2179.929	2114.717
GREENWOOD	G	Industry	0	0	0	0.848	0.868	0.84	0.868	0.868	0.84	0.868	0.84	0
GREENWOOD	G	Irrigation	0.007	0.002	0.019	0.0206	0.023	0.0204	0.0194	0.0067	0.0169	0.021	0.012	0.006
GREENWOOD	S	Golf Course	0	0	0	1.7	1.62	0.863	1.17	1.72	1.89	0.295	0.435	0
GREENWOOD	S	Hydroelectric	57764.84	53015.02	53167.53	45877.02	31890.51	30269.02	21372.65	16307.76	13152.48	42488.23	25278.89	28065.45
GREENWOOD	S	Water Supply	266.034	240.52	271.36	290.6	308.06	308.04	311.94	317.3	292.88	286.42	257.28	261.72
HAMPTON	G	Aquaculture	4.1	7.3	16.6	23.5	23.2	21.5	16.3	11.2	11.2	11	4.1	4.4
HAMPTON	G	Industry	0	0	0	0	0	0	0	0	0	0	0	0
HAMPTON	G	Irrigation	12	4.2	23.93039	189.8072	509.7204	517.5698	466.694	418.6854	236.0353	98.78	50.664	17.88
HAMPTON	G	Water Supply	35.715	29.763	33.62	34.366	37.434	38.588	40.138	44.836	38.209	44.969	38.969	38.67
HAMPTON	S	Irrigation	0	0	0	0	0	0.05	0.05	0	0	0	0	0
HORRY	G	Golf Course	1.016	8.548	26.848	46.044	48.9561	49.431	49.781	101.727	78.146	123.499	52.68	29.641
HORRY	G	Irrigation	12.33478	4.346355	2.914	15.707	11.85925	22.37958	24.38856	21.90348	7.17	11.12261	15.482	8.962
HORRY	G	Water Supply	150.8032	139.7184	169.6714	178.3242	179.5232	170.6137	195.356	197.9596	175.626	180.881	139.7149	120.2883
HORRY	S	Golf Course	20.43233	6.139821	47.953	108.1199	145.1091	80.52755	86.38685	53.22357	106.4811	91.83577	70.34504	45.02052
HORRY	S	Water Supply	1261.037	1132.674	1390.078	1631.045	1799.313	1669.67	1756.029	1645.616	1599.938	1672.082	1510.073	1438.118
JASPER	G	Golf Course	2.64	1.77	3.75	12.21	16.27	9.2	8.045	7.792	7.68	4.42	3.43	3.81

JASPER	G	Irrigation	2.489	3.4989	1.3519	48.0209	79.0773	77.69336	62.4059	64.4099	50.8279	39.3799	2.3164	1.1546
JASPER	G	Water Supply	18.952	17.572	21.253	22.931	23.671	24.597	22.661	24.705	22.695	20.903	19.418	19.452
KERSHAW	G	Golf Course	0	0	0.72	1.944	2.592	0.864	0.648	0	2.592	1.728	0	0.648
KERSHAW	G	Industry	53.36684	49.3659	53.3398	51.6584	49.9033	43.968	33.2951	30.0013	42.6167	59.756	31.3355	36.6713
KERSHAW	G	Irrigation	0	0	3.8	9.5	13.22	19.84	21.87	17.32	8.92	6.3	3.2	0
KERSHAW	G	Water Supply	69.4	57.4	63.9	68.8	76.9	71.8	78.8	78.7	70	69.5	63.1	61.6
KERSHAW	S	Hydroelectric	175236	214256	203575	163006	76008	74730	55469	74740	42151	48741	42926	41003
KERSHAW	S	Irrigation	0	0	0	0	0	0	0	0	0	0	0	0
KERSHAW	S	Mining	49.44	59.12	36.4	67.54	75.36	72.34	78.57	75.41	75.27	70.59	65.24	61.3
KERSHAW	S	Water Supply	187.051	166.235	187.588	209.915	239.612	229.374	242.553	231.981	224.67	210.041	181.398	172.055
LANCASTER	G	Golf Course	0	0	0.019	2.312	5.053	4.327	7.596	7.2	6.478	4.189	0.598	0.264
LANCASTER	S	Hydroelectric	104838	115444	143518	145366	76965	72723	53372	78202	42218	50395	37285	37501
LANCASTER	S	Industry	2.88	0	1.71	3.42	0.54	0.9	1.98	1.98	0.99	0	0.468	0.108
LANCASTER	S	Water Supply	699.8	384.8	546.4	953.4	948.8	835.4	884.66	931	808.6	1103.6	620.2	697
LAURENS	S	Golf Course	0	0	0	0	0	0	0	0	0	0	0	0
LAURENS	S	Hydroelectric	6607	10436	9611	9309	13049	7958	7134	5917	3558	8349	3234	3209
LAURENS	S	Water Supply	153.729	134.223	146.726	159.359	166.542	166.898	166.851	174.29	167.921	171.941	156.55	172.976
LEE	G	Irrigation	3.52	3.547	5.274	134.163	534.666	601.4742	517.8962	269.112	148.404	21.059	16.522	19.018
LEE	G	Water Supply	45.1	42.1	49.3	44.9	47.9	47.1	45.1	44.6	44	45.8	46.1	45.3
LEE	S	Irrigation	0	0	0	0	11	11	11	13	2	0	0	0
LEXINGTON	G	Golf Course	0.45	0.09	0.9	1.3	2	3.4	1.65	1.3	2.7	1.5	0.7	1.2
LEXINGTON	G	Industry	30.1436	25.3902	30.867	37.4729	31.9204	33.49766	44.8765	34.177	41.5316	33.4574	26.0301	31.48608
LEXINGTON	G	Irrigation	22.033	13.093	85.706	255.675	481.8371	484.0931	341.4181	305.4331	343.931	260.242	198.588	112.073
LEXINGTON	G	Mining	28.96	27.69	34.12	31.97	30.4	33.32	32.54	36.55	32.41	29.64	31.138	33.706
LEXINGTON	G	Water Supply	41.11321	38.776	42.6764	52.1686	63.6111	58.3695	58.928	60.2997	53.9129	50.7748	46.1066	45.4026
LEXINGTON	S	Golf Course	0.18	0.1	1.601	5.981	12.46	10.35	8.78	8.29	8.83	5.24	2.257	0.803
LEXINGTON	S	Hydroelectric	53649.25	39716.21	36715.27	33439.95	13829.06	24667.06	2860.27	4056.58	543.02	16642.15	12866.86	38812.75
LEXINGTON	S	Industry	841.959	746.16	819.671	863.626	996.427	1029.96	800.028	849.836	959.376	896.971	625.358	661.051
LEXINGTON	S	Irrigation	0.89	1.89	11.31	25.04	31.05	36.79	45.01	38.6	31.78	29.8	25.9	4.56
LEXINGTON	S	Mining	0	0	0	0	0	0	0	0	0	0	0	0
LEXINGTON	S	Thermoelectric	1940	324.43	4609.13	3866.06	538.59	4529.2	4687.1	5175.26	5008.32	5008.76	3068.34	4768.46
LEXINGTON	S	Water Supply	511.73	462.45	534.91	646.81	762.08	687.34	711.12	720.38	660.74	628.03	548.12	505.51
MARION	G	Irrigation	0.6	0.3	3.5	77.491	163.908	47.542	110.358	47.6	47.544	26.84	13.3	6.5
MARION	G	Water Supply	90.393	81.909	91.294	92.391	94.552	92.756	100.548	103.636	96.365	97.476	95.85	102.226
MARION	S	Irrigation	0	0	0.3	0.4	0.5	0.1	0	0	0	0.3	0.3	0
MARLBORO	G	Industry	5.813	4.75	5.863	5.357	5.699	5.702	7.1294	8.5706	7.8386	6.734	5.929	5.864
MARLBORO	G	Irrigation	0	0	0.7	9.47	156.9218	94.92536	133.6	127.1	82.78536	12.5256	0.3	0
MARLBORO	G	Water Supply	90.8463	86.2345	99.5793	97.2148	103.6748	101.9407	115.0951	100.6069	107.0124	94.5976	91.2826	90.4314
MARLBORO	S	Industry	532.7	472.5	488.6	492.4	513.68	509.1	530.2	535.2	462.2	489.5	497.6	523.2
MARLBORO	S	Irrigation	0	0	0	0	22.46	9.8	46.23	51.28	54.88	0	0	0
MARLBORO	S	Mining	0	0	0	0	0	0	0	0	0	0	0	0
MARLBORO	S	Water Supply	14.815	13.362	14.227	12.123	12.215	12.307	15.631	14.687	12.154	10.584	7.514	7.449
MCCORMICK	S	Golf Course	0.145201	0.079305	0.691495	4.986178	7.8166	6.713853	9.891162	9.852111	8.761698	1.382384	0.762125	0.263507
MCCORMICK	S	Hydroelectric	227498	179920	187994	189154	142059	124347	131994	160593	132373	244970	148724	159168
MCCORMICK	S	Water Supply	29.8	25.6	34.7	29.2	32.6	25.9	36.5	41.4	30.5	30.9	27	17.1
NEWBERRY	G	Irrigation	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
NEWBERRY	G	Water Supply	0	0	0	0	0	0	0	0	0	0	0	0
NEWBERRY	S	Golf Course	0	0	1.4	2.9	4.1	1.2	2.8	1	3.5	0.7	0.3	0.4
NEWBERRY	S	Irrigation	1.2	1.2	1.2	1.2	2.68	3.18	3.9	2.4	1.68	1.2	1.2	1.2
NEWBERRY	S	Water Supply	132.777	123.096	131.674	132.263	140.441	158.725	172.571	165.162	155.62	162.457	157.652	160.635
OCONEE	G	Water Supply	1.913949	1.787839	1.891685	1.936761	3.465693	3.915369	3.956391	3.732462	3.295329	3.716082	2.80218	2.549024
OCONEE	S	Golf Course	0.128	0.002	0.596	2.847	4.123	3.364	1.853	3.281	1.892	0.97	0.449	0.223
OCONEE	S	Hydroelectric	102788	106478.1	1015.3	1991.7	90622.8	152309.1	188836.6	179106.2	120455.9	142749.6	141762.6	136011.8
OCONEE	S	Irrigation	1	1	1.5	1.6	2.6	3.7	3.8	3.8	3.6	2.5	2.5	1.5
OCONEE	S	Nuclear	79846.01	56997.02	62637	76847.01	81903.02	83755	96405.01	96966.02	93735	90948.01	69564.01	75873.02
OCONEE	S	Water Supply	303.064	288.225	304.942	318.715	353.644	357.222	367.98	360.324	346.448	328.918	306.549	298.123
ORANGEBURG	G	Golf Course	0	0.24	1.9	5.66	11.26	9.69	12	4.34	5.42	5.29	1.15	0.62
ORANGEBURG	G	Industry	34.149	288.58	32.676	17.107	27.783	28.029	31.874	56.999	44.141	40.817	47.066	43.349
ORANGEBURG	G	Irrigation	63.7877	66.7907	143.3757	875.4207	1890.074	1683.033	1449.467	958.8365	613.1642	267.2242	169.9017	111.8565
ORANGEBURG	G	Thermoelectric	13.51931	96.22859	39.20681	84.53159	991.8104	62.0586	37.1649	104.8406	72.49244	91.88495	132.2578	105.33
ORANGEBURG	G	Water Supply	21.7735	21.9845	21.5622	24.575	29.8762	27.2579	29.238	26.44286	26.579	26.9375	29.1247	33.1191
ORANGEBURG	S	Golf Course	0	0	0	0.075	0.39	0.59	0	0	1.56	0	0.25	4.89
ORANGEBURG	S	Industry	4.99	4.25	5.78	4.21	4.78	4.26	4.8	4.52	3.99	4.25	3.94	4.05
ORANGEBURG	S	Irrigation	19.5	29.4	25.2	67.26	149.71	183.904	226.46	191.81	119.06	62.41	23.05	31.2
ORANGEBURG	S	Thermoelectric	0	0	0	0	0	0	0	0	0	0	0	0
ORANGEBURG	S	Water Supply	237.762	219.557	231.409	235.965	271.356	254.149	254.867	261.849	251.716	236.766	242.051	241.308
PICKENS	S	Golf Course	0.509111	1.37384	11.65822	20.89531	25.828	26.49242	21.52126	20.00016	21.32816	8.004439	1.958982	0.572832
PICKENS	S	Hydroelectric	245010	278195	310658	299971	269800	311222	540340	500545	180301	149566	121766	259134
PICKENS	S	Industry	38.66	37.73	41.54	46.876	47.62	47.7	57.628	38.447	42.63	35.94	36.58	30.7
PICKENS	S	Water Supply	222.941	201.091	225.416	243.277	275.704	270.719	271.961	285.183	257.435	243.886	223.541	217.81
RICHLAND	G	Aquaculture	0	0	0.75	0.4	0.35	0	0	0.85	0.1	0	0	0
RICHLAND	G	Golf Course	0.102	0.102	0.406	0.606	1.801	3.321	4.321	3.621	3.101	1.881	1.106	0.402
RICHLAND	G	Industry	71.074	63.076	63.282	60.147	61.858	58.886	67.326	65.623	64.495	53.01	66.901	68.707
RICHLAND	G	Irrigation	2.3	2.1	1	10.2	60.8	67.9	87.7	22.2	2.7	2.5	2.8	3.3
RICHLAND	G	Water Supply	9.546	20.916	20.51	21.525	29.265	26.874	31.868	29.02	35.539	33.211	34.86	32.659
RICHLAND	S	Aquaculture	0	0	1.3	1	0.7	2	0	2.6	0.4	0	0	0
RICHLAND	S	Golf Course	2.085	3.614	7.158	28.83	45.228	28.415	41.025	43.526	35.109	23.917	13.755	3.037

RICHLAND	S	Hydroelectric	0	0	0	0	0	0	0	0	0	0	0	0
RICHLAND	S	Industry	873.073	793.33	869.828	807.903	918.526	946.419	1039.624	1046.376	958.605	769.79	860.434	899.39
RICHLAND	S	Irrigation	0	3.2	11	10.3	11.2	7.2	11.8	11.7	11.1	31.4	29.7	13.8
RICHLAND	S	Thermoelectric	123.83	115.71	74.83	120.59	41.14	89.26	161.7	169.86	146.64	126.11	140.59	75.97
RICHLAND	S	Water Supply	1758.76	1559.98	1745.77	1941.55	2145.99	2032.95	2133.38	2178.63	2083.24	2049.26	1885.31	1832.12
SALUDA	G	Irrigation	0	0	0	0	0	0	0	3.443	0	10.2	0	0
SALUDA	G	Water Supply	0	0	0	0	0	0	0.5	0	0	0	0	0.59
SALUDA	S	Irrigation	0	0	55	129	238	288	272	217	100	44	24	0
SALUDA	S	Water Supply	65	62	70	65	67	77	79	77	76	73	68	71
SPARTANBURG	G	Golf Course	0.0009	0.0012	0.0012	0.0013	0.0014	0.0014	0.0015	0.0015	0.0015	0.0013	0.001	0.0009
SPARTANBURG	G	Water Supply	0	0	0	0	0	0	0	0	0	0	0	0
SPARTANBURG	S	Golf Course	1	1	2	3	3	5.8	10.15	9.3	5.46	3	2	2
SPARTANBURG	S	Hydroelectric	20114	20546	20031	10129	11773	13581	11932	10674	9475	12136	8475	12163
SPARTANBURG	S	Mining	0.464	0.208	0.688	2.296	1.608	1.76	1.992	1.64	1.44	1.44	0.88	0.64
SPARTANBURG	S	Water Supply	996.663	894.263	972.0908	1045.394	1189.835	1163.296	1286.494	1266.351	1191.805	1151.987	1052.509	1017.662
SUMTER	G	Golf Course	2.628	1.224	4.019	15.68	22.88	13.97	9.358	14.327	17.86	16.85	5.554	3.048
SUMTER	G	Industry	13.805	13.863	13.096	12.745	14.01	16.333	13.935	14.649	17.545	15.374	16.014	14.408
SUMTER	G	Irrigation	8.48	5.445	37.212	285.576	777.097	727.204	523.54	281.072	209.129	86.459	55.775	20.305
SUMTER	G	Water Supply	447.304	424.0475	465.3479	493.69	521.4372	490.8573	514.9521	525.4449	510.8991	497.7609	460.6857	461.6613
SUMTER	S	Irrigation	17.9	32.2	53	71.1	104.3	145.2	168.1	148.9	111.2	83.1	59.8	28.8
UNION	G	Industry	0.19	0.17	0.189	0.196	0.194	0.173	0.191	0.174	0.166	0.178	0.182	0.185
UNION	S	Industry	0	0	0	0	0	0	0	0	0	0	0	0
UNION	S	Hydroelectric	133626	117111.6	106444.5	120541.4	104385.9	79916.74	65663.83	67164.91	49174.61	49877.3	31660	32672
UNION	S	Water Supply	87.5	82.9	93.5	96.4	104.4	102.8	105.5	109.3	104.9	108.2	99.2	97.6
WILLIAMSBURG	G	Industry	27.2907	26.5907	27.5142	25.3998	28.2345	25.9405	24.337	26.9057	24.2584	23.7184	38.4301	30.7569
WILLIAMSBURG	G	Irrigation	0	0	8	18	26	42	46	27	16	5	0	0
WILLIAMSBURG	G	Water Supply	81.9	75.316	81.095	82.099	86.76	84.955	84.884	71.448	69.614	85.352	88.175	85.623
WILLIAMSBURG	S	Irrigation	0	0	0	1	1	2	3	2	0	0	0	0
YORK	G	Golf Course	0.25	0.5	1	4.5	7.25	12	17.5	20.75	14.75	8.5	1.75	0.25
YORK	G	Industry	0	0	0	0	0	0	0	0	0	0	0	0
YORK	G	Water Supply	0	0	0	0	0	0	0	0	0	0	0	0
YORK	S	Golf Course	0.67843	0.28105	0.122396	1.479639	7.962	11.556	10.887	11.641	9.602	8.149	2.802	1.482
YORK	S	Industry	924.5	838.7	930	891	948.7	925.6	871.5	883.2	826.8	883.2	847.9	889.1
YORK	S	Hydroelectric	118792	105421	110405	109697	68488	49127	40502	61905	35648	36054	31165	29502
YORK	S	Nuclear	4804	4364	4629	4274.01	4541.01	5446	5771	5817	5240.03	4686	4190.01	4845
YORK	S	Water Supply	583.82	563.599	610.676	662.064	781.137	816.114	837.568	824.813	788.109	806.008	707.318	688.237

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