

**AUGUSTA COUNTY SERVICE AUTHORITY  
ANNUAL REPORT**



**FISCAL YEAR 2021  
JULY 1, 2020 – JUNE 30, 2021**

The following is the Augusta County Service Authority's (ACSA) Annual Operating Report for the 2021 fiscal year. This report includes activities, statistics, accomplishments, and financial information from July 1, 2020 through June 30, 2021.

## *Vision, Mission, Values*

### *Vision*

The Augusta County Service Authority will be an independent, respected leader in the water, wastewater and solid waste industries, with a highly competent and motivated staff, committed to environmental stewardship and outstanding customer service.

### *Mission*

The Augusta County Service Authority protects the public health and the environment by providing high quality water and wastewater service and solid waste disposal, working together with Augusta County to achieve development objectives in a fiscally responsible manner.

### *Values*

- **Honesty and Integrity:** Doing what is right, fair and ethical
- **Safety:** Always striving to protect our employees, our customers and the environment
- **Respect:** Shown to one another as well as to our customers
- **Efficiency:** Embracing new ideas in a constant effort to work as cost effectively as possible
- **Consistency:** Providing the highest level of service to every customer
- **Compliance:** Meeting or exceeding all regulatory requirements
- **Sustainability:** Managing our resources to be fiscally responsible today and environmentally and technologically sustainable for the future
- **Affordability:** Meeting Board guidelines for water and sewer rates and fees
- **Accountability:** Being accountable in all our actions to our customers and each other

## *Introduction*

The ACSA was chartered in March 1966 to centralize the provision of water and sewer service to County residents. As of June 30, 2021, the Service Authority had 110 employees. The number of active service connections was 14,903 for water and 9,166 for sewer. The water distribution system contains over 415 miles of water mains (2" and above) and approximately 2,112 fire hydrants. ACSA currently provides wastewater collection, conveyance (225 miles of gravity sewer mains 8" and above, and 18 miles of force main sewer, 4" and above), and treatment through four (4) major facilities and five (5) smaller facilities. ACSA operates the Middle River Regional Wastewater Treatment Plant, which is jointly owned with the City of Staunton. ACSA also owns 32 sewer pump stations and operate two (2) ACSB stations and 15 water booster stations.

The Service Authority is governed by its Board of Directors. Each director is appointed for a four (4) year term by the Augusta County Board of Supervisors. The ACSA Board Members for the 2021 fiscal year are listed below.

MAGISTERIAL DISTRICT	BOARD MEMBER	SERVICE IN FY 2021
Beverley Manor	Allen Dahl	July 2020 – June 2021
Middle River	Garry R. Gordon	July 2020 – June 2021
North River	Andrew C. Middleton	July 2020 – June 2021
Pastures	Timothy Simmons	July 2020 – June 2021
Riverheads	Michael L. Shull	July 2020 – June 2021
South River	Harvey Almarode	July 2020 – June 2021
Wayne	Matthew Egeli	July 2020 – June 2021

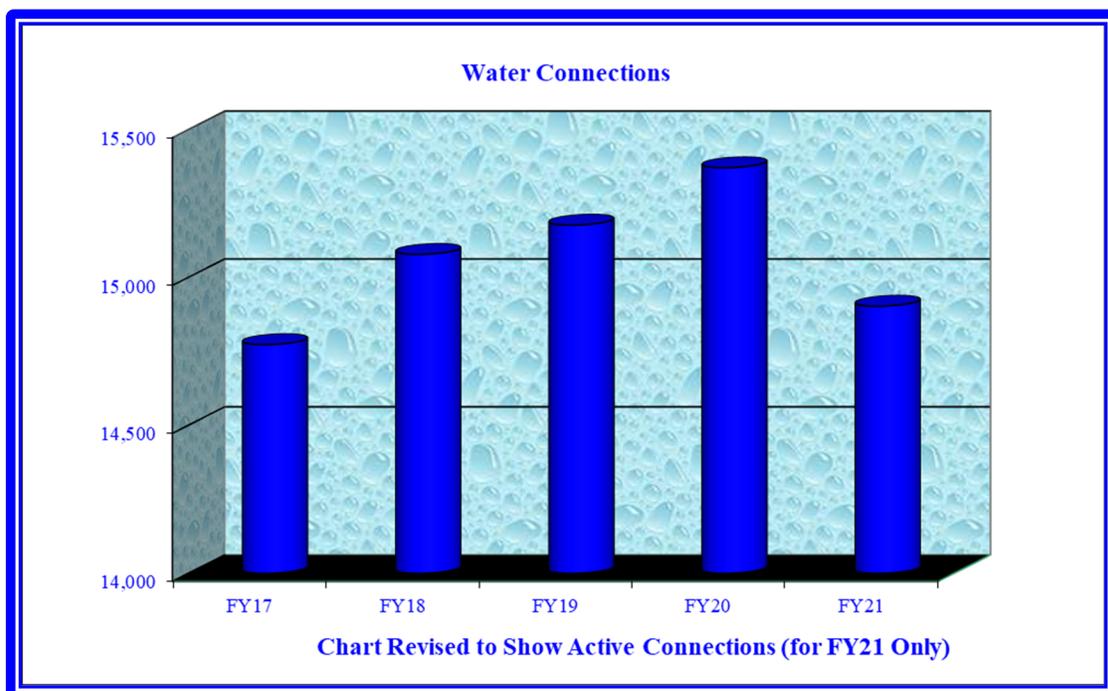
## Water News



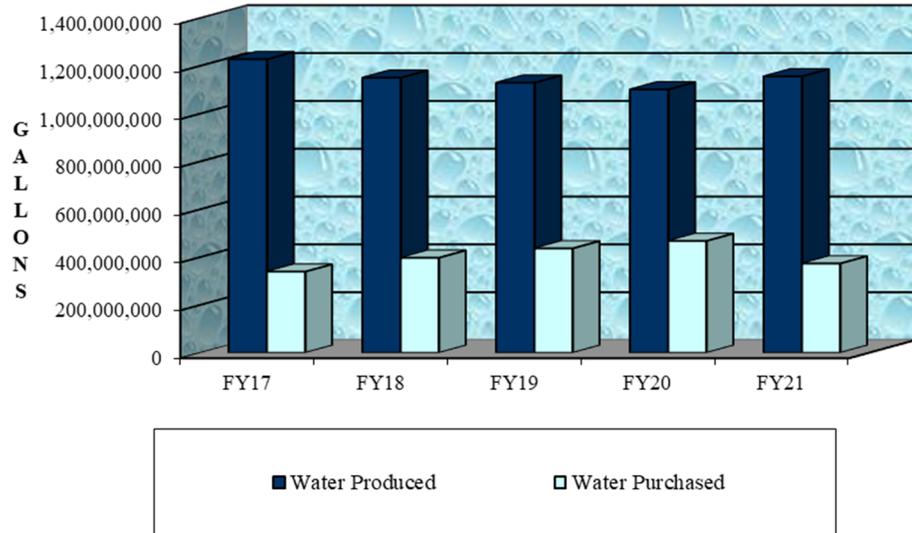
**Jolivue  
Water  
Storage Tank**

The ACSA currently maintains 10 separate water systems. The Verona and Weyers Cave water systems were consolidated on April 28, 2021. The total usage of all the systems was 4,156,834 gallons per day in FY 2021. ACSA distributed approximately 3,134,327 gallons per day from its own water facilities. Total purchased water in fiscal year 2021 averaged 1,022,507 gallons per day. Interjurisdictional agreements for water exist with the Cities of Staunton and Waynesboro and the Town of Craigsville.

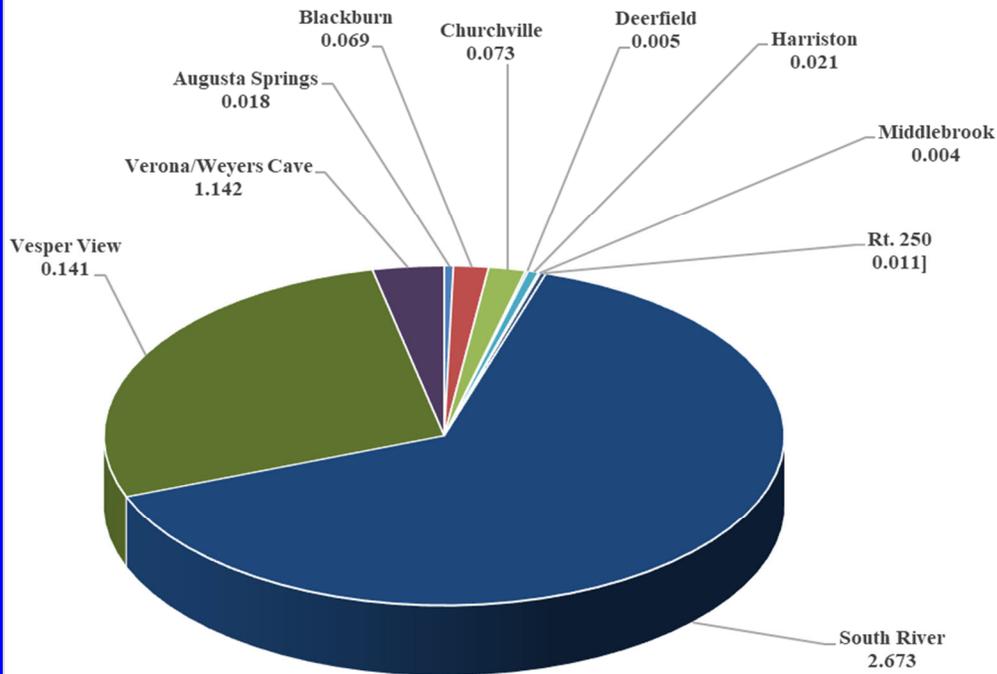
The ACSA currently has seven (7) facilities with microfiltration units. Due to the complexities of operating these plants, a Water Treatment Division was established in 2009. These operators concentrate solely on drinking water operations.



### Five Year Comparison Water Purchased Versus Water Produced



### Avg. Water Usage per Service Area (MGD)



Total Average Usage: 4.157 MGD  
MGD = Million Gallons Per Day

Areas served by ACSA's water systems include: South River District (includes Stuarts Draft, Lyndhurst, Fishersville, Mint Spring, Jolivue, Greenville), Verona/Weyers Cave ) includes Mt. Sidney, Augusta Springs, Blackburn, Churchville, Vesper View, Harriston, Middlebrook, Deerfield, and Route 250 West.

The Virginia Department of Health (VDH) performed seven (7) inspections of our water systems during FY 2021. Systems inspected were South River District, Middlebrook, Churchville, Rt. 250 West, Verona/Weyers Cave, Augusta Springs, and Deerfield. All facilities were in compliance and were found to be well maintained and in good working order.



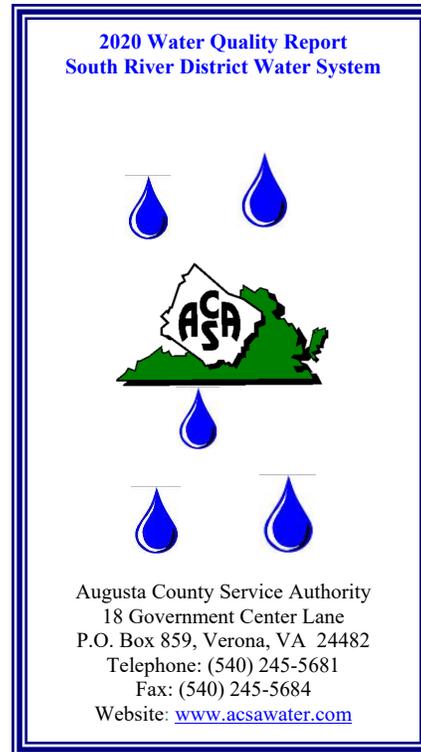
**Ashton Hoy**  
**Plant Operator**  
**Trainee**

Water system operators collected a total of 771 coliform bacteria samples; 567 coliform samples tested on drinking water in the distribution system and 204 samples tested at the source. All test results met the requirements of VDH.

The following parameters are also tested on a frequency determined and regulated by the VDH: nitrates, inorganics, volatile organic chemicals (VOCs), total trihalomethanes (TTHMs), haloacetic acids (HAAs), Synthetic Organic Chemicals (SOCs), radiological, metals, lead and copper. All systems are in compliance with state and federal regulations. Customers are notified yearly of the test results through the Water Quality Reports which are mailed to customers.

The 23<sup>rd</sup> Annual Water Quality Report was mailed to all ACSA water customers in May. This report included information about the quality of the drinking water, source of the water supply, and other educational information. These reports may be also viewed on the ACSA website.





Laboratory and operational personnel performed 12,910 tests on drinking water samples. Tests include pH, chlorine, fluoride, hardness, alkalinity, and bacteria. Commercial laboratories ran an additional 1,333 tests.

***Meter Replacement Project:*** In FY 2021, the ACSA continued the replacement of residential water meters as part of a multi-year plan to upgrade all of our customers' water meters. The new meters benefit our customers in several ways: The meters will offer the most accurate measurement of water usage, the potential for earlier leak detection, and the ability to view detailed usage information on a computer, tablet, or smart phone.



The new meters use cellular reading technology, allowing the ACSA to gather meter readings from our office using existing cell phone towers. The cellular-read meters report new readings once per day, allowing faster access to information and any potential problems.

The ACSA contracted the meter installation to Bitter Creek, LLC, a Virginia construction company who also installed water meters for the City of Waynesboro. The FY 2021 portion of the residential meter replacement project was successfully completed. The reading areas of "South River 15 - 17", "Dooms", "Harriston", "Blackburn", "Mt. Sidney", "Jolivue", "Mint Spring", and "Greenville" were migrated to the new Beacon reading system.



**Jason Wheeler**  
Meter Tech

## Wastewater News

ACSA currently maintains nine (9) wastewater treatment plants. Interjurisdictional agreements for wastewater treatment exist with the Cities of Staunton and Waynesboro.

The four largest areas with wastewater treatment service are Fishersville [includes Mint Spring and Jolivue areas], Verona, Stuarts Draft, and Weyers Cave. Smaller wastewater treatment service areas include Greenville, Harriston, Mt. Sidney, New Hope, and Vesper View.

**Nutrients and Wastewater Treatment Plants:** Regulations were passed in 2007 limiting the amount of nutrients discharged from wastewater plants in the Chesapeake Bay Watershed. The consequences of these new rules resulted in expensive plant upgrades, establishment of a compliance timeline, and a cap on future plant discharges. The three (3) upgraded plants, Fishersville, Middle River, and Stuarts Draft, were required to meet stringent concentration limits as of January 1, 2011.

The limits are 4.0 mg/L for Total Nitrogen and 0.3 mg/L for Total Phosphorus. The three plants met their nutrient permit limits for calendar year 2020. The ACSA continues to be a member of the Virginia Nutrient Credit Exchange Association. Through this organization, ACSA can either sell credits if available or buy credits if needed. The ACSA received revenue from the sale of credits from the Nutrient Exchange for calendar year 2020 in the amount of \$2,616.82. Revenue decreased from the year prior due to a decrease in price per pound as well as a decrease in Class A credits available to sell.

### Average effluent concentrations for calendar year 2020:

	Total Nitrogen (mg/L)	Total Phosphorus (mg/L)
Middle River WWTP	1.72	0.19
Fishersville WWTP	3.13	0.14
Stuarts Draft WWTP	1.80	0.13



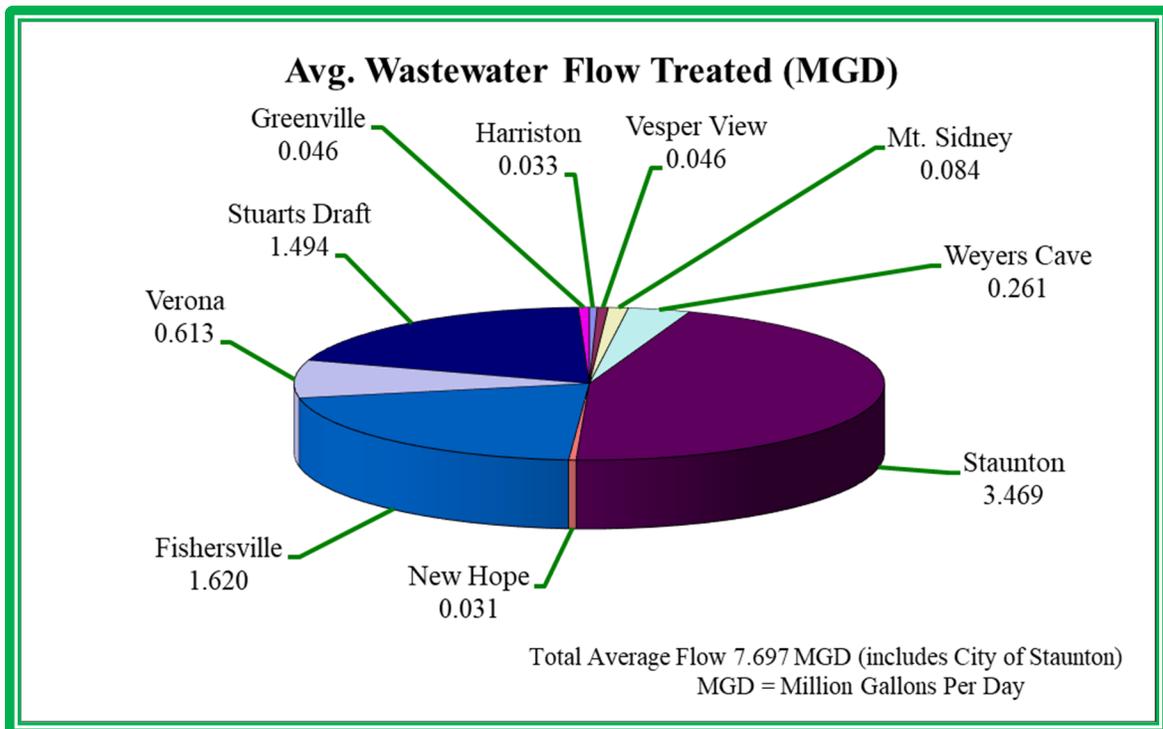
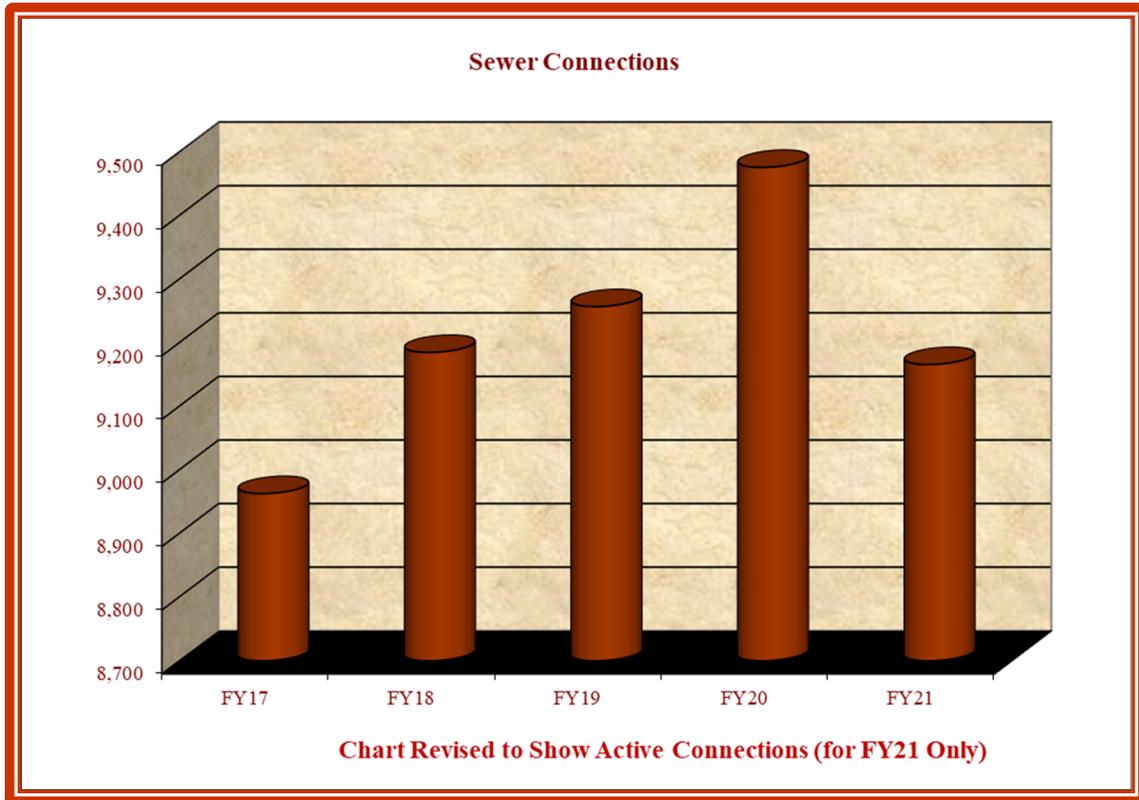
Fishersville WWTP

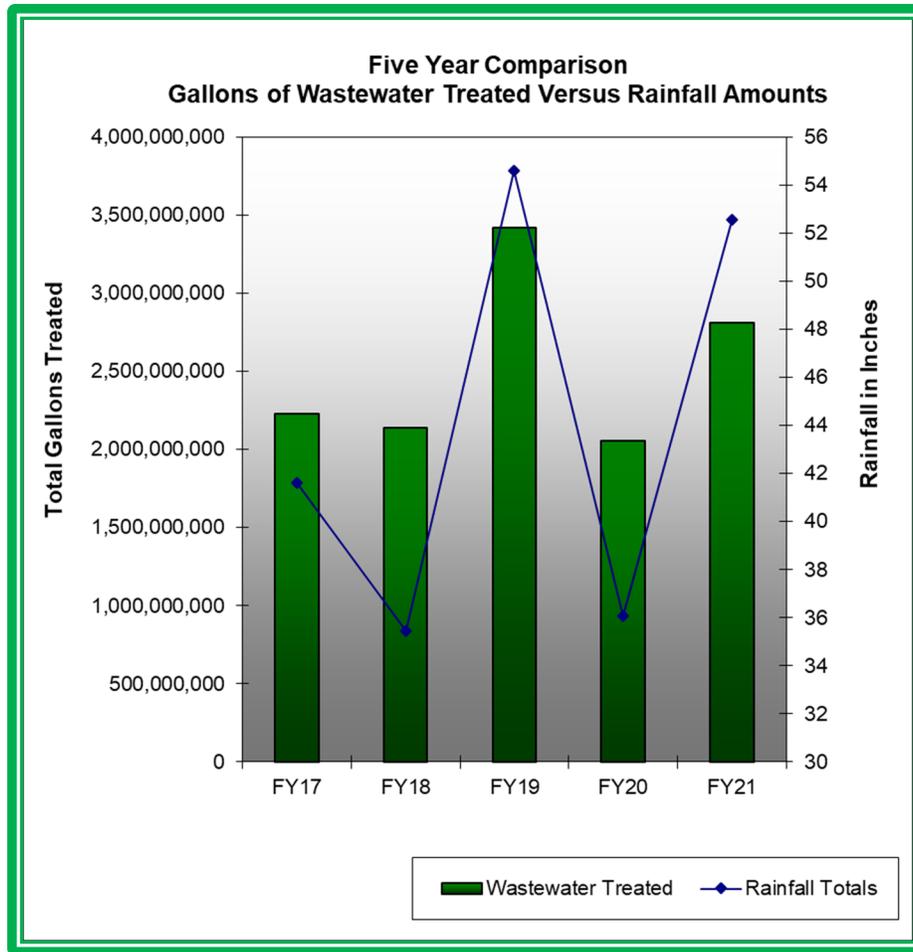


Stuarts Draft WWTP



Middle River WWTP





Average flow per day for fiscal year 2021 was 7,697,000 gallons (includes City of Staunton).

**Inflow and Infiltration (I&I):** The majority of I&I work done has been concentrated in the Fishersville, New Hope, Stuarts Draft, and Weyers Cave sewer service areas.

The I&I crew conducted the following:

TV inspection of 66,456 feet of sewer main	Repaired 55 cleanouts
Inspected 230 manholes	Installed 55 cast iron boxes on cleanouts
Raised 6 manholes	Performed 5 dye tests
Repaired 123 connections	Performed 395 lateral inspections
A contractor slip-lined 2,462 feet of sewer main during FY 2021 in the Weyers Cave and Stuarts Draft systems	



The Virginia Department of Environmental Quality performed three (3) unannounced compliance inspections at New Hope, Mt. Sidney, and Greenville WWTP's. The Virginia Pollution Discharge Elimination System (VPDES) permit was renewed for the Middle River, Greenville, and Stuarts Draft WWTP's. VPDES and General Permits are issued for five-year terms.

Operations staff and laboratory personnel performed 35,896 tests on wastewater and biosolids. Tests include pH, biochemical oxygen demand (BOD), total suspended solids, total kjeldahl nitrogen (TKN), ammonia nitrogen, chlorine, dissolved oxygen, temperature, E. coli, chemical oxygen demand (COD), phosphorus, alkalinity, UV nitrate, UV transmittance, specific oxygen uptake rate (SOUR), and microscopic exams. Commercial labs conducted an additional 1,368 tests.



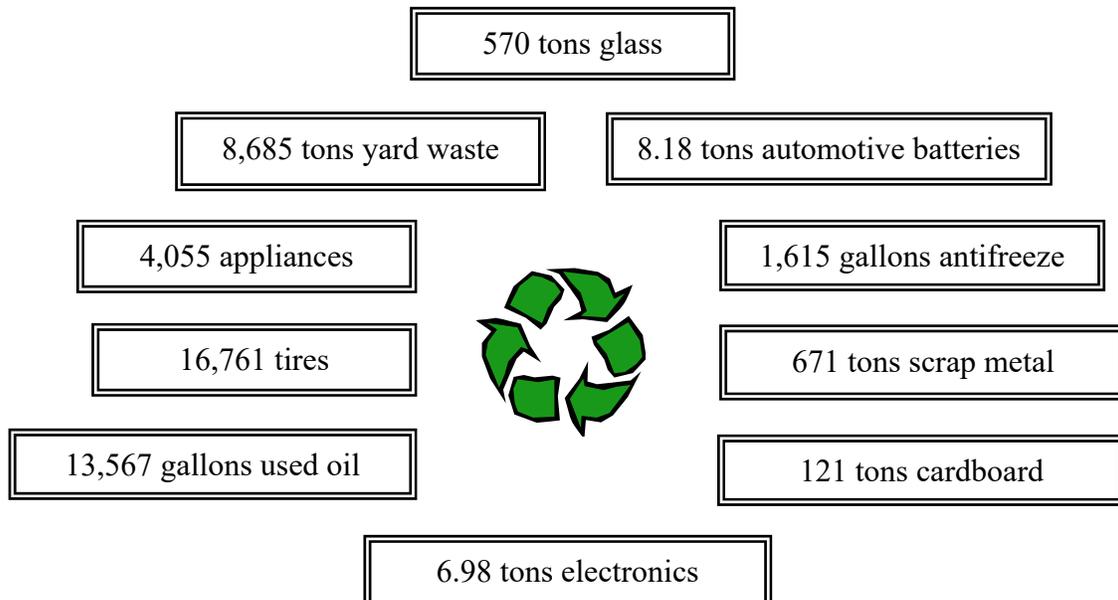
**Hal McWhorter**  
**Plant Supervisor**

The ACSA Industrial Pretreatment Program was established in 1988 as part of the Clean Water Act. The main purpose of this program is to prevent the introduction of industrial pollutants into the ACSA's wastewater treatment plants. We have eight (8) Significant Industrial User permits and 28 Written Permission to Discharge permits and two general use permits. During the year, 16 site inspections and 72 sampling events were conducted. Approximately 1,050 tests were run on industrial discharges during this fiscal year. Lab staff also collected eight (8) sets of stormwater samples.

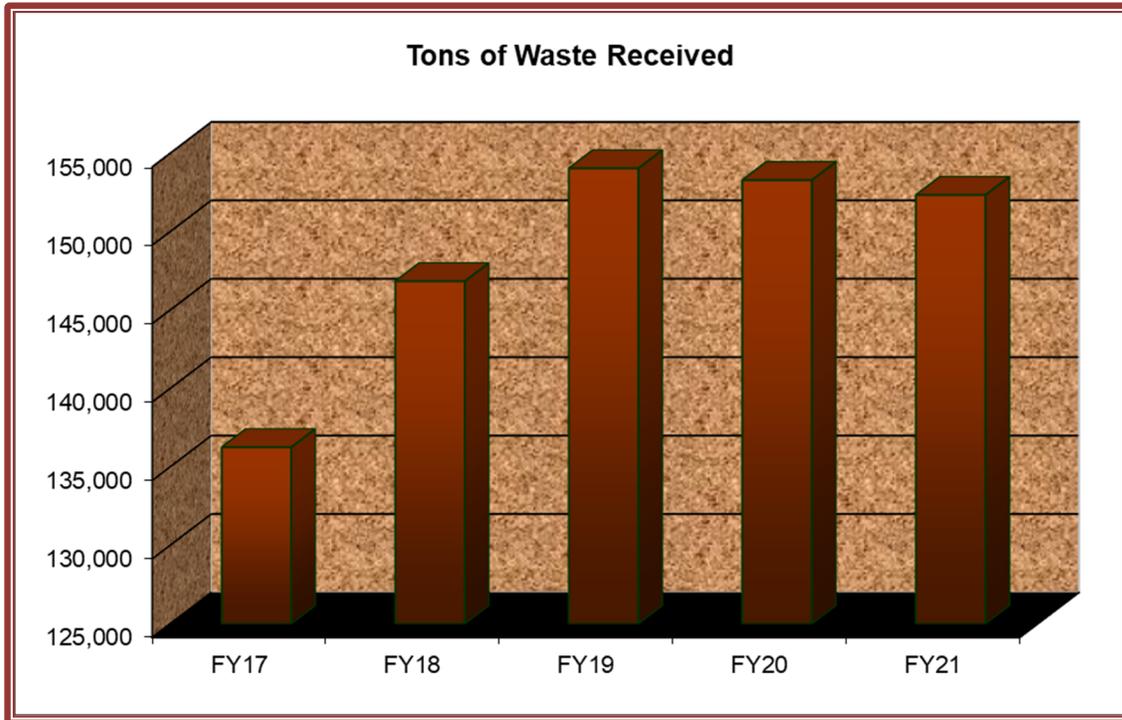


## *Landfill*

The following were recycled in FY 2021.



The Augusta Regional Landfill received 152,355 tons of waste, which is approximately 491 tons per day during FY 2021. Residents from Waynesboro, Staunton, and Augusta County made 165,666 trips to the public use site. The landfill has 3,767 commercial and industrial accounts.



**Virginia Department of Environmental Quality (DEQ) Inspections:** During FY 2021, the Augusta Regional Landfill had three (3) unannounced inspections by DEQ staff and was found to be in compliance on all occasions.

## Field Operations



### *Water and Sewer Field Maintenance:*

Completed **1,140** work orders for water line leaks and breaks, sewer stoppages, flushing of water and sewer lines, fire hydrant maintenance and inspections.

Answered **115** after-hours customer calls.

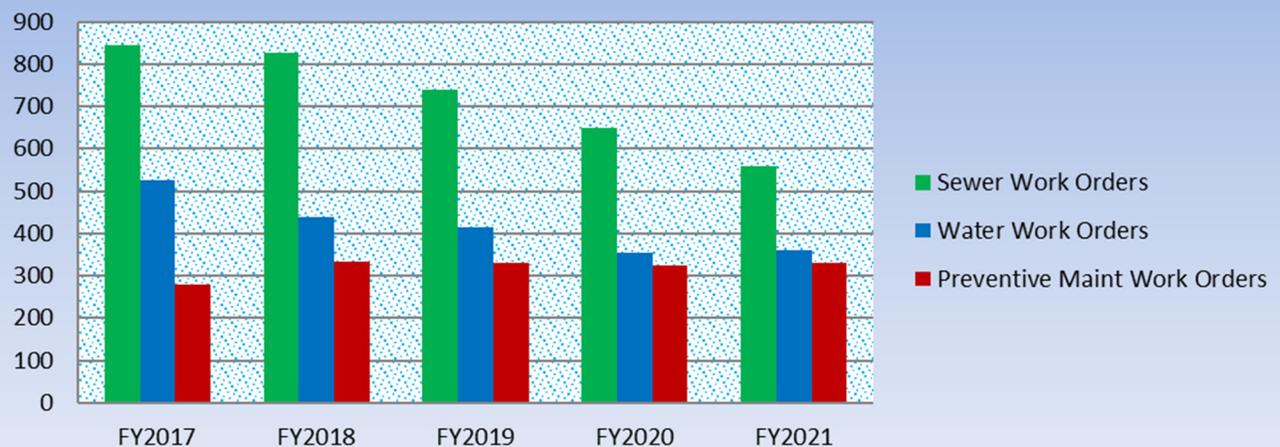
### *Fleet Vehicle Maintenance:*

**121** state inspections were performed in addition to **206** vehicle repairs, **162** equipment repairs, and **195** preventive maintenance work orders.

### *Plant Equipment Maintenance Crew:*

ACSA staff completed **558** sewer work orders, **359** water work orders and **330** preventive maintenance work orders. Maintenance crews upgraded sewer pump stations, installed new emergency generators, and performed SCADA upgrades in addition to repairing equipment.

## Plant Equipment Maintenance



### *Building and Grounds Maintenance:*

Landscaping maintained at **113** sites. (Includes mowing, weed-eating, and weed control spraying).

### *Field Operations:*

#### **Major Projects Include:**

- Jolivue Waterline Replacement
- Captain Hizer Lane Waterline Upgrade
- Skyview Lane Water & Sewer Lines Replacements
- Rt. 250 Control Valve Relocation
- Old White Hill Road Waterline Replacement
- Wilco PS Demo & Gravity Installation - partial

### *New Connection Crew:*

#### **Installed:**

**53** water connections

**21** sewer connections

- Replaced large water meters at various locations
- Assisted with waterline relocations and connection upgrades
- Installed **11** sampling stations

### *VA811 (Utility Locates):*

Responded to **8,306** locate ticket requests

### *Fire Flow Tests:*

**20** tests performed

## *Administration and Engineering*

Engineering staff reviewed 32 site plans, three (3) subdivision development projects, 17 erosion and sediment control, utility extension, and relocation plans, and nine (9) final plats. The total number of reviews, which includes re-submittals, was 133. Engineering staff also reviewed 176 building permits.

The Substandard Waterline Replacement Program, a focus for the Service Authority, is an effort to keep up with the replacement of aging infrastructure. The ACSA operates and maintains over 400 miles of waterline. Substandard Waterlines are typically older pipes that have reached the end of their useful life or pipes that have become problematic and have experienced a higher rate of failure. Substandard Waterline replacement projects are selected based on factors such as pipe age, material, failure rate (from work orders), and the possible impact to the water system reliability. Projects designed/constructed during this FY include:

- The Jolivue/Rt. 11 Waterline Replacement Project started in FY20 and was completed in FY21. This project replaced approximately 8,800 feet of 8” and smaller piping with 12” ductile iron pipe.
- The Captain Hizer Lane Waterline Replacement Project in the Verona Water System consisted of the replacement of 1,200 feet of waterline and was designed and constructed in this FY.
- The Skyline View Drive Waterline Replacement Project in the South River System consisted of the replacement of approximately 740 feet of waterline and was designed and constructed in this FY.
- Plans for Howardsville Turnpike Waterline Replacement Project, Phase I in the South River System were completed and approved by the Virginia Department of Health during this FY. This project consists of the replacement of 5,200 feet of waterline.

Other work completed during this FY included:

- Design of the Old Greenville Road Sewer Lift Station Replacement Project. This project will replace an aging pump station.
- Design and easement acquisition for the Wilco Gravity Sewer Project, which consists of the installation of approximately 1,600 feet of 8” sewer main. This project will allow for the permanent decommissioning of an existing sewer lift station.
- Design was completed for the Dooms Water Booster Station Project, which will provide an emergency water supply from the City of Waynesboro.
- Development of a Water System Flushing Plan for a portion of the South River System in the Stuarts Draft area.

The Engineering/GIS Team continues to update the ACSA website to provide information regarding projects. This page can be viewed at [www.acsawater.com/currentprojects](http://www.acsawater.com/currentprojects).

Engineering/GIS Staff continue to improve data acquisition and mapping for new water and sewer facilities that are constructed. Because most of the facilities are underground, the use of Global Position System (GPS) equipment and Geographical Information System (GIS) programs are valuable tools for being able to determine where the facilities are located and details associated with the construction and materials. This data has also been used during this FY to allow Engineering/GIS and IT staff to update water system models used to simulate system operation. The simulation process allows engineering staff to try different project scenarios prior to final design and construction. As a result, the technology allows for better and more efficient decision making in the engineering process.

The Engineering Department also issued a revision to the Design and Construction Standards. These standards are used for all new construction. Following the internal revision/review process, the standards document was approved by the Virginia Department of Health. The standards are effective as of July 1, 2021, for all new public water and sewer system construction. In conjunction with the revision, engineering staff formalized the process for requesting fire flow tests and for requesting the addition of new products for use in the public system. These additions are expected to improve tracking and efficiency. Links for these items and the revised standards can be found at [www.acsawater.com/standards](http://www.acsawater.com/standards).

Three (3) Meter Techs completed 5,809 work orders. This includes service orders (turn on/off), leak investigations, issues, and delinquent notices.



**From left to right:  
Buck Roadcap, Senior Meter Tech  
Jason Wheeler, Meter Tech  
Todd Knicely, Meter Tech Supervisor**



Four (4) Customer Service Representatives sent 92,842 regular bills and 12,091 second notices to customers. They processed 5,978 payments at the counter, answered 29,592 phone inquiries and payment requests, and processed 30,759 mailed payments. Additional payments were processed with automated and online systems totaling 48,315.

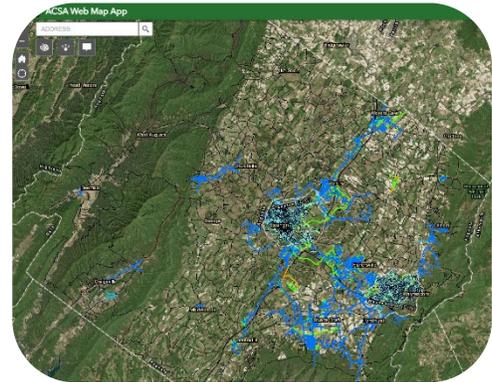


**From Left to Right:**  
**Sharon Simmons, Customer Service Supervisor**  
**Tracy Hoy, Customer Service Rep**  
**Megan McConnell, Customer Service Rep**  
**Kristina McClung, Customer Service Rep**

***Integrated Computer System:*** In FY 2021, the ACSA continued to strengthen its cybersecurity by deploying new firewalls with more advanced security features, utilizing the cloud as an additional backup site, and deploying multi-factor authentication for all users.

The ACSA also deployed an update to its geographic information system (GIS) to provide additional information and capabilities to both field and office users. New features include additional integrations with both the customer service and work order systems and improved security.

The work order and asset management system has continued to be utilized, resulting in the processing of 2,755 work orders across multiple departments.



**Safety:** The ACSA continues memberships with the Safety & Security Committee of the Virginia Water Environment Association (VWEA), Virginia American Water Works Association (VA AWWA), and the American Society of Safety Professionals.



A safety grant awarded by VRSA insurance allowed ACSA to purchase a fall protection rescue kit and an AED for the Stuarts Draft WWTP. We now have AED's at the three large waste water treatment plants, the Landfill, the Field Office, and the Government Center.



Safety training has been restored to normal after COVID limited in person gathering for more than a year. We have also begun to utilize our insurance appraiser's new online learning system for routine trainings that are required each year. This allows employees to attend training at a time that best suits their schedule instead of having to be in a certain room at an exact time.

The ACSA continued to maintain an active employee led safety committee which attempted to meet monthly to discuss vehicle accidents and injuries as well as safety concerns employees have in the field. Some meetings were limited due to COVID but have resumed as normal. Useful ideas that came from the safety committee included reworking the pipe trailer to make it easier to get material in and out and getting a lift gate for the Water Department pick-up to make it easier to haul small amounts of chemical. Another idea that came out of the safety committee was that we have Work Zone training more often. Work Zone training is required by VDOT every four years but employees wanted a refresher on a more regular basis.

Bullet resistant glass was added to the customer service and administrative counters. Combined with our magnetic lock on the doors and badge entry, the glass has made our public customer spaces safer and more secure.

**Arc Flash Study:** The small system arc flash study was completed and the labels were affixed to the equipment. Moving forward ACSA will need to continue to update the information every five years and to complete studies on new equipment as it is added.

<b>⚠ WARNING</b>	
<b>Arc Flash and Shock Hazard</b>	
<b>Appropriate PPE Required</b>	
Arc Flash Boundary	5 ft. 9 in.
Incident Energy in cal/cm <sup>2</sup>	5.7
Working Distance	24 in.
Shock Hazard Exposure	480 VAC
Shock Hazard when covers removed	



## Employee Accomplishments

The following employee received their Water License this fiscal year:



**Matt Lough**  
Class 4

Operators are required to meet specific experience and/or education criteria before being allowed to take the test to obtain their licenses.

## Community Outreach



**Adopt-A-Highway Clean-Up:** ACSA employees worked hard to help keep the highways clean during the Adopt-A-Highway Clean Up in April of the 2021 fiscal year.

The section of road assigned to the ACSA is Rt. 11 (Lee-Jackson Highway), from Rt. 647 (Christians Creek Road) south to Route 654 (White Hill Road) at Mint Spring.

In April, 17 employees worked a combined 24 man-hours and collected 20 bags of trash.



Employees who helped in April were Jean Marshall, Pat Conroy, Tiina Solak, Becky Archer, Timmy Campbell, Terri Cale, Greg Thomasson, Stephen Gomez, Josh Talley, Gabe Butler, John Stevens, Addison Warner, Mark Fields, Tim Castillo, Brett Sinclair, Josh Smiley, and Jon Sonifrank.



## *Some Interesting Tidbits.....*

***SCADA (Supervisory Control and Data Acquisition):*** The SCADA system continues to assist the operations staff by allowing continuous monitoring and control of facilities through a computer-based radio system. SCADA is upgrading existing sites by replacing the original RTU with a SCADAPAK for improved reliability.

Overall, 100 sites are on SCADA with 25 of these sites using solar power. Two (2) ACSA and two (2) ACSB sewer pump stations are being monitored by OmniSiteBeacon and will notify operators of any alarm condition at each of the sites.

There were approximately 750 texts (alarms) from SCADA to operators and plant maintenance in FY 2021.

***ACSA Security Program:*** Several video surveillance systems were modified or replaced through FY 2021. Whenever indoor/outdoor lighting needs to be added or repaired, LED lighting was installed. Efforts will be ongoing through FY 2022 to install video surveillance systems and lighting upgrades at other locations.

## *Financial Summary*

### **Summary Statement of Financial Condition As of June 30, 2021**

Detailed financial statements will be available for inspection at the Augusta County Service Authority, Verona, Virginia and on the website at [acsawater.com/financials](http://acsawater.com/financials).