

CLARIFIER

A PUBLICATION OF GULF COAST AUTHORITY

FALL 2022

PRODUCED WATER MANAGEMENT

IMPORTANT FOR TEXAS

GCA Takes Home Safety Award
Bayport Commissions Tank T-2005
Strategic Planning: Delivering on Goals
GCA Provides Bond Financing Opportunities



GCA Wins Water Heroes Award
Trash Bash 2022: In-Person Again
Bayport Named Treatment Plant of the Year
Washburn Tunnel Completes Major Maintenance

CHAIR'S LETTER

While life has been getting back to something more closely approaching normal this year, things have been continuing to advance at Gulf Coast Authority.

Kudos to the Board, the leadership team under Liz Fazio Hale's direction, and all our amazing staff for their efforts to take GCA to the next level. I'd like to single out three areas where I feel we have particularly excelled over the past year.

First, the leadership team has kept up the momentum of our successful strategic planning process last year to develop annual implementation plans that will help us achieve those goals over the next five years. Already in year one, we are seeing great progress in delivering on those objectives.

Second, I am proud of our participation in the Texas Produced Water Consortium, working hand-in-glove with a wide range of other stakeholders on exploring options, issues, and opportunities related to produced water. The recent drought conditions in Texas and across much of the West highlight the need for innovative approaches to water supply and water management. GCA expertise was invaluable in informing the consortium's work.

And third, I would like to salute the GCA men and women who, day in and day out, keep our existing facilities operating flawlessly – as witnessed by a slew of industry awards. Whether upgrading our equipment, performing major maintenance, or ensuring compliant operations, the GCA team lives up to our mission to protect Texas waters.

Finally, let me extend a warm welcome to four new Board Members: Amber Batson, the Governor's Harris County appointee; Robert Swanson, Harris County Mayors' appointee; Stephanie Farnier, Chambers County Mayors' appointee; and Jackie Peden, Galveston County Commissioners' appointee.

Our sincere thanks go to the two Board Members stepping down: Vice Chair Rita Standridge and Secretary Chris Peden. We are deeply appreciative of their unflagging efforts to make GCA an even more effective organization.

Thank you to all our amazing team. I am looking forward to more exciting accomplishments to come.



Franklin D.R. Jones, Jr.



CEO'S LETTER

As I look back over 2022 and look forward into 2023, all I can say is, "Wow – we are back!" Back to planning on how best to meet future wastewater and water reuse needs; back together as a workforce, sharing our thanks with retirees and welcoming new faces; back to in-person meetings, workshops, and conferences; and back to being tremendously busy supporting regional and economic growth for Texas. At the same time, we continue to celebrate what never changes – our commitment to protecting the waters of Texas with outstanding technical services and customer care.

At the start of the year, we welcomed the adoption of our GCA Strategic Plan 2022-2026 and shared our vision for the next 50 years of clean water initiatives in the spring *Clarifier*. The team has devoted much time and effort to detailing the plan's five-year implementation program, prioritizing year one tasks, and conducting in-depth reviews of GCA organizational and administrative processes to identify gaps.

As part of our mission, GCA is focused on providing technical support for the protection of the environment and the progress of economic development by serving as a founding member of the Texas Produced Water Consortium (TxPWC). TxPWC was charged by Chairman Charles Perry and the Texas Legislature with developing a report on the status of produced water in Texas, including available treatment technologies, potential beneficial uses, and an analysis of costs associated with disposal and reuse. While a significant undertaking by our staff, we are grateful for the opportunity to provide technical support and insight into industrial wastewater and water reuse management and a regulatory framework for treatment.

In recognition of the strong work ethic and commitment to service of our GCA team, this year we were honored nationally with the Water Heroes Award by the Water Environment Federation for outstanding performance during Winter Storm Uri. At the state level, Bayport was named the Industrial Facility of the Year at Texas Water 2022, and all GCA facilities received accolades for meeting stringent environmental standards in 2021.

Beyond the awards, I applaud the employees who, in countless ways, are doing good for the environment: delivering strong compliance and safety performance, completing large maintenance projects, and pursuing capacity-expanding initiatives.

It has been a busy year indeed for GCA as we get back to a new sense of "normal," post pandemic. Next year looks just as promising with a transition to a new enterprise resource program; master planning for asset management, operational efficiencies, and compliance; and, hopefully, exciting new ventures to expand our mission's positive impact.

It sure does feel great to be back!



Elizabeth Fazio Hale



Produced Water Management: Important for Texas

Texas is once again experiencing exceptional drought in many parts of the state, putting water supply issues back in the news. But even apart from the drought cycle, long-term water planning and effective use of the state's water resources is important to every Texan.

One option now under study is produced water. In 2021, the 87th Regular Session of the Texas Legislature passed Senate Bill 601, authored by Senator Perry, creating the Texas Produced Water Consortium. The group was charged with examining the economics and technology of fluid oil and gas waste, commonly known as produced water, as well as the environmental and public health considerations of potential uses.

Senator Perry introduced SB 601 "with a vision for industry to consult with academia and government agencies to address a major water issue facing Texas – finding a more beneficial use for produced water beyond the current industry standards of reuse and injection."

Formally launched in June 2021, the consortium draws representation from the oil and gas industry, agricultural water users, industrial water users, environmental interests, oil and gas fluid waste recycling operators, public water utilities, groundwater conservation districts, river authorities, landowner/groundwater owners, commercial water recyclers, and midstream companies. Gulf Coast Authority, with its expertise in wastewater treatment and water management, was invited to join.

"With my background in water planning, I know how critical it is to look at opportunities for augmenting our water resources," said Liz Fazio Hale, General Manager/CEO. "GCA takes seriously its charge to protect the waters of the state while supporting

economic development, so we are pleased to participate with a diverse group of industry representatives and environmental interests to explore the critical issues around treatment and beneficial reuse of produced water."

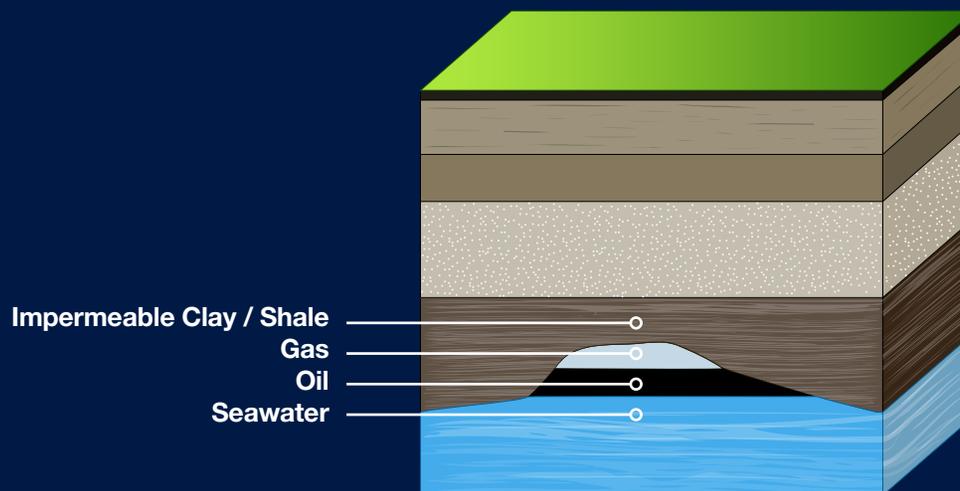
Produced Water

Produced water is the liquid intermingled with oil and gas extracted from the ground during energy drilling operations. Currently, some produced water is reused in oil and gas operations, and the excess is reinjected deep underground. However, because injection has been linked to seismicity, or increased earthquake activity, regulations now restrict injection in some areas where seismicity has been an issue. Another consideration driving the consortium's work is that a



What is Produced Water?

Oil and gas are formed from organic matter, such as dead plants and animals, deposited as sediments on an ancient seabed. Over millions of years, heat and pressure has transformed these sediments into oil and gas deposits.



majority of Texas' produced water is tied to oil and gas operations in the Permian Basin of West Texas, which is among the most arid regions in the state.

Each oil and gas reservoir also contains remnants of ancient seawater. The water's chemical composition can vary, depending on the formation process and the surrounding rock composition. Production companies drill wells to tap the energy in those reservoirs. When brought to the surface, the oil and gas is mixed with this ancient seawater, or "produced water." Since it originated from ancient seawater, produced water contains salts (also referred to as total dissolved solids or TDS), soluble components from the oil and gas, and constituents associated with the rock formation.

"Supporting research on this initiative aligns directly with the work GCA has been charged to do by the Texas Legislature," said Board Chair Frank Jones. "Protecting the waters of the state, including ensuring adequate future water supply to support growth, is critical to our mission and vital for all Texans."

The "2022 State Water Plan: Water for Texas" by the Texas Water Development Board documents a projected shortfall of 6.9 million acre-feet of water by the year 2070 under record drought conditions. To provide context, such a shortfall means that approximately 25 percent of the projected 2070 Texas population could have less than half of the municipal water supply needed during a record drought.

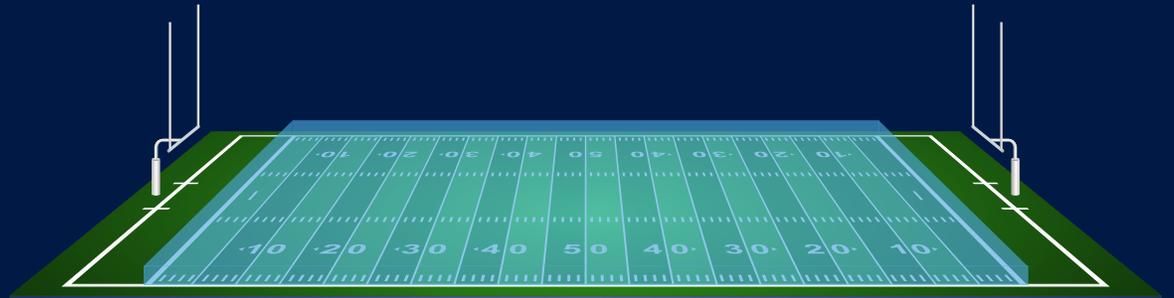
"In West Texas, where water is scarce and expensive, providing water for reuse is important for meeting all types of water needs, especially if it can preserve freshwater resources," said Gordon Pederson, Chief Technical Officer. "It is timely to take a comprehensive look at the issues involved."

The Consortium

Rusty Smith led the consortium's work as program director, with Texas Tech University as the academic partner. The consortium established six areas for research and stakeholder input: policy, technology, standards, economics, membership, and legal. Each sub-group held regular meetings in 2022 to develop information and insights relevant to its area of focus.

How Much is an Acre-Foot?

An acre-foot is approximately the amount of water that would flood a football field to a depth of 1 foot.



“GCA was fortunate to participate as an original consortium member, working closely with a diverse group of stakeholders,” said Jonathan Sandhu, Director of Technical Services. “Such broad input has been invaluable to understanding the economic, technological, and policy status of produced water management and potential opportunities for beneficial reuse.”

GCA began regional wastewater treatment operations even before the Clean Water Act (1972) and has experience adapting to meet increasingly complex regulatory environments. At its Odessa South Facility, GCA currently treats wastewater for industrial reuse, largely because the economics support this use of technology in arid West Texas.

GCA was able to leverage this experience of managing complex industrial waste treatment operations consistent with complex environmental regulations to help inform the consortium’s work.

“We have been able to share our expertise operating treatment systems that meet surface water discharge or industrial reuse requirements to understanding the opportunities for beneficial reuse,” said Leonard Levine, Technical Director.

The Report

The consortium’s findings were compiled into a report submitted to the Texas Legislature September 1, 2022. It focused on produced water from the Permian Basin, given its abundance there relative

to other areas of the state. The report contains a comprehensive survey of existing produced water volume estimates, current treatment capability, and recommended next steps.

Existing technologies can treat water to various quality levels. While produced water is currently being treated to a level appropriate for oil and gas operations, no facility in the Permian Basin is treating water to a quality needed for other uses. However, the report found that an estimated 256,000 acre-feet to 511,000 acre-feet of treated water could be available for other beneficial uses depending upon the treatment technology selected. The report specified that different water quality levels may be needed depending on the desired use – a concept



consistent with existing surface water quality discharge permitting.

The high variability of produced water quality across the Permian Basin and the lack of existing treatment facilities for usage outside of oil and gas operations highlight the need for a pilot project facility. Since one of the key findings of the report was a lack of scalable treatment data across the range of produced water characteristics observed in the Permian Basin, GCA's experience in operationalizing treatment technologies provided valuable context for some of the existing theoretical analysis.

Further Testing

The consortium report noted that a pilot facility would provide data to analyze treatment technologies' capabilities, understand the economic factors associated with the technology, and refine the treated water characterization. Such data would be at a scale more readily applicable to full-scale operations.

The report concludes that treating produced water for beneficial reuse outside of the oil and gas industry is not currently more economical than disposal or reuse within the industry. In addition, a more refined understanding of the economics of technologies available in the larger wastewater treatment space, but not yet applied to produced water, will improve decision making around potential beneficial reuse opportunities. This approach

recognizes that innovation, scarcity, and future water market needs will all impact future economic viability analysis.

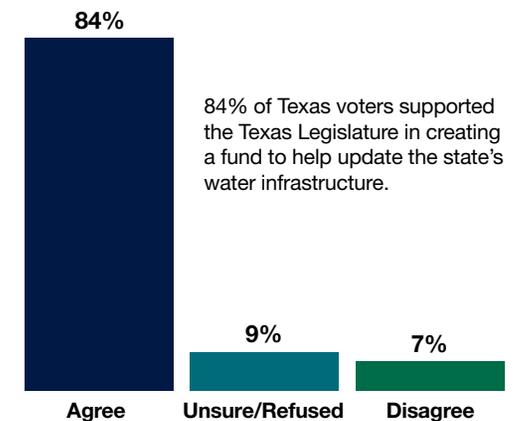
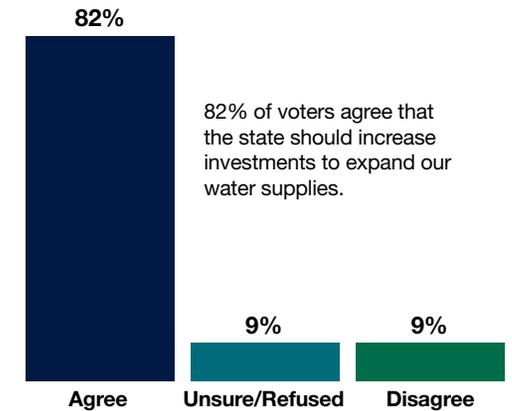
The full text of the report is at <https://www.depts.ttu.edu/research/tx-water-consortium/downloads/22-TXPWC-Report-Texas-Legislature.pdf>.

As the Texas Legislature considers the consortium report, GCA is committed to supporting efforts to assist in opportunities to treat wastewater and support solving our water supply challenges in the coming decades.

"Our mission remains to protect the waters of Texas while supporting economic growth and our strategic plan was developed to help us continue delivering on that mission over the next 50 years," said Fazio Hale. "Certainly, ensuring enough clean water to protect the environment and meet Texans' future needs fits into that framework. We were pleased to be able to lend our experience and expertise to evaluating options that advance those goals."

Texans Want More Investment In Water Infrastructure, Supply

A September poll of 1,000 Texas voters by the nonprofit Texas 2036 found water a key issue across the state.



Source: www.Texas2036.org

GCA Provides Bond Financing Opportunities for Texas

Gulf Coast Authority has long provided bond financing options for industrial projects in Texas.

Through its Gulf Coast Industrial Development Authority (GCIDA), GCA now has the unique ability among Texas providers to provide nationwide bond conduit financing. The Authority was granted this capability with the passage of HB 2390, sponsored by Texas State Representative Dennis Paul and Senator Larry Taylor, in the last Texas Legislative Regular Session (87th).

“GCA is proud to be the first entity in Texas that can offer nationwide conduit bond financing,” said Carrie Latimer, GCA Financial Director. “With investment and growth in the state, GCA has seen an increase in inquiries about leveraging private activity bonds (PABs) to fund projects. These include emerging technologies supporting the energy transition, such as carbon capture and sequestration, the circular economy such as recycling initiatives, and prepaid gas and electric.”

Since GCA’s inception in 1969, many industrial partners have used its governmental conduit bond services through PABs to finance projects, with funding totaling \$3.9 billion. Projects have included solid waste disposal, environmental improvements, and pollution control.

GCA has the authority to issue tax-exempt bonds for both governmental municipal bonds and PABs. Tax-exempt PABs issued in Texas are subject to the

Texas Bond Review Board’s PABs allocation process. Projects that can qualify for GCA-issued tax-exempt PABs range from water supply, sewage, and solid waste disposal facilities to local furnishing of steam or electricity, dock and wharf facilities, and airports. In addition, GCA can issue taxable PABs for water pollution and air pollution control facilities as well as water supply projects built by non-government entities for private use.

GCIDA also can provide nationwide conduit financial services for Property Assessed Clean Energy (PACE) projects. PACE is an innovative financial program for low-cost, long-term financing of water and energy efficiency and conservation improvements including distributed generation for commercial and industrial properties. With the ongoing drought and corporate energy consumption goals, many existing facilities are assessing how to successfully decrease their water and/or energy profiles and this financing tool may be useful.

“The PACE program has not been widely used by industrial facilities in Texas to date,” Latimer explained. “However, given the ongoing interest in water conservation and reuse projects, particularly in the water-scarce areas of the state, and in energy efficiency projects, we are excited to make this program available.”

Property owners can make qualified improvements with funds provided by a private lender and use a property assessment as the repayment mechanism. GCA can provide the conduit financing. The property owner voluntarily requests an assessment on the property until the loan is paid in full. Depending on the project, PACE assessment payments can be offset by the project’s utility cost savings. The term of the PACE assessments may extend up to the projected life of the improvement.

Qualified PACE projects must be permanently fixed to the real property and have a demonstrated ability to decrease water consumption or demand, or energy consumption or demand. Recently, several commercial building water reuse and energy efficiency projects have leveraged the PACE program in Texas.

Details about bond financing services can be found on our website (www.gcatx.org/gcida).



GCIDA Can Issue Taxable Bonds for Many Types of Facilities That Create Jobs

- manufacturing and industrial facilities;
- research and development facilities;
- military facilities;
- transportation facilities such as airports, hangars, rail ports, rail switching facilities, maintenance and repair facilities, cargo facilities, related infrastructure located on or adjacent to an airport or rail facility, marine ports, inland ports, mass commuting facilities, parking facilities;
- distribution centers;
- small warehouse facilities that serve as decentralized storage and distribution centers;
- job training facilities used by higher education institutions;
- regional or national corporate headquarters;
- streets and roads, rail spurs, water and sewer facilities, electric utilities, gas utilities drainage, site improvements, and related improvements;
- telecommunications and internet improvements;
- beach remediation along the Gulf of Mexico;
- projects for the creation or retention of primary jobs for the Coast Guard (subject to certain conditions);
- projects suitable for use for a career center (subject to certain conditions); and
- job training for development and expansion of business enterprises.



Strategic Planning: Delivering on Goals

After completing the strategic plan outlining Gulf Coast Authority's vision for its second half century, GCA's leadership team tackled implementation planning for each of the next five years, meeting multiple times in early 2022, and then sharing the year one tasks with employees.

"A major achievement, the GCA Strategic Plan 2022-2026 is the culmination of more than a year's worth of work by the GCA Board of Directors in collaboration with staff, participants, customers, stakeholders, and other interested parties," explained General Manager/CEO Liz Fazio Hale. "Now we have created detailed actions and tasks for each of the next five years to help us complete the initiatives and achieve the objectives we have set. These build on the strategic plan's vision by creating a foundation for doable and sustainable change. We also have built flexibility into our planning so we can respond quickly to new challenges and new opportunities that may arise while staying true to our overall goals."

After distributing the plan in spring 2022, the leadership team has encouraged questions, comments, and other feedback from staff to build broad employee understanding and engagement. Leadership is continually monitoring progress and will adapt future year implementation programs as appropriate to advance GCA's overall mission.

"Building on our promise to 'protect the waters of Texas,' GCA is poised to move into its next 50 years of success," Board Chair Frank Jones said. "With

our team's continued hard work and dedication to strengthening a legacy foundation, we will ensure that GCA remains a great place to work, a good steward of the environment, and a preferred choice for wastewater, water reuse, and financial services."

The first year of implementation has focused on launching three major multi-year initiatives:

- master planning,
- enterprise resource planning (ERP) system replacement and modernization, and
- policy review.

These initiatives incorporate deliberate change management principles with formal opportunities for employee engagement, aligning with the strategic plan's "Maintain and Better GCA People and Processes" and "Maintain and Develop GCA Regional Facilities" pillars.

The first initiative, master planning, involves a comprehensive assessment of the condition and capacity of each facility. This effort will give GCA information to optimize the repair and rehabilitation cycle, establish a basis for future growth, and help modernize its capital planning tools.

Earlier this year, GCA also began the complex process of replacing and modernizing its ERP system. A formal change management process is in place to streamline the effort and ensure optimal software selection to serve GCA's various functions, engaging business process owners at every step.

The third major initiative – comprehensively reviewing all GCA policies – also kicked off in 2022. The review process includes formal employee engagement with opportunity for input followed by formal training as the updated policies are released. GCA also is rebranding the policy documents as they are issued. The team expects to have reviewed and reissued approximately one-third of the policies during this first year.

"The entire GCA team has done an amazing job working together to refresh and revitalize the Authority's policies, processes and procedures," said Phyllis Frank, Chief Administrative and Strategic Projects Officer. "It is exciting to see all the goals we outlined in the strategic planning process coming to life. Our mission has never been so important to Texas – and we are putting in place the tools and framework for us to take it to the next level."





Gulf Coast Authority
Protecting the Waters of Texas

Strategic Plan 2022-26

Visioning a Clean Water *Future*



FACILITY UPDATES

Bayport Commissions Tank T-2005

Gulf Coast Authority's Bayport Facility recently completed construction and commissioning of a new first-step aeration tank and geodesic aluminum dome, the centerpiece of its \$35 million organic capacity upgrade.

The expansion project was launched in 2017 to support growth among its customers in the Bayport Industrial Complex and facilitate ongoing preventative maintenance needs. The prestressed concrete T-2005 First Step Aeration Tank is the fifth aeration tank at the facility. It provides additional treatment capacity while helping maintain treatment

volumes when an aeration tank is taken out of service for preventive maintenance.

The project team, including general contractor Garney, GCA Technical Services, and the Bayport staff, worked through a complete commissioning of the tank including all tie-ins with the existing electrical, mechanical, and controls systems. The tank became operational earlier this year.

"GCA understands that the Bayport Facility plays a key role in the Bayport Industrial Complex's ability to maintain reliable operations and plan for future

growth. This additional treatment capacity will provide both. I am proud of the Bayport, Technical Services, and supporting teams for safely delivering this project while still maintaining reliable wastewater treatment," said Scott Harris, Chief Operating Officer.

The completion of this project was celebrated with a ribbon-cutting ceremony. The project's success depended on the support of the GCA Board under the leadership of Board Chair Frank Jones, the contracting team, Project Manager Jonte' Greer, the GCA Technical Services team, and Bayport staff led by Facility Manager Kim Ontiveros.





Washburn Tunnel Completes Aeration Basin Maintenance

Aeration basins are the workhorse process units of any activated sludge wastewater treatment process – the place where the organic treatment of wastewater happens. By adding oxygen, such as air or pure oxygen, to the wastewater in the basin, microorganisms eat the organics and clean the water. Playing a key role in the treatment process, these units operate continuously.

At the Washburn Tunnel Facility, most maintenance activities can be performed while the basins are in operation. However, the facility recently had to empty its T-320 aeration basin – for the first time in 20 years – to repair the vortex breakers, which prevent shock to the aerator’s gearboxes.

“When in service, a partially buried aeration basin doesn’t seem too impressive from ground level,” said Jonathan Sandhu, Technical Director. “Walking in an empty aeration basin truly gives you a perspective on their size.” A basin can hold the equivalent of the water in almost nine Olympic-size swimming pools.

The GCA team fabricated one new replacement vortex breaker system and repaired the remaining three. The actual basin itself was in good condition.

“I was very pleased at how well the concrete in the basin has held up for more than 40 years of service,” said Dennis Parnell, recently retired Washburn Tunnel Maintenance Supervisor.

Washburn Tunnel operates its second-step basins in parallel. With close coordination between the maintenance and operations teams, the other facility basins were able to provide adequate wastewater treatment during the outage.

“The team did an excellent job of planning and executing this important maintenance activity while maintaining services to all of our dischargers,” said Denise Ehrlich, Washburn Tunnel Facility Manager. “We were able to provide reliable service while completing the repair.”

AWARDS

GCA Takes Home Safety Award

The Texas Water Conservation Association Risk Management Fund awarded Gulf Coast Authority the Outstanding Safety Record in Liability in 2021 for the third consecutive year. Brad Peck, GCA Safety Director, noted this award recognizes the investment in the safety program by the facility managers and their teams.

“Awards like this are based on performance against a particular metric, in this case liability management,” said Phyllis Frank, Chief Administrative and Strategic Projects Officer, “but safety performance, at its core, is always about the people. This award reflects the dedication of our staff to our core value of safety.”



Bayport Named Industrial Wastewater Treatment Plant of the Year

The Water Environment Association of Texas (WEAT) honored Gulf Coast Authority's Bayport Facility as the Industrial Wastewater Treatment Plant of the Year.

The facility treats one of the most complex wastewater streams in the country. More than 70 different industries discharge to the Bayport Facility, including a range of petrochemical and chemical facilities and municipalities. With its diverse customer base, the facility's influent volume and characteristics can vary significantly from day to day. Despite these swings, the Bayport Facility excels at meeting its permit requirements.

Bayport's Texas Pollutant Discharge Elimination System (TPDES) permit has approximately 100 different parameters and the facility also operates under a sophisticated air permit.

“Compliance does not happen by accident,” said Kim Ontiveros, Bayport Facility Manager. “The Bayport Facility is designed to be a highly resilient system able to adjust to the large swings in the influent. Our staff of highly skilled operators can detect changes in the influent, identify the process impacts, and make operational changes as needed.”

The facility has multiple monitoring points, beginning at the customer tie-ins, continuing through various points in the facility, and on to the facility discharge. Bayport's intricate operational system requires a sophisticated controls system. In addition to human monitoring, online analyzers are in place with interlocks to shut down or divert material as needed to ensure safe operations.

“Our highly skilled maintenance team ensures all this complex equipment operates at peak efficiency to deliver safe, reliable, and environmentally compliant performance,” Ontiveros said.

“I am grateful to WEAT for honoring the GCA Bayport Facility with this award,” she added. “It truly highlights the hard work and contributions of all Bayport personnel and GCA support services. This team does an incredible job every single day to treat complex wastewater under highly variable conditions. I am appreciative and proud of their unparalleled dedication to upholding GCA's mission.”

GCA is known for its ability to operate facilities that treat challenging and complex industrial wastewater. For the third time in the last five years a GCA facility has taken home this award, with the Washburn Tunnel Facility recognized in 2017 and 2021.



GCA Wins Water Heroes Award

The Water Environment Federation selected Gulf Coast Authority for its annual Water Heroes Award, announced in late August. The award recognizes performance above and beyond the usual call of duty during an emergency situation to continue to protect public health and the environment. The award was presented at WEFTEC conference in October.

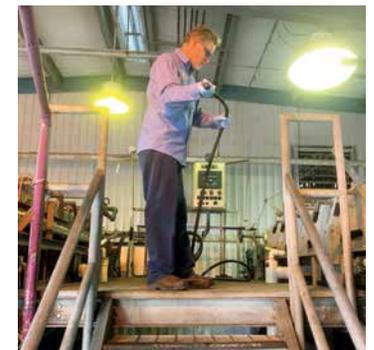
GCA was selected based on employees' heroic efforts to maintain wastewater services during Winter Storm Uri in February 2021. Personnel worked in challenging conditions to maintain treatment services and repair damage caused by the freezing weather.

Compliance sampling continued during the storm and sampling teams took pride in their completion rate. Employees continued to work to maintain wastewater treatment service even as their families or property were suffering hardship or damage.

"Our employees demonstrated their commitment to meeting our mission during a time of great difficulty," said Liz Fazio Hale, General Manager/CEO. "They showed ingenuity and dedication in solving problems and maintaining service."

"Employees were true heroes – working tirelessly and selflessly to fulfill our mission through the twin challenges of an extended deep freeze and the pandemic," said Board Chair Frank Jones.

GCA employees across facilities worked tirelessly throughout the storm.



All GCA Facilities Earn NACWA Peak Performance Awards



All five Gulf Coast Authority wastewater treatment facilities were recognized for their 2021 performance by the National Association of Clean Water Agencies (NACWA) with Peak Performance Awards. For 17 consecutive years, NACWA has honored GCA facilities (with awards being received as far back as 1990 from AMSA, NACWA's predecessor organization) for excellence in operational performance and permit compliance.

"GCA is proud that, once again, all of its facilities were nationally recognized for their performance and commitment to protecting the waters of the state of Texas," said Liz Fazio Hale, General Manager/CEO.

Peak Performance Awards honor outstanding clean water utilities that have demonstrated operational excellence with no more than five permit violations in a calendar year for silver, and zero violations for gold.

For nearly 50 years, NACWA has been the nation's recognized leader in advancing sustainable and responsible policy initiatives that help shape a strong and sustainable clean water future. NACWA seeks to fulfill this mission through its national recognition awards program, its clean water advocacy and communications, and its peer-to-peer utility network to share best practices from coast-to-coast.



- Odessa South Municipal and Industrial Wastewater Treatment Facility – Gold
- Washburn Tunnel Industrial Wastewater Treatment Facility – Gold
- Bayport Industrial Wastewater Treatment Facility – Silver
- Blackhawk Municipal Wastewater Treatment Facility – Silver
- 40-Acre Industrial Wastewater Treatment Facility – Silver

INDUSTRY

GCA Shares Industrial Reuse Expertise With TWDB

Gulf Coast Authority hosted members of the Texas Water Development Board (TWDB) at its Odessa South Facility in March. The meeting and tour focused on the overall wastewater treatment process and specifically the water reuse treatment process to provide water for industrial reuse.

The mission of the TWDB is to lead the state's efforts in ensuring a secure water future for Texas and its residents. To accomplish these goals, the TWDB provides water planning, data collection and dissemination, financial assistance, and technical assistance services.

"GCA was happy to share our experience with industrial water reuse with TWDB," said Gordon Pederson, Chief Technical Officer. "We believe water reuse technologies can be a valuable added tool to aid TWDB in its mission to meet Texas water needs while supporting economic development opportunities."

Brooke Paup, TWDB Chair, was accompanied by Jeff Walker, TWDB Executive Administrator, and Patrick Lopez, TWDB Chief of Staff. Leading the tour were Gulf Coast Authority representatives: GCA Board Members Mark Schultz and Chris Peden; Leonard Levine, Retired GCA Director of Technical Services and GCA Consultant; Gordon Pederson, Chief Technical Officer; Charles Harris, Odessa Facility Manager; Garrett Clark, Odessa Assistant Facility Manager; and Keith Hardcastle, Human Resources Director & Public Information Officer.



Fazio Hale Earns NACWA Leadership Certification

Gulf Coast Authority's General Manager/CEO Liz Fazio Hale was one of 30 water-wastewater professionals from across the nation invited to attend the National Association of Clean Water Agencies (NACWA) Water and Wastewater Leadership Center (WWLC) earlier this year. The program, held at the University of North Carolina in Chapel Hill, is a two-week certification course specifically designed to arm utility executives with the management and leadership skills need to meet today's challenges and rise to meet the challenges of the future. The cohort model allows participants to make lasting connections within the water and wastewater industry.

"I was thankful for the opportunity to be selected and participate in such a rigorous program," Fazio Hale said. "The program was exceptional in its approach to executive management and provided a much-needed opportunity to re-engage with water and wastewater professionals across the nation."

GCA staff who have previously attended the WWLC include: Scott Harris, Chief Operating Officer; Joanne McDougall, Assistant Director of Technical Services – Process Engineering; and Jonte' Greer, Assistant Director of Technical Services – General Engineering.



Laura Hidas, Director of Water Resources, Alameda County Water District, and WWLC Colleague, presents Liz Fazio Hale, General Manager/CEO, Gulf Coast Authority, with her certificate of completion.

Save the Date for Texas Water 2023



Texas Water 2023

Houston

April 11-14

Co-Chairs: Liz Fazio Hale, GCA General Manager/CEO, and Venus Price, Managing Director, Drinking Water Operations, Houston Public Works

COMMUNITY

'Fill the Bus' School Supply Drive Scores for Students

Gulf Coast Authority's Washburn Tunnel Facility and Central Office participated in the "Fill the Bus" school supply drive for Pasadena Independent School District. The district serves more than 50,000 students, almost 85 percent of whom are considered economically disadvantaged. The City of Pasadena, the Pasadena Chamber of Commerce, and the Pasadena ISD joined together in a "Fill the Bus" school supply drive to provide teachers with school supplies for their students. Denise Ehrlich and Lisa Brasher dropped off GCA's donations in August.

"Fill the Bus was a great success with 19 pallets of supplies and over \$35,000 donated for teachers to pick-up prior to the start of the school year," said Denise Ehrlich, Washburn Tunnel Facility Manager. "GCA employees support the communities surrounding our facilities and they really stepped-up to help students in need through this program."



Trash Bash 2022: In-Person Again

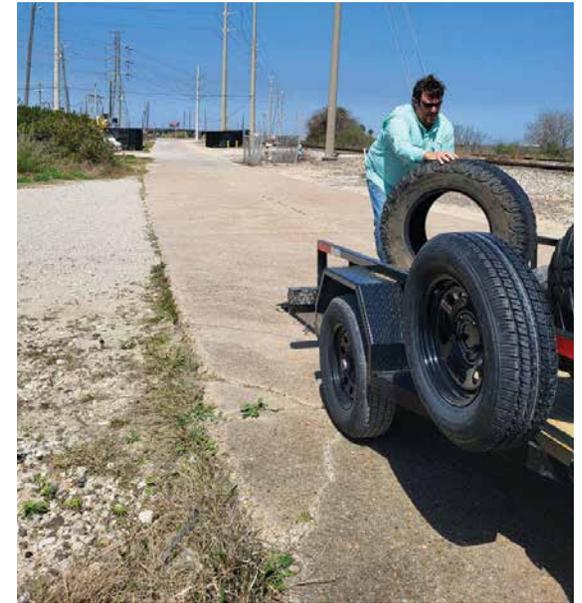
On March 26, the 2022 River, Lakes, Bays 'N Bayous Trash Bash® (Trash Bash®) was back in-person for its 28th annual cleanup of the Galveston Bay watershed. Gulf Coast Authority staff were there supporting the entire process.

Due to COVID-19, Trash Bash had not held in-person group cleanups since 2019. In 2021, the event was virtual and individuals or individually organized small groups picked up trash from the beaches. The nonprofit Texas Conservation Fund manages Trash Bash with administrative support by the Houston-Galveston Area Council and Gulf Coast Authority.

Many site volunteers shared what a pleasure it was to have an in-person event in 2022.

GCA staff were site coordinators for two of the 14 clean-up sites, Sims Bayou and Virginia Point. GCA employees also participated on the volunteer planning committee and volunteered for the cleanup event itself. Volunteers from the GCA Houston-area facilities and Central Office all contributed to the effort.

The GCA team also contributed in other ways behind the scenes. For example, when the t-shirt order was delivered in boxes sorted by size, Washburn Tunnel Facility warehouseman Charlie Middaugh immediately recognized the issue and resorted and reboxed all the t-shirts so they were organized by site and ready for pickup by the coordinators.



Troy Bellmeyer, 40-Acre Maintenance Supervisor, loads old tires collected from area beaches.

Trash Bash 2022 Accomplishments

- 2,589 volunteers including 1,117 youth
- 149,963 pounds (~75 tons) of trash
- 336 pounds of recyclables
- 336 tires



PEOPLE

Peers and supervisors nominate team members who go above and beyond in demonstrating GCA's core values: Safety, Communication, Reliability, Integrity, Planning, Teamwork, and Stewardship, for SCRIPTS awards.

Blackhawk Facility

Gerardo Ramos was nominated for a SCRIPTS award for his exceptional work as the Blackhawk Safety Coordinator. During the Clarifier 3 Inspection, Ramos played an important role ensuring the startup and shutdown went safely and efficiently. He also has successfully implemented many improvements to our safety program by fostering teamwork and open communication. These actions are recognized and greatly appreciated.



(L to R) Shannon Miftari, Gerardo Ramos, and Gordon Pederson

Bayport Facility

Congratulations to **John Bourman**, Bayport Facility maintenance team, on receiving a SCRIPTS award for his stewardship. Awesome job on observing a situation in time to prevent a compliance issue.

Matthew Carmichael, Richard Smith, Cal Start, and **Jeff Hettinga** received a SCRIPTS award for their teamwork and planning. This Bayport Facility maintenance team provided instrumentation expertise and installation support during a new customer pipeline startup. Their input and support helped avoid scheduling issues and contributed to a successful smooth transition that made the process invisible to another major Bayport customer.



(L to R) Mark Lindsay, John Bourman, and Kim Ontiveros.



Jonte' Greer, Assistant Director-General Engineering (left), presents the awards to (L to R) Matthew Carmichael, Richard Smith, Cal Start, and Jeff Hettinga.



Campbell Bayou Facility

Tina Modica, Administrative Assistant, exemplified planning and teamwork when she proactively located a local vendor for a treatment chemical that was less expensive and met the functional needs. Her efforts resulted in substantial budget savings.



(L to R) Diane Maloy, Tina Modica, and Scott Harris

Central Office

Shaun Austin, Senior Compliance Coordinator, received a SCRIPTS award for demonstrating exceptional teamwork. When the other senior compliance coordinator role was vacant because of a promotion, Austin provided leadership and coverage for both roles until the position could be filled. He also graciously helped onboard the incoming senior compliance coordinator.



(L to R) Shaun Austin and Scott Harris



(L to R) Kirk Vining and Steven Quast

Steven Quast, Business Applications, received a SCRIPTS award for his work on implementing an IT ticketing system that provides visibility on ticket type and status. He programmed the system that is now in use at all facilities.



(L to R) Jonathan Sandhu, John Herrington, and Jonte' Greer

John Herrington, Lead CADD Technician, was presented a SCRIPTS award for his reliability and teamwork in providing timely and accurate information and drawings, schematics, and prints on GCA facilities. His work supports the GCA Technical Services team as well as the multiple engineering contractors working on GCA projects.

Central Lab

Rachel Rolen, Assistant Conventional Lab Coordinator, was nominated by her coworkers for a SCRIPTS award. Rachel is recognized for her communication, reliability, integrity, and teamwork. She is proactive in maintaining her training and training others. She is meticulous in performing tests and proactively communicates with her team and her managers to resolve issues.



(L to R) Darla Fogie and Rachel Rolen

Mike Prisock, Central Lab, was nominated by his coworkers for a SCRIPTS award. Mike is the warehouseman and is responsible for maintaining the inventory at Central Lab. He demonstrates reliability and teamwork in his willingness to not only perform his routine duties but to pitch in and help with whatever task that needs to be done to maintain the facility at operational readiness.



(L to R) Darla Fogie and Mike Prisock

Washburn Tunnel Facility

Greg N. Seay, Operations Supervisor, rose to the challenge when his facility manager was promoted, the new one was out on leave, and a new compliance coordinator needing training. To no



(L to R) Denise Ehrlich, Greg N. Seay, and Scott Harris

one's surprise, Greg rose to the occasion as he has continually done in his career to step-up and lead the Washburn Tunnel team. Seay has trained his share of personnel over the years and his patience and training style are noticed and appreciated. Not only was he key in coverage during the time without a facility manager, but also aided in the successful transition upon her return. Seay's experience and attitude to help out also made an easy on-boarding for the new compliance coordinator.



John Mletzko, Operator III (above), received a SCRIPTS award for exceptional teamwork. He is proactive in training incoming Operator IIs and going the extra mile in helping his coworkers ensure operations run smoothly.





Mike Morris, Maintenance Lead (above left), received a SCRIPTS award highlighting his teamwork and planning. He goes above expectations to make maintenance projects a success.

Debbie Churchill, Purchasing Coordinator (above right), is recognized for her teamwork and reliability. She is an expert user of the purchasing module and has trained multiple facility purchasing coordinators as they have moved into the role and assists other facilities as needed. Churchill understands the facility’s purchasing needs and works proactively with the team to make sure they have what they need to do their jobs.

Odessa South Facility

A City of Odessa waste haul driver exhibited signs of medical distress and was assisted by Odessa South Facility personnel until emergency management service personnel could arrive. (1) **Pam Daniels**, Administrative Assistant, was alert enough to recognize concerning symptoms during the course of normal business interaction. She alerted (2) **Garrett Clark**, Assistant Facility Manager, (3) **Charles “Choc” Harris**, Facility Manager, and (4) **Sam Minjarez**, Chief Operator. The Odessa team notified the driver’s supervisor, called 911, and rendered aid until EMS personnel arrived. Gordon Pederson congratulated the winners.



Congratulations to Our GCA Retirees!

Much of Gulf Coast Authority's success over the years is due to its ability to attract and retain top talent.

"Some 50 years since our inception, we are seeing the retirement of some of our longest-tenured employees. We are deeply thankful for their many contributions," said Liz Fazio Hale, General Manager/CEO. "As we celebrate their service, we also are excited to welcome a new generation of water sector faces to GCA. I am eager to see what lies ahead for GCA as, together, we build on the legacy of those who helped pioneer wastewater treatment in Texas and the nation."

Susan Calhoun, Bayport Facility Purchasing Coordinator, retired with almost 40 years of service.

During her career with GCA, Calhoun held various roles at the Bayport Facility and those insights served her well in her final role. Her colleagues appreciated her dedication and tenacity in making sure that the facility had the supplies needed for successful and smooth operation.

Doris Haydon retired as Central Laboratory Facility Manager after more than 40 years.

She started her career as a chemist at the Washburn Tunnel Facility and transitioned to Central Lab when the laboratory functions were consolidated. Haydon later moved into a quality role and ultimately progressed to laboratory manager. In her retirement, she plans to spend more time with her family.



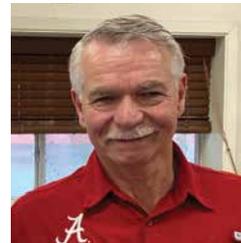
Pete Janes began his GCA career in May 1995.

He retired with almost 27 years of service in a career that saw the completion of many projects at our facilities. As a Senior Staff Engineer, Janes was particularly skilled at managing contractors to get work completed on time and on budget. The consummate Texas Aggie, Pete will now have more time to devote to attending games as well as spending time with his family and, he says, perhaps some traveling.



Dennis Parnell, Maintenance Supervisor at Washburn Tunnel Facility, retired with more than 34 years of service.

He joined GCA on the maintenance team and earned promotions based his ability and willingness to learn. When GCA identified the need for an electrician, Parnell went to school to get his electrician certifications, eventually moving to the lead role. He was later promoted to Maintenance Supervisor where he continued his "can-do" attitude. In his retirement, Parnell hopes to spend some time traveling, visiting extended family, and spending time with his immediate family.



Craig Pogue, Chief Operator at Washburn Tunnel Facility, retired on his 48th service year anniversary.

He joined GCA at the Washburn Tunnel Facility right out of Houston's Milby High School as an entry level operator, ultimately progressing to Chief Operator. He saw many changes at the Washburn Tunnel Facility over the years and he helped train many GCA operators. Pogue plans to devote time to his golf game and his family.



Carol Venegas joined the Odessa team as its first Administrative Assistant in 2001.

During her career, she became the go-to person for all administrative tasks. Retiring after 21 years of service, Venegas plans to spend more time with her family.



New Faces on the GCA Board

Gulf Coast Authority welcomes four new members to its Board of Directors



Amber Batson

Amber Batson joined the GCA Board of Directors in November 2021. Batson brings more than 18 years of experience in the planning, design, permitting, and construction of water, wastewater, and water resources systems. A Project Manager and Associate Vice President with Carollo Engineers, she previously served with a regional biosolids processing facility and a local river authority, giving her a valuable understanding of the challenges of utility management, operations and maintenance,

and long-term planning. She is a corporate member of Texas Water Conservation Association and a member of the American Public Works Association and the Water Environment Federation. A licensed professional engineer by the Texas Board of Professional Engineers and Land Surveyors and the Florida Board of Professional Engineers, Batson received a Bachelor of Science and Master of Engineering in Environmental Engineering from the University of Florida.

Amber Batson shared her reasons for joining GCA and what she hopes to contribute to its mission.

What drives your interest in wastewater and water management?

Water is integral to our lives, our businesses, and the health of our communities. I have always loved the water since I was a young child. My mom also taught me that when I am a guest in someone's home, I should help out and leave things better than I found them. Perhaps those two things are what really drove me into a career built around managing water and waste to help others in our community. We get to take the water that the dinosaurs drank, use it to sustain our lives, and then clean it up for other generations in the future to use—hopefully leaving it a little better than we found it.

What role do you think GCA plays in the community?

When I think of GCA, I think of great partnerships. GCA partners with others in our water/wastewater community to foster innovative thinking and

advocate across Texas and at a national level for sound policy. When it comes to industry, GCA forges partnerships to help businesses thrive with cost-effective wastewater treatment at a regional scale. GCA also partners with our local communities by supporting economic development groups, environmental programs, and educational outreach.

How do you see GCA meeting the state's future needs in terms of environmental protection and economic development?

Texas is a great place to be! You read the headlines and can see that we lead the nation in job growth, especially in the tech job sector. I see that and think, how can GCA be the trusted partner for those industries for cost-effective and sustainable wastewater management? I'd love to see how we can be at the forefront working with those businesses considering Texas and showing them what we can offer them.

What are your goals for GCA in the future?

The water and wastewater industry is facing the "silver tsunami," and our organization is no different with a large number of recent or impending retirements of long-tenured staff. What can we as a board do to help support policy decisions that attract and retain top talent? We also need to be good stewards of the investment our participants have made in our regional facilities, so I hope to support policy that addresses our aging infrastructure in a structured, managed approach to ensure the continued success of our operations.



Robert L. Swanson

Robert Swanson joined the Board of Directors in September 2022. Swanson has more than 30 years of financial and accounting experience, primarily in upstream oil and gas, including 20 years as an officer for several oil independent producers. For the past five years, he has been Vice President-Finance and Accounting/Chief Accounting Officer for Rio Grande Exploration & Production. He spent 13 years in his early career working for various CPA firms before becoming Controller/Treasurer/Chief Financial Officer of the Houston Aeros, a group of seven related companies including the professional hockey team. He holds a Bachelor of Business Administration Degree in Accounting from Texas Tech University and pursued graduate business studies at Southwest Texas State University. He is

licensed by the American Institute of Certified Public Accountants and the Texas Society of Certified Public Accountants.

Swanson says he is honored to serve on the GCA board.

Why were you interested in joining the GCA board overseeing wastewater and water management?

I served four years as a council member of the City of Hilshire Village from 2016-2020. I became aware of Gulf Coast Authority, and it felt like a fantastic opportunity to contribute to a great organization. I attended a couple of Board meetings virtually and saw that the GCA Board of Directors and management were a well-organized group with great camaraderie. I believe that's very important. I also

thought that it was a good opportunity for me to serve and try to give back to a not-for-profit organization.

What will your financial and energy background bring to GCA?

I'm a CPA in Texas with many years of public accounting experience. However, the last 25 years I have served as a vice president for several oil and gas exploration and development companies. I believe that the financial management for oil and gas E&P companies is among the most challenging in the business world – experience I can bring to GCA. Also, during my years with the City of Hilshire Village, I served as the president of the Hilshire Village Cultural Education Finance Facility Corporation (HVCEFFC). The HVCEFFC provided conduit financing for schools and other organizations to facilitate tax exempt loans with banks. Hopefully, I can assist GCA with any conduit financing opportunities in the future.

What might your personal goals be in serving on the GCA Board in support of its mission (environmental and economic development)?

I believe Texas will grow to be the most populated state in the U.S. by the year 2050. Access to adequate amounts of clean water is going to be a key to the growth of our state, not only for people but the environment. I hope to assist with addressing the challenge while learning more about wastewater and water reuse. I want to serve and help GCA wherever I can. I want to make sure GCA maintains a high level of quality leadership combined with very ethical decision making. I'm here to listen, learn, and provide my guidance when needed.



Stephanie Farner

Stephanie Farner joined the Board of Directors in October 2022. Farner is a reading specialist and instruction coach, assistant principal, and classroom teacher in the Barbers Hill Independent School District. She has a Master of Science in Reading, a Post-Masters in Education Leadership, and a Bachelor of Science in Early Childhood Education. She is certified by the State Board of Education and is licensed with the National Board for Professional Teaching Standards.

Farner is eager to bring her enthusiasm for environmental responsibility to the GCA Board and its mission.

What drives your interest in serving on the Board of Directors for GCA?

I have been fortunate over the years to come to know many members of the Board of Directors as well as many GCA employees. Through those relationships, I have had the opportunity to see how, through sound leadership and the hiring of highly skilled and dedicated employees, GCA effectively accomplishes its mission of protecting the waters of the state of Texas. My interest in serving on the Board of Directors stems from my sincere desire to support the employees of GCA in continuing to provide excellent service for industry and municipalities.

What role do you think GCA plays in the community?

Due to its unique statutory powers, GCA is able, among other things, to help industry and municipalities reduce operating costs, comply with all regulatory and permitting requirements, and finance projects through the issuance of bonds. The ability to do these things creates a mutually beneficial relationship between GCA and its customers. Industry and municipalities benefit financially, water quality is protected, and GCA successfully achieves its mission.

How do you see GCA meeting the state's future needs in terms of environmental protection and economic development?

GCA will continue to keep its primary mission of protecting Texas waters at the forefront. Environmental protection has become something of a "hot button" issue politically and, as such, regulatory requirements and legislation are likely to continue to change and evolve. The onus is on the leadership of GCA to look to the future, anticipate those changes, and plan how we will effectively address the challenges that stem from them.

What are your goals for GCA in the future?

My goals for GCA are to continue to keep Texas waters clean while focusing not only on maintaining our existing support of industry and municipalities, but also being mindful of how we can support the growth of industry and expand our reach.



Kevin Scott, Board Vice Chair, swears in new Board Members Jackie Peden (left) and Stephanie Farner.

Leadership Promotions

In January, Darla Fogie was promoted to GCA Central Laboratory Facility Manager. In this role, Darla is responsible for the management of the employees and oversight of the operations and compliance at Central Laboratory. Fogie has served as the Assistant Lab Manager since August 2021. Prior to joining GCA, she served as Regional Lab Manager to Weidmann Electrical Technology for six years.

Fogie brings exceptional abilities to her new role as lab manager, including her ability to effectively communicate and motivate her team to succeed in a fast-paced, high-pressure environment.



Jacqueline Peden

Jackie Peden joined the Board of Directors in October 2022. Peden has been an accountant and office manager with Peden & Associates, a firm she and her husband have owned and operated since 1996. Peden also is a majority owner and serves as board chair of Revolution Manufacturing Inc., a start-up manufacturing company which currently produces PDC drill bits used in the oil and gas industry. Born and raised in Houston, she holds an accounting degree from San Jacinto College. Peden has served on the Galveston County Children's Services board since 2012 and as the board secretary since 2013.

Peden is passionate about protecting the waters of the state of Texas and eager to learn and do more through service to the Gulf Coast Authority.

What drives your interest in serving on the Board of Directors for GCA?

The recent severe droughts have focused the world's attention on water concerns, including how to ensure access to enough clean water for uses as basic as drinking, bathing and other residential needs to growing crops and keeping industry running. The 50th anniversary of the Clean Water Act this year showcases how far we've come in cleaning up our waterways as well as the ongoing need to continue reducing water pollution. I would like to be involved

in the process of helping find solutions to the complex issues regarding water, which is absolutely essential to us all.

What role do you think GCA plays in the community?

I believe GCA plays a major role in the community. The Authority is uniquely positioned to deliver economically feasible solutions for regional water treatment that protects our precious water resources while supporting continued growth.

How do you see GCA meeting the state's future needs in terms of environmental protection and economic development?

I am impressed by GCA's partnership approach to collaborating with industry and municipalities. By working together, GCA can leverage its technological prowess to create solutions that protect the environment while meeting customer needs for efficient, cost-effective, and environmentally responsible water treatment.

What are your goals for GCA in the future?

I think GCA's future is unlimited. GCA can apply its experience, expertise, and enthusiasm for fulfilling its mission to expand services to new areas and new customers, supporting both growth and enhanced protection of the waters of Texas.



BOARD OF DIRECTORS



Franklin D.R. Jones, Jr.
Chairman of the Board,
Harris County



Kevin Scott
Vice Chair,
Galveston County



Billy Enochs
Secretary,
Galveston County



J.M. "Mark" Schultz
Treasurer,
Chambers County



Amber Batson
Member,
Harris County



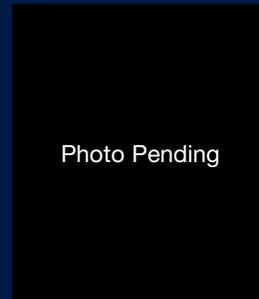
Stephanie Farner
Member,
Chambers County



Lamont E. Meaux
Member,
Chambers County



Jacqueline Peden
Member,
Galveston County



Robert L. Swanson
Member,
Harris County

LEADERSHIP TEAM



Elizabeth Fazio Hale
Chief Executive Officer/
General Manager



Scott Harris
Chief Operating Officer



Gordon Pederson
Chief Technical Officer



Phyllis Frank
Chief Administrative and
Strategic Projects Officer

CORE VALUES

- S** SAFETY
- C** COMMUNICATION
- R** RELIABILITY
- I** INTEGRITY
- P** PLANNING
- T** TEAMWORK
- S** STEWARDSHIP



Protecting the waters of the State of Texas through environmentally sound, economically feasible, and technologically advanced wastewater and water management practices.

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