2016 VWEA Annual Report

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• Think Globally, Act Locally to Spark Interest In Our Water Future

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**FEATURES**

Dr. Greg Boardman,  
**A Legacy of Service to the Water Industry**  
Dr. Boardman’s influential career went beyond the engineering program and professional engineers as his leadership for 39 years of the Virginia Tech Short School for Treatment Plant Operators deeply impacted the education and development of several generations of professional operators in the Commonwealth.

**Communicating Virginia’s Sustainability Needs and De-stigmatizing Wastewater Purification**  
How HRSD is tackling Sustainable Water Initiative for Tomorrow (SWIFT).

**Think Globally, Act Locally to Spark Interest In Our Water Future**  
If we want to spark interest in water careers and we want people to care about their water future, we’ve got to get better at two things: 1) Thinking globally, and 2) Communicating our awesomeness.

**COVERAGE FEATURE**

2016 Annual Report  
2016 was another banner year for VWEA. The annual report includes information on noteworthy accomplishments, events, and financial information.

**DEPARTMENTS & ASSOCIATION NEWS**

President’s Corner  
Sponsorship Program  
33rd Annual Industrial Waste & Pretreatment Conference  
Stockholm Junior Water Prize  
VWEA Education Conference  
Public & Government Affairs Committee  
SWVRAC  
Safety & Security Committee  
EAM Wins WEFTEC Ingenuity Award

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Ambio - Photoionisation odor control
Amwell - Bar screens, clarifiers, gear drives, grit removal, paddle flocculators, rectangular collectors, rotary distributors, DuraMax stainless steel chains, scum skimmers
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Goodbye 2016 and welcome to 2017! Throughout 2016 our committees exhausted their efforts to host events, conduct seminars, and bring the newest technical information to our membership. Given the sheer volume of attendance at our events and the feedback received, we were immensely successful as an association last year. I encourage you to review the 2016 Annual Report included in this issue of The Conduit as our dedicated volunteers made 2016 a truly unforgettable year for our association. I cannot thank our members and committee volunteers enough for their time, effort and tireless dedication to safeguarding our successes. On behalf of the VWEA board, I thank you all for a job well done in 2016.

“Year’s end is neither an end nor a beginning but a going on, with all the wisdom that experience can instill in us.”

– Hal Borland

We closed out 2016 by collaborating with the Virginia Section of the American Water Works Association (VA AWWA) and hosting a Joint Leadership Retreat on November 2, 2016 for committee leadership from both associations. We discussed future planning strategies, presented expectations, exchanged ideas, solicited feedback, and brainstormed on the ways we can advance our associations’ processes and procedures to sustain continuous quality improvement. As always, the feedback we received was instrumental, and gave us persistent confidence that we are on the right track. Thank you to VA AWWA, VWEA committee leadership, and all who participated and brought value to this event.

Continuous improvement ensures that our associations’ processes and procedures are sustainable and contribute to our overall brand. VWEA is a diverse professional association, a technical knowledge source, an advocate, and a provider of social connections and a fun environment for our members to flourish in. A positive perception of VWEA is very important to us, and we believe the new logo will further enhance that perception.

A new year brings endless opportunities for success as well as challenges to learn from. I am optimistic that we can build upon our 2016 successes in 2017. The year ahead brings technical seminars, specialty conferences, social events and our annual conference, WaterJAM. Planning for many of these events is already under way and excitement is in the air! We kick off 2017 with the Industrial Waste and Pretreatment Conference scheduled for March 6-7, 2017 (Charlottesville). Followed by the Stormwater Conference on April 27, 2017 and the Annual Education Conference to be held on May 11, 2017 (both in Richmond).

I am truly honored and proud to be serving with you this year and forever thankful for this opportunity. Please help us preserve and enhance Virginia’s Water Environment, now and for future generations. How else can you contribute? Please contact us (admin@vwea.org) if you are interested in volunteering on one of our committees, and visit us on www.vwea.org to learn more on how you can become a member.
planning, design and construction management is the foundation from which Whitman, Requardt and Associates, LLP builds today’s infrastructure. Our experienced, multi-disciplined engineers apply sound technical knowledge, while adapting to current and future regulatory, security and sustainability challenges, to create comprehensive wastewater solutions in the public and private sectors.
In 2016, VWEA implemented a State-Only Membership option for water professionals.

“The State-Only Membership option is ideal for individuals looking for introductory type exposure to VWEA or for employers looking to stretch their budgets to sign up as many employees as possible. Of course, we continue to encourage everyone to sign up for the full WEF membership and take advantage of all the additional benefits that come with it.”

– John McGettigan, VWEA Past President

2016 Membership total: 1516
2016 Scholarships
- $2,000 – Sonny Roden Memorial Graduate
- $2,000 – Undergraduate
- $2,367 – Wastewater Operator Short School
- $2,000 – Rising Freshman
- $2,000 – Member Dependent
Total Awarded = $10,367

2016 Donations/Awards
VWEA continued their support of many organizations and student projects in 2016. In total VWEA provided over $12,500 in awards and donations.
- Water For People
- 9 Regional Science Fair Awards – 1st and 2nd place
- Stockholm Junior Water Prize Travel
- Water Environment Research Foundation
- WaterJAM Student Paper Awards
- Student Design Competition Awards
- Student Design Team Travel to WEFTEC
- WaterJAM Wastewater Poster Contest
- Ops Challenge Teams Travel to WEFTEC

Scholarship Fund = $193,741
We added $32,100 to our Scholarship Fund in 2016 working on the goal of creating an endowment. The Board of Directors also approved an increase in scholarship awards for 2017.

Fund increased by 20% in 2016.

2016 Seminars & Webinars
- Exploring Ozone Biofiltration as a Sustainable Option for Potable Reuse Webinar
- Water Reuse Workshop*
- Pretreatment 101 Seminar
- Trench and Excavation Safety*
*in partnership with VA AWWA

2016 Lunch and Learns
- Alternative Onsite Wastewater Systems: The Sustainable Option
- Nutrient Trading
- Direct Potable Reuse: Why its Time Has Come
- Evaluation of Publicly Maintained Bioretention Facilities
- A Culture of Retention
- Henrico County Stream Restoration
- Siting a BMP for Maximum Credit

ODU student, Anass Tmara, recipient of the 2016 VWEA Undergraduate Scholarship.

VMI placed 2nd in the Environmental Category at WEFTEC 2016.
Networking and Community Service
VWEA members participated in 3 service projects in 2016.

VWEA provided 28 networking opportunities in 2016. Members participated in golf tournaments, facility tours, after hour socials and more.

WaterJAM
2016 was another record year at the Joint Annual Meeting with VA AWWA in Virginia Beach:
- 1,607 Attendees, a new record!
- 277 First-time attendees
- 185 Exhibit booths showcasing the latest technology
- Service project with over 40 participants
- Recognized as a Virginia Green Event for the 2nd straight year

Awards
VWEA recognized 33 individuals and organizations in 2016 that made an outstanding contribution to the water environment profession and/or VWEA. Learn more about our awards at www.vwea.org/awards.

Appreciation Day Approved
1st Annual Drinking Water and Wastewater Professionals Appreciation Day was held on June 30, 2016. The Virginia General Assembly passed the resolution to bring recognition every year to the thousands of water and wastewater industry professionals in the Commonwealth who dedicate their careers to providing access to safe drinking water and treating wastewater so it can be safely reused or returned to the environment.

Ops Challenge
Virginia once again claimed the top spot in the National Operations Challenge Competition at WEFTEC. Western Virginia Water Authority’s Blue Ridge Brawlers took home first place in Division I.

VWEA Annual Specialty Conferences
- Industrial Waste & Pretreatment
- Stormwater
- Education
- Operations
- Lab Practices
750+ attendees. 36 CEUs for PE and 27 CPE’s for Wastewater Operators

New Logo
The close of 2016 brought VWEA’s new logo to better improve name recognition and reflect our mission.
In 2016, VWEA coordinated 67 events including 25 joint events with VA AWWA. With over 3600 attendees at our events we are working to ensure one of our missions of delivering high quality products and services to members and stakeholders is fulfilled.

The Joint VA AWWA/VWEA Work for Water Committee continues to strive to meet the mission of promoting and advancing the water quality profession by participating in seven career fairs across the state in 2016 with plans to increase that number in 2017. The Committee also coordinated the first Junior WaterJAM for middle school students to expose them to the many opportunities in the water industry. Likewise, the Student Activities efforts to promote the water environment profession resulted in a record number of attendees at events throughout the year, including 66 students at WaterJAM.

The Board of Directors looks to continue the great works of our members in 2017 and provide a plethora of opportunities for water professionals to learn and connect with others.
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2017 Annual Sponsorship Program

We invite your company to join with other industry professionals in becoming a VWEA Annual Sponsor. VWEA develops and promotes statewide technical programs, regional meetings on topics of interest, operations training events, awards, public education, scholarship programs, student design competition and judging of high school science fairs. Your VWEA sponsorship supports these programs!

Benefits of Sponsorship
• Support education programs
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• Build relationships with industry leaders
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• Support VWEA Scholarships

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• 50% of all sponsor monies go directly to the Scholarship Fund
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https://vwea-site-ym.com/donations/donate.asp?id=12453
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- Timmons Group
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Challenge convention: visit hydro-int.com/microscreen or search hydro microscreen online.
The water industry is entering a period when many of the trailblazers and experienced professionals who helped craft the foundation of the industry are bidding farewell and moving on to well-deserved retirements. Most of us working in the industry have experienced the voids that are left after the transition of many of these leaders out of our field. Thankfully, we have a talented and enthusiastic group of young professionals rapidly growing into leadership positions in utilities, but it is important that our successive generations recognize the contributions of preceding leadership since the successes of our past form the foundation to build the future.

Our field is comprised of a blending of utilities, design and consulting firms, service providers, equipment manufacturers and sales firms that have all uniquely contributed to the successes of the utilities field. Universities are one of the most unique partners though, as they produce the future leaders across all of these areas and generate new research and developments to improve our work.

In the Commonwealth of Virginia, the impact of the engineering programs and graduates of Virginia Tech are widely represented within the membership of Virginia Water Environment Association as well as Virginia AWWA. For 40 years, one of the cornerstones of the Charles E. Via Department of Civil and Environmental Engineering has been Dr. Gregory D. Boardman. Mentioning Dr. Boardman’s name at any utility function is a virtual guarantee to find fellow utility professionals in the group who were impacted by

“Dr. Greg Boardman is one of the most influential, kind, humble, and knowledgeable professionals in our industry. He has personally left a lasting impact on my personal and professional career by the way he earnestly seeks to teach others as well as contribute to their personal and professional development. Dr. Boardman has personally helped me grow through learning from him while at Virginia Tech as well as serving with him through VWEA/VA AWWA. Dr. Boardman, I sincerely thank you for your heart and desire to educate others.”
– Phill Yi, P.E., Hazen and Sawyer (Virginia Tech MS in Environmental Engineering, 2010)

“His passion for Developing Young Minds and Professionals is contagious. He is a true role model and his contributions to continued growth of the profession are beyond measure.”
– Ryan Clark, P.E., Kimley-Horn and Associates (Virginia Tech, BS in Civil Engineering, 2010)

“Dr. Boardman did me a huge favor when he invited me to teach at the Annual Short School. It is one of the most rewarding things I have done. Dr. Boardman partnered with Pepper’s Ferry to help introduce his students to the daily operations at wastewater treatment plants. The close coordination with the VT program allowed me to meet future Engineers that I still call friends 10-20 years later.”
– Mac McCutchen, Superintendent, Peppers Ferry Regional Wastewater Treatment Plant

That I May Serve

Dr. Greg Boardman,
A Legacy of Service to the Water Industry

By Scott Shirley

Dr. Boardman receiving the Enslow-Hedgepeth Award for his contributions to VWEA and the Water Environment Profession, WaterJAM 2012.
“I remember Greg Boardman as I started as an entry level operator in the 1970s. His enthusiasm and dedication has stuck with me and been an influence in my career and life over the years. Throughout my career, I have had the opportunity to work with Dr. Boardman in various ways including pilot programs at our facility as well as continuing to periodically attend the VT Short School.”

– Marty Sensabaugh, Senior Operations Manager, Western Virginia Water Authority

“As an advisor, mentor, and colleague, Greg has always been the epitome of kindness and generosity. No question is too trivial and he’s never too busy to talk to you. His legacy is seen in the large numbers of former students who are willing to do just about anything just because he asked.”

– Dr. Marcia Degen, P.E., Technical Services Engineer Supervisor, VDH (Virginia Tech M.S. and PhD Graduate)

Dr. Boardman as an advisor, mentor, and teacher. Dr. Boardman’s influential career went beyond the engineering program and professional engineers as his leadership for 39 years of the Virginia Tech Short School for Treatment Plant Operators deeply impacted the education and development of several generations of professional operators in the Commonwealth. During his 40 years of contributions to the utility industry, Dr. Boardman’s exceptional service was recognized through a variety of awards including the 2012 Enslow Hedgepath Award from VWEA, the Distinguished Service Award from the Association of Environmental and Engineering Science Professors in 1991 and 2007, the College Award for Outreach Excellence in 2007, the University Outreach Excellence Award in 2000, the Engineering Dean’s Award for Excellence in Service, and others. In addition to these awards, Dr. Boardman contributed to both the Virginia AWWA and VWEA through service on multiple committees and leadership positions including as a trustee for VA AWWA. In recent years, Dr. Boardman was a critical team member in re-establishing the VWEA Operations Committee as a leader within the education component of the annual conference.

“Dr. Boardman always made time for his students, to listen to their ideas and guide them to reach their goals. His cheerful nature always put you at ease. Thank you Dr. Boardman for helping me believe in myself and grow professionally.”

– Ashly Thomas, Assistant Engineer, Hazen and Sawyer (VT MS Environmental Engineering, 2015)
“I first met Greg in the mid-’80s as a Short School attendee. After coming to work for the Virginia Water Control Board (now DEQ) in 1990, I was fortunate enough to have been invited in the Short School instructor fraternity in 1993. In the 23 years since then, I’ve considered it both an honor and a privilege to have been associated with Greg and the program and to have been able to contribute to the great work being done providing training and expertise to thousands of water and wastewater operators. I’ve also been privileged to spend time with him socially and look forward to that in the future, as he’s not only one of the smartest people I know, but also just a genuinely nice guy. Virginia Tech and Short School are both certainly better off for having had him associated with them.”

– Mr. Sam Hale, Department of Environmental Quality (BRRO)

While we could celebrate many of the specific awards and contributions in greater depth, to know Dr. Boardman is to realize that he is most proud of the impact he has made to the lives and careers of individuals in our industry through education and mentoring. Dr. Boardman’s impact is not limited to the individuals who enjoyed his influence as an educator in the classroom, but has carried far beyond through the friendships and ongoing career mentoring he provides to many individuals in our field.

In the Commonwealth, the Joint Annual Meeting (WaterJAM) is not only our premier educational event, it is also an incredible networking opportunity. For individuals like Dr. Boardman, who have had such a wide impact on our industry, WaterJAM is also a reunion. Dr. Boardman can be regularly observed catching up with past students as well as helping current students connect to others in the industry. He is the epitome of a utility professional, leaving a legacy of service which has impacted so many of us, and strengthening our industry for years to come. While the words seem simple, the most fitting way to close the celebration of Dr. Boardman’s career is to say, “Thank you for all that you have accomplished and contributed!”

“Greg has dedicated his life to the water and wastewater industry from cutting edge research to providing practical classes and short schools for students, engineers, and operators. His fingerprints are everywhere in our business throughout the Commonwealth and beyond. He has been a great researcher, teacher, and mentor to many of us but above all, he is just a great person.”

– Doug Hudgins, P.E., CHA Consulting (Virginia Tech MS Environmental Engineering, 1996)
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Beer is a product that everybody likes to talk about. The explosion of microbreweries around the United States gave Clean Water Services (Portland, Ore.) an idea for a program to start conversations about the reusable nature of all water. The utility began partnering with Oregon home brewers in 2014 to brew beer from reclaimed water to demonstrate that water should be judged by its quality, not its history.

**Sustainable Beer Smackdown**

The utility produced a batch of high-purity water that far exceeds safe drinking water standards and provided it to local home brewers. The beers, using the Pure Water Brew brand, were featured at WEFTEC 2014 and WEFTEC 2015 as part of the Sustainable Beer Smackdown. Each successive year, the Smackdown has gained new contenders. In September 2016, at the WEFTEC 2016 Innovation Pavilion, Hillsborough County in Florida introduced its New Water Brew, joining Clean Water Services and the Activated Sludge beers from the Milwaukee Metropolitan Sewerage District and The Water Council (Milwaukee, Wis.). In addition, CDM Smith (Boston), in partnership with the Water Replenishment District of Southern California, served up an Indian pale ale called the FAT Californian, named after the full advanced treatment (FAT) model of treatment for potable reuse applications.

This year, the Reuse Beer Smackdown dovetailed nicely with the release of the WEF Water Reuse Roadmap, a collaborative effort by WateReuse (Alexandria, Va.), Water Environment & Reuse Foundation (WE&RF; Alexandria, Va.), and the National Water Research Institute (NWRI; Fountain Valley, Calif.). Such efforts serve to engage industry professionals, public leaders, and imbibers everywhere in this conversation about clean water, not only for its role in health, but also in supporting big and small businesses.
The importance of legitimacy in reuse

While the beer events are fun and engaging, the most important aspect of these efforts is the focus on creating an authentic conversation with the larger community about water quality. These conversations are the cornerstones of a sociological concept known as “legitimacy.”

Legitimacy is more important as communities consider reuse projects, particularly potable water reuse. Reuse projects have often been met with public opposition, despite having proven that the technology and water quality meet or exceed drinking water standards. Oftentimes, technical professionals such as engineers and scientists believe the public will accept new technologies when it is provided with information through marketing and public education. Such outreach efforts need be authentic to achieve public support.

Three levels of legitimacy need to be addressed to have a successful project.

• The Pragmatic level focuses on the user’s self-interest, seeking to answer questions such as “How do I benefit personally?”
• The Moral level deals with social values and welfare, addressing questions like “How is quality and process safety guaranteed?” and “Is the organization trustworthy?”
• The final level, Cognitive, deals with customs and routines that are taken for granted. “Does the technology fit with my daily life?” and “Is the technology essential, with no feasible alternatives?” are examples of the inquiries that community members need answered.

Orange County and Nevada strive for legitimacy

One example of how legitimacy can produce successful results is the Orange County Groundwater Replenishment System in California. Through its dedication to the outreach efforts, utility managers were recognized as trustworthy and competent experts in the community. (Learn more in the publications listed in “Further Reading”.)

Taking the lessons that Orange County learned to heart, a northern Nevada utility values legitimacy as part of a feasibility study that may someday lead to Nevada’s first potable reuse project.

Essentially, the feasibility study must show that every aspect of the treatment train is robust and redundant. The utility takes full ownership from the home lateral to the final compliance testing, ensuring the public it should have the full confidence in the water utility. This also includes looking carefully at pretreatment ordinances, collection systems, resource recovery treatment processes, and the most advanced water purification processes.
One cornerstone of the feasibility study is a demonstration-scale project. Not only will this project show that treatment technologies are able to perform and meet stringent regulations, but community leaders and the general public also will be able to visit and see water purification processes in action. The public will be able to meet with the utility’s operations and laboratory staff, and these events will showcase the agencies’ technical skills and dedication to quality and also give the utility an opportunity to interact and share ideas with customers.

Building trust and confidence with each community is vital. The Northern Nevada Regional Effluent Management Team driving this feasibility effort includes representatives from the City of Reno, Truckee Meadows Water Reclamation Facility, Truckee Meadows Water Authority, the City of Sparks, Washoe County, and the Northern Nevada Water Planning Commission. It is an exciting time to be in the water business, and the Northern Nevada Effluent Management Team demonstrates that utility leaders take the trust the public has afforded them very seriously.

“[The utility takes full ownership from the home lateral to the final compliance testing, ensuring the public it should have the full confidence in the water utility.”](https://www.eawag.ch/fileadmin/Domain1/News/User_Acceptance_englisch.pdf)


Further Reading


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Alan M. Bontorno, Chief Operator
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<td>8:00 a.m.</td>
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| 8:30 a.m. | VWEA Welcome  
Eddie Abisaab, HRSD                                      |
| 8:45 a.m. | U.S. EPA Regulatory Update  
Jan Pickrel, EPA Office of Wastewater Management |
| 9:15 a.m. | DEQ Update on VPDES Permit Program  
Fred Cunningham, DEQ Office of Water Permits |
| 9:45 a.m. | Networking Break in the Exhibits Hall                                     |
| 10:15 a.m.| Key Updates on Water Quality and Quantity Regulation in Virginia  
Patrick Fanning, Esq. Troutman Sanders, LLP                       |
| 10:45 a.m.| Microconstituents – What’s New?  
Deborah DeBiasi, DEQ Central Office                              |
| 11:15 a.m.| Toilets are not Trashcans!  
Cynthia Finley, NACWA                                              |
| 11:45 a.m.| 2016 Pretreatment Awards                                                |
| 12:00 p.m.| Lunch                                                                    |
| 1:15 p.m. | Surviving Your PCB TMDL  
Richard Sedgley, AquaLaw                                             |
| 1:45 p.m. | High Value Resources from High Strength Wastes:  
Leveraging Food Production Byproducts to Reduce BNR Costs  
Chris Wilson, HRSD                                                   |
| 2:15 p.m. | Networking Break in the Exhibits Halls                                   |
| 2:45 p.m. | A Guide to Fair and Effective Sewer Use Ordinance Enforcement Processes  
Chris Pomeroy, AquaLaw                                             |
| 3:15 p.m. | Treatment of High Strength Industrial Solvent Waste  
Emil Schultz, Commonwealth Laminating and Coating                  |

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**Workshop**  
**Monday, March 6, 2017**  
1:00-5:00 p.m.  
“Pretreatment Program Requirements”  
Patrick Bradley, City of Richmond

The objective of this training course is to provide the basic regulatory and technical framework that supports the development and implementation of pretreatment programs under the National Pollutant Discharge Elimination System (NPDES) program and the Clean Water Act (CWA). The course is designed and recommended for environmental professionals responsible for developing and implementing the Pretreatment Program at the local level, industrial dischargers, consultants, and individuals that are new to the program.
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U.S. STOCKHOLM JUNIOR WATER PRIZE 2017:
VOLUNTEER VWEA JUDGES SOUGHT

For many years, Stockholm Junior Water Prize (SJWP) has congregated the nation’s most imaginative young minds for an outstanding competition in water related science projects. A high school student (grade 9-12) with a science project aimed at enhancing the quality of life through the improvement of water quality, water resource management, or water and watershed treatment is qualified to participate in SJWP. The two top students receive monetary awards and are highly encouraged to continue their research.

Every year members of Virginia Water Environment Association (VWEA) volunteer to judge for SJWP at regional high school science fairs all over the Commonwealth. We are looking for volunteers to judge the 2017 science fairs listed below. If you or someone you know are interested at any of these fairs, please contact the SJWP State Co-Organizers Angela Weatherhead (Angela.Weatherhead@hdrinc.com or 757-222-1566) or Christine Radke (cradke@werf.org or 571-384-2106). For more information on SJWP, please visit www.wef.org/sjwp.

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>Name of Fair</th>
<th>Location</th>
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<tr>
<td>March 4</td>
<td>Arlington</td>
<td>Northern Virginia Regional Science and Engineering Fair</td>
<td>Wakefield High School</td>
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<td>March 4</td>
<td>Radford</td>
<td>Blue Ridge Highlands Regional Science Fair</td>
<td>Radford University – Peters Gym</td>
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<td>March*</td>
<td>Lynchburg</td>
<td>Central Virginia Regional Science Fair</td>
<td>Merritt Hall, Central Virginia Community College</td>
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<td>March 7</td>
<td>Harrisonburg</td>
<td>Shenandoah Valley Regional Science Fair</td>
<td>Godwin Hall, James Madison University</td>
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<td>March 9</td>
<td>Charlottesville</td>
<td>Virginia Piedmont Regional Science Fair</td>
<td>UVA John Paul Jones Arena</td>
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<td>March 12</td>
<td>Fairfax</td>
<td>Fairfax Area Regional Science and Engineering Fair</td>
<td>Robinson Secondary School</td>
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<td>March 11</td>
<td>Manassas</td>
<td>Prince William-Manassas Regional Science Fair</td>
<td>Kelly Leadership Center</td>
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<td>March 11</td>
<td>Norfolk</td>
<td>Tidewater Science and Engineering Fair</td>
<td>Old Dominion University</td>
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<td>March 11</td>
<td>Roanoke</td>
<td>Western Virginia Regional Science Fair</td>
<td>Hollins University</td>
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<td>March 11</td>
<td>Richmond</td>
<td>Metro Richmond STEM Fair</td>
<td>Math Science Innovation Center</td>
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<td>March 23</td>
<td>Leesburg</td>
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<td>Riverside High School</td>
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<td>March 23</td>
<td>Lexington</td>
<td>Virginia State Science and Engineering Fair</td>
<td>Virginia Military Institute</td>
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</table>

*Dates to be determined

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Hosted by the VA AWWA/VWEA Student Activities Committee

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Location: Henrico WRF Training Room
901 WRVA Rd, Richmond, Va
DATE: April 21, 2017
http://www.vwea.org/event/14thStudentDesignComp
Please Contact Dana Fredericks with questions:
dfredericks@hazenandsawyer.com

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Winter 2017 – The Conduit
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Topics will include an in-depth look at alternative uses of biosolids, resource/nutrient recovery, and biosolids process optimization as it relates to utilities throughout Virginia. Up to five (5) wastewater operator credits are also available.

Mark your calendars: Collaborative Biosolids: Fuel for Thought Hilton Short Pump, Richmond VA May 10-11 – Social & Full-day seminar

Program to include:
- Keynote: The Story of Green Bay’s Journey to Energy Neutrality, Tom Sigmund, Executive Director of Green Bay New Water
- Dewatering Optimization by Matthew Higgins, Bucknell University
- Planning for Sustainable Resource Recovery Programs – A Panel Discussion
- Power or Fuel: Renewable Natural Gas, a Feasible Alternative
- Kore’s Pyrolysis Process for Innovative Biosolids Conversion to Biogas or Diesel Fuel
- Gasification – The Story at Lebanon, Tennessee
- HRSD’s Atlantic Treatment Plant Design for the First B61 Cambi Reactor
- Food Waste and Energy Recovery and the Fredrick-Winchester Facility
- State of Regulations Update from AquaLaw
Hampton Roads is facing an invisible water crisis. The Potomac aquifer, eastern Virginia’s largest water supply, is being overused and is shrinking beneath our feet. Groundwater-using industries are facing increasing regulations and new industries are being told not to move to the region. The compacting aquifer is also contributing to land subsidence, which in turn is increasing the area’s susceptibility to the negative impacts of sea level rise. This is not news to the water environment community or the many engineers and scientists working toward solutions. Unfortunately, it IS news to much of the general public. Claims that Hampton Roads is not water-rich are not readily accepted by many residents, who must drive through tunnels and over bridges regularly to move around the area. A shrinking aquifer, land subsidence, and sea level rise are not easy to see and are therefore easy to ignore, which makes working toward public acceptance of bold efforts such as HRSD’s Sustainable Water Initiative for Tomorrow (SWIFT) all the more challenging.

By Molly Bertsch
SWIFT aims to purify the highly treated water HRSD currently discharges into the James, Elizabeth and York Rivers through additional rounds of advanced water treatment and to then use the purified water to replenish the Potomac aquifer. Wastewater purification is not a novel concept, nor is aquifer replenishment; Fairfax Water in partnership with the Upper Occoquan Service Authority has been purifying wastewater since 1978 and the Groundwater Replenishment System (GWRS) in Orange County, California has been purifying and storing the wastewater cleaned at the Orange County Sanitation District since 1977. In both of these cases, however, the projects tackled visible environmental issues; a goal of the former was to combat serious water quality problems in the Occuquan Reservoir, and a goal of the latter was to provide resiliency against present and future drought conditions.

But how do you communicate to the public the importance of a solution to a problem it doesn’t know exists, or does not accept exists -- especially when that solution requires getting past both the “yuck” factor and “sticker shock” at the same time? And how do you best explain that your organization isn’t being unnecessarily precautious, but is instead proactively seeking solutions to a potentially environmentally disastrous situation?

Be transparent and easy to understand

Being open about your plans and process is essential to building trust within your community. Managers of projects like SWIFT that have regional impacts may incur public backlash if there is any perception that the project was hidden from public eye. In this case, OVER-publication of your efforts is preferable to under-publication. Lay suspicions to rest and be transparent.

Public suspicion may also be roused if your initiative’s outreach materials are not written in a way that is easily comprehensible to a lay audience. Not everyone is an engineer, and not everyone is a scientist; simplify your content as much as possible while maintaining accuracy and keeping true to your process. The public should not be expected to be accepting of an initiative they cannot understand.

Connect the dots

Hampton Roads recently experienced significant flooding as a result of Hurricane Matthew. Over 500 homes in Virginia Beach were affected, including those in areas that had no history of flooding. Residents immediately began asking serious questions about what went wrong and if it could happen again. While incredibly unfortunate, occurrences such as these opened the door to conversations about Hampton Roads’ vulnerability to the negative impacts of climate change and potential mitigating solutions. Make it easier for people to see the problem you’re addressing by drawing its connection to current events within their own communities.

Use multiple types of outreach

Everyone has a slightly different learning style, and relying solely on one type of outreach will severely limit your effectiveness. Use multiple types of outreach strategies to ensure you reach the broadest range of residents possible. To deliver SWIFT’s message, HRSD has used educational videos, technical fact sheets, social media, magazine and newspaper articles, special events, school learning modules, promotional giveaways, SWIFT Pilot facility tours, television appearances and public meeting attendances by technical experts, and more. Determining which strategy works best for which audience and continuously refining your materials may seem daunting, but neglecting this aspect of community involvement may risk public acceptance of your initiative.
The Conduit – Winter 2017

Don’t forget your own people
Ted Henifin, HRSD’s general manager, tackled this aspect of internal outreach head-on by holding tours of the SWIFT Pilot facility at HRSD’s York River Treatment Plant in Seaford, Virginia for over 380 employees. He led 20 small groups through the Advanced Water Treatment Processes to allow in-depth insight into each aspect of the operation. Attendees sampled purified SWIFT water afterwards and had their questions answered by Mr. Henifin and other members of the SWIFT team.

Personally leading numerous hours-long tours for your staff is time consuming, but it ensured HRSD employees became knowledgeable of SWIFT and encouraged them to feel personally and professionally connected to the initiative. Recognize your own people as your biggest asset and best mouthpiece, and give them the information they need to be positive voices of your project.

“Recognize your own people as your biggest asset and best mouthpiece, and give them the information they need to be positive voices of your project.”

As a water environment professional, it’s easy to overlook a large project’s communication needs when faced with its technical challenges. TALKING about plans seems vastly less important than actually COMPLETING them. However, our world is more interconnected than ever before; content quickly spreads throughout the Internet and community members can instantaneously share their thoughts with immeasurably large platforms on social media. Take control of how others are talking about your project by incorporating public outreach strategies at the beginning stages of your process. Your initiative is worth it.
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Think Globally, Act Locally to Spark Interest In Our Water Future

By Sarah Crawford

We’ve all heard the saying “Think globally, act locally.”

Heck, we all live the saying. We all play a part in enhancing and preserving Virginia’s water environment because we believe in enhancing and preserving the GLOBAL water environment (if you don’t, you should check the VWEA Vision and Mission, because you might be in the wrong organization). As someone who started out on a technical track but has spent the last four years in Communications at HRSD, I’ve realized that water and wastewater professionals do pretty amazing things, but we are less than amazing at communicating these things. We’ve got to take it a step further than just appreciating our own amazingness if we want the rest of our community to value water and all of the work that goes into protecting one of our most precious resources. If we want to spark interest in water careers and we want people to care about their water future, we’ve got to get better at two things:

1) Thinking globally, and 2) Communicating our awesomeness.

The first is easy. People flush and forget. They turn on the tap and don’t even think about where clean water comes from. Why? Because they can! Clean water is expected, and that’s a good thing because it means we are doing our jobs, but we are so far removed from the global water and sanitation crisis that it is hard for people to imagine a day without access to clean water and sanitation.
“Talk to people about what water means to you and why and how you are part of the solution. You can do this through social media, visits with students, and anytime you are out in your community.”

So we’ve got to do it for them. Show them what it’s like to live without clean water, without wastewater infrastructure, and without an industry of dedicated water professionals. Here are just a few ways you can do it.

1. Get global stats and stories to share from Water For People. Show people the crisis and how clean water and sanitation keeps people healthy, puts kids back in school, allows families to earn an income, and helps break the cycle of poverty.

2. Join the conversation in 2017 during one of the many days that promote clean water and sanitation, which includes World Water Day on March 22, Imagine a Day Without Water on October 12, and World Toilet Day on November 19.

3. Bring the water and sanitation crisis into the classroom. The Water Project has some great lesson plans ready for you to use, or you can share with teachers to reach future generations.

4. Connect a classroom to the field. The Peace Corps Correspondence Match Program is one way to connect with Peace Corps Volunteers working on water and sanitation projects at the grassroots level across the world. Their stories, projects, and experiences can provide U.S. students with firsthand perspectives.

Once you turn our audience into global thinkers who realize water and wastewater infrastructure changes everything, it’s time to move on to the second objective: toot your own horn. Not to your colleagues (remember, they are already familiar with your awesomeness), but to everyone OUTSIDE of the industry. Let people know why you work in water and what you do to secure our water future. I know this is hard to believe, but a lot of young people out there think that being an engineer or working in a lab sounds, well, boring. So lead with global issues and then follow with local water challenges and what YOU are doing about them. You are basically a water superhero, but everyone just sees the Clark Kent version. Talk to people about what water means to you and why and how you are part of the solution. You can do this through social media, visits with students, and anytime you are out in your community. You can even record your own personal story to share, like HRSD’s Pride and Passion video.

Once you’ve sparked interest, make sure to give them a way to act locally. Everyone can be a water superhero in their hometown if they know what not to flush or choose tap over bottled. Bring it full circle: communicate the global story, show them the part you play, and tell them what they can do to help. If you think big, you’ll encourage others to do the same, and you’ll help grow the next generation of awesomeness.
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The Department of Environmental Quality (DEQ) has been working toward reissuing the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharge and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (the Watershed “GP”), which expired December 31, 2016. On March 11, 2016 the U.S. Environmental Protection Agency (EPA) filed an objection to the issuance of the proposed GP. In response, DEQ developed revisions to the proposal to address EPA’s objections.

A summary of the latest monitoring frequency, as posted in the Virginia Register and provided for public comment on October 11, 2016, is listed in the table below.

The amended Watershed GP was approved by the State Water Control Board held on December 12, 2016. The new permit will be published January 9, 2017 and effective as of February 8, 2017. The new monitoring frequencies are expected to begin in the month of March.

**DEQ issues 2016 Water Quality Assessment Guidance Manual**

In September, DEQ issued GM 16-2005, 2016 Water Quality Assessment Guidance Manual for the development and reporting of the 2016 Integrated Report (both the 305(b) Water Quality Assessment report and the 303(d) Impaired Waters report). The guidance manual seeks to address all key elements of the EPA 2006 Assessment Guidance and subsequent updates current to August 2015, in addition to the assessment methodology for Chesapeake Bay Water Quality Standards established by EPA. GM 16-2005 can be accessed using the web address below:


**Questionnaire for the Study of Nutrient Removal and Secondary Technologies**

On September 19, 2016, EPA issued a Federal Register Notice soliciting public comments regarding its draft screener questionnaire. The final questionnaire will be sent to POTWs using CWA Section 308 Information Request letters, likely during the Spring of 2017. The draft questionnaire may be accessed using the web address below:


<table>
<thead>
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<th>Design Capacity</th>
<th>Proposed Frequency</th>
<th>Change from current permit</th>
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<tr>
<td>0.040 to 0.499 MGD</td>
<td>2/month by 8 HC</td>
<td>No change from current permit</td>
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<tr>
<td>0.50 to 0.999 MGD</td>
<td>2/week by 24 HC*</td>
<td>Increase from current permit’s 2/month by 8 HC</td>
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<tr>
<td>1.0 to 4.999 MGD and 5.0 to 19.999 MGD</td>
<td>2/week by 24 HC</td>
<td>Increase from the current permit’s 1/week by 24 HC</td>
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<tr>
<td>≥ 20.0 MGD</td>
<td>3/week by 24 HC</td>
<td>No change from current permit</td>
</tr>
</tbody>
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*The public notice listed a 24 HC, but was submitted to the SWCB as an 8 HC
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Save the date!

VWEA
Southwest Virginia Regional Activities Committee

Topic: Thinking About Nutrients in Southwest Virginia

Location: Southwest Virginia Higher Education Center, Abingdon, VA

Date/Time: Thursday, March 23, 2017
Registration: 8:00 - 8:30 am
Presentations: 9:00 am - 4:00 pm
*Includes Lunch*

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A new year has begun, leaving a very busy and slightly hectic 2016 in our past. Now we move on to 2017 with new ideas and new energy to create an educational and informative year for our members.

**2016 Happenings**

2016 was an extremely busy year for the VWEA/VA AWWA Safety and Security Committee. In summary, the S&S (Safety and Security) Committee:

- Was involved in creating and implementing four seminars on Excavation Safety Training across the state in 2016. (There were actually five seminars on this subject with one taking place in late 2015.)
- Worked with and participated in conferences and seminars presented by other VWEA/VA AWWA committees.
- Made several safety inspections during 2016 in order to select winners for the VWEA Facility Safety Award and Larry Gordon Award. We are pleased to announce that the Chesterfield County, Proctors Creek Waste Water Treatment Plant was awarded the VWEA Facility Safety Award. The Larry Gordon Award was presented to Spotsylvania County Field Service Division. We wish to thank those facilities for their ongoing commitment to safety in their daily operations.

**2017 Happenings**

2017 is already proving to be a great year for the S&S Committee. The S&S Committee is currently working with the IT group to be involved in a seminar in April of 2017, keep an eye out for further information on this seminar. The committee is also working with the Operations Committee to provide educators for a June conference to be held in Roanoke, Virginia.

With all of the recent changes to the confined space entry regulations, the committee felt confined space would be a good topic for the upcoming 2017 seminars for the education of attendees. There have been a number of fatalities recently concerning confined space, and this type of work is being scrutinized heavily so people need to be aware of the changes.

The S&S Committee will be hosting three separate seminars across the state on the subjects of Confined Space Entry and Lock-out Tag-out and how they are interconnected. The seminars will be held in Newport News, Virginia on March 30; in Roanoke, Virginia on July 20; and in Prince William County, Virginia on November 16 of 2017. Watch for further information on these seminars.

Our goal is to contact and provide these educational sessions to as many members and agencies as is necessary. Each session is a full-day session that will provide opportunities for up to 40 individuals to attend. If it is determined that additional educational sessions are needed on this topic, it may be held over to the next year in order to accommodate all interested attendees.

I wish to thank all of the members of the VWEA/VA AWWA Safety and Security Committee for the important work and efforts they put forward to create such a successful year for this group. It is truly a great honor to work with this group of people who give of their time and energies to create positive and extremely important informational seminars for employers and employees across Virginia.
THE VWEA FACILITY SAFETY AWARDS

First Place Award: The WEF George W. Burke Facility Safety Award*
Second Place Award: The VWEA Facility Safety Award*

Purpose: The purpose of the VWEA Facility Safety Awards is to encourage members to engage in an active and effective safety program in municipal and industrial wastewater treatment.

Benefits of submitting an application:
- Benchmarks your wastewater facility’s safety program.
- Helps eliminate or reduce safety hazards.
- Promotes facility safety awareness amongst staff.
- Identifies safety program areas that may need improvement.
- Reduces workplace accidents.
- Mitigates noted safety inspection violations.
- Be recognized as a safe workplace by peers.
- Prepares your facility staff for a Virginia OSHA (VOSH) inspection.

Notes:
1. Facilities that received either award the previous year are not eligible for Safety Award this year.
2. At least one (1) employee of the nominated facility must have a current Professional, Academic, PWO, Young Professional, Student or Corporate member status in the VWEA.

Facility inspection: Upon receipt of your application (see next page) the VWEA Safety Awards Champion will schedule a visit to your facility to review your overall safety program. Winner(s) will be selected by June 23, 2017 and notified as soon as results are final. Winning facilities will be recognized and awards presented at the 2017 Joint Annual Meeting (JAM), September 11-14, 2017, at the Hampton Roads Convention Center, 1610 Coliseum Drive, Hampton, VA 23666.

Areas of interest to the inspection team are, but not limited to:
- Evidence of a good safety record.
- Facility-written safety programs.
- Maintenance of all safety equipment (life safety and personal protective equipment PPE).
- A visual inspection of the facility for safety compliance and level of security.
- Any other information that would complement the facilities safety compliance and level of security.
- Safety training program and documentation.
- Maintenance of treatment/process equipment.

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BAY HEALTH CHECK: HOW ARE WE DOING?

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APRIL 27, 2017, THE WESTIN HOTEL, RICHMOND, VA
http://www.vwea.org/event/2017Stormwater
THE VWEA FACILITY SAFETY AWARDS APPLICATION

Submissions: A hard copy of this application must be postmarked no later than Friday, March 31, 2017 or an electronic copy of the completed application delivered to the Safety Awards Champion (contact information listed below) by March 31, 2017.

Forward completed application to: Wayne Sirna, Past Chairperson  
Facility Safety Awards Champion  
VA AWWA/VWEA Safety & Security Committee  
Dewberry  
8401 Arlington Boulevard  
Fairfax, Virginia  22031-4666  
Phone: (703) 645-9717  
Email: wsirna@dewberry.com

Name of facility: ____________________________________________________________

Person in responsible charge: ________________________________________________

Address: __________________________________________________________________
..............................................................................................................................

Physical address (if different from above): ______________________________________
..............................................................................................................................

Telephone: __________________________________________________________________

Email address: __________________________________________________________________

Name of VWEA member: ______________________________________________________

Membership number: _______________________________________________________

Facility size (circle one and list design flow):

SMALL (5 or fewer employees)  Design Flow: __________

INTERMEDIATE (6 to 20 employees)  Design Flow: __________

LARGE (more than 20 employees)  Design Flow: __________

* NOTE: SAFETY AWARDS ARE PRESENTED SOLELY BASED ON FACILITIES MEETING THE CRITERIA ABOVE AND ARE NOT AWARDED BASED ON THE NUMBER OF APPLICATIONS RECEIVED.
The Prince William County Service Authority’s Enterprise Asset Management (EAM) Department recently received an Ingenuity Award from WEFTEC, the annual technical conference held by the Water Environment Federation.

The department’s winning entry focused on the integration of the Service Authority’s information systems around GIS. Specifically, the entry highlighted the creation of easy-to-use applications that allow employees to use their laptops, PCs or smart phones to quickly access critical infrastructure information and related data from other systems, like customer account and work order information.

Only six of 23 entries were honored with the Ingenuity Award.

“The EAM Department is proud to have received the Ingenuity Award in the broad field of water quality,” said EAM Manager Brandon Pfleckl. “Our GIS system integration and development work is not only cost effective and innovative, but provide the staff with the information they need, when they need it, from convenient, lightweight map-based applications.”

The EAM Department accepted the award and gave a small presentation at the 2016 WEFTEC conference held September in New Orleans. The EAM Department consists of Brandon Pfleckl, Yeoanny Venetsanos, Annie Short, Ben Slater, Ani Guha, Maureen Knight, Irma Houck, Terry Dye, Jr., Karen Hogan, Andrew Cockram, Jill Rosche, Jeremiah Tamagna-Darr, and Tracey Beaver.

Those judging the competition were impressed with the Service Authority’s unique entry.

“I liked that is wasn’t process operations and maintenance-related,” said judge Christine Radke, Research Program Director at Water Environment & Reuse Foundation. “It is important for a utility to have a good handle on their assets so they can better manage utility operations. What was even more compelling is that the work was all done in-house.”

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