Sanitary Sewer Systems: Private Property Infiltration and Inflow Abatement

Inside

- WaterJAM Review
- Good Lab Practices Committee Activities
- Strategic Plan Metrics
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COVER FEATURE
Sanitary Sewer Systems: Private Property Infiltration and Inflow Abatement
A sanitary sewer system consists of both a public and private portion. High levels of infiltration and inflow (I/I) can overload the sanitary sewer system in a significant way. These excess flows lead to sewer backups into homes and businesses, manhole overflows, and increased wastewater treatment and conveyance costs.

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Wow! JAM 2013 was quite an event this year! Thanks to all of you who raced to Richmond to attend yet another terrific Joint Annual Meeting (JAM) of the VWEA and VA AWWA. As always, the conference proved to be a great experience, and left me energized to continue to move into the future with new initiatives for VWEA.

As part of VWEA, we have more opportunities to benefit from membership than ever. There are four new scholarships available from VWEA, including the Rising Freshman, Operators School, Dependent, and Future Operator. This is part of the commitment of the association to give back to our membership for their service and volunteerism, and to encourage future membership by supporting educational opportunities in the water sector.

As I reflect on all of the accomplishments of VWEA in the past few years, I am challenged to find new areas in which to continue to grow and expand. Collaboration and outreach is one of the VWEA strategic plan goals, with one of the main objectives as developing and engaging in partnerships with other affiliates. We have already capitalized greatly on collaborative efforts, through joint committees with VA AWWA, as well as the Joint Task Force for the VWEA and VA AWWA Boards.

Collaboration and Outreach

How can we expand our collaborative efforts within VWEA?

There are many topics of common interest to all VWEA members, but the three broad ones that come to mind for me are Regulations, Innovative Technologies and Sustainability. I can’t think of any facet of our membership that is not concerned about and has extreme expertise in at least two of these important and relevant topics. Our diverse membership represents a wide range of perspectives, and you can take any of these three topics and gather a wide range of insight and perspective by speaking to the various stakeholders that comprise our membership. By looking to each other for opportunities to collaborate, our events can continue to offer well-rounded perspectives on relevant issues while streamlining efforts in some cases.

Some of the more clear avenues for collaboration are committee membership, conference attendance, presenting at events and providing and/or attending training.

As we move into 2014, I hope many more opportunities to collaborate and grow are identified. If you are interested in participating on a committee, of have ideas, please contact me, any of the board members, or any committee chair or vice-chair. For any general membership questions, please see Kathy, our Association Administrator, or Lora Reed (lreed@hrsd.com) the incoming chair of the Membership Committee.

As always, the conference proved to be a great experience, and left me energized to continue to move into the future with new initiatives for VWEA.
WaterJAM Success

We raced to Richmond this year for WaterJAM and broke records along the way. We had a record number of abstracts, exhibitors and water professionals at the Conference. Over four days, members participated in a variety of activities including: community service project, golf, clay shoot, networking events, technical sessions, workshops, and student and young professional competitions. Additionally, attendees had the opportunity to visit with over 190 exhibitors and view some of the latest technology. I would say that is a fantastic conference!

As you can imagine, many, many hours go into planning for JAM. Dedicated volunteers begin planning for next year at the completion of each JAM and continue to work throughout the year to ensure every detail is covered. I would like to express my thanks to this year’s co-chairs, Erica Carter and Eddie Abisaab and all the other volunteers who made the conference a success. I would also like to say a huge thank-you to Draper Aden & Associates, Greeley & Hansen, Heyward, Incorporated and Chesterfield County for sending volunteers to assist us at the registration desk. Their assistance provided for a smooth registration process for conference attendees!

One of my favorite parts of WaterJAM is the time we take to acknowledge and award those who have made an impact on the association, have excelled in the profession or provided significant contributions to the improvement of the water environment in Virginia. This year, the VWEA Life Member Award was bestowed for the first time. The award was established to recognize retired members or members of retirement age (60 years or older) who have contributed sustained long-term service and participation as a volunteer member, committee member, or in a leadership role as a committee chair, officer or director of VWEA and meet the established criteria for membership longevity in the Association. Eight individuals were selected for the inaugural class. James Canaday, Robert Canova, Ronald Conner, Anthony Izzo, Jimmie Jenkins, Calmet Sawyer, Kenneth Spear and James Van De Reit have served in many roles within VWEA helping to lay the solid foundation on which our Association now benefits. Thank you for your commitment to VWEA!

Other award winners were:

**WEF’s Lab Analyst Award:**
Lynn Lowder, UOSA

**WEF’s George W. Burke Jr. Safety Award:**
Pepper’s Ferry Wastewater Treatment Facility

**WEF’s William D. Hatfield Award:**
Barbara Jackson, City of Richmond

**WEF’s Arthur Sidney Bedell Award:**
Karen Pallansch, Alexandria Renew Enterprises

**VAAWWA/VWEA Outstanding Young Professional Award:**
Martin Malone, CDM Smith

**VWEA’s Enslow-Hedgepeth Award:**
James Chastain, Heyward, Incorporated

**VWEA’s Golden Manhole Award:**
Peter Kurz, Pipeline Renewal Technologies

**VWEA’s Facility Safety Award:**
HL Mooney AWRF

**Public Official Award:**
Penelope Gross, Mason District Supervisor

**YP Wastewater Poster Competition:**
Phill Yi

**5-S:**
Charles Bott, HRSD
John McGgettigan, Greeley and Hansen
Lora Reed, HRSD
Stephanie Spalding, HDR
From Your Administrator Kathy Rabalais

If you would like to learn more about the awards and the criteria for each visit our website at http://www.vwea.org/awards. We will be soliciting nominations for each of the awards starting early next year.

VWEA Member Appreciation Luncheon Award Winners: VWEA Life Members, Past President, Burke Safety and Hatfield Award Winners.

If you would like to learn more about the awards and the criteria for each visit our website at http://www.vwea.org/awards. We will be soliciting nominations for each of the awards starting early next year.

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Virginia Teams Sweep Operations Challenge at WEFTEC 2013!

VWEA sent three teams to WEFTEC to compete in the Operation Challenge Event. They competed against 41 teams from the U.S and Canada. We are very excited to announce the following results:

- Virginia Beach’s Terminal Velocity (pictured left) finished 1st in Ops Challenge Division 1 for a 4th straight National Championship.
- Team HRSD finished 1st in Ops Challenge Division 2.
- Roanoke’s Blue Ridge Brawlers finished 2nd in Division 2.
- Congratulations to all the teams on a great job.

OPERATIONS CHALLENGE COMPETITION 2014

The Operations Challenge Committee is gearing up for the 2014 Operations Challenge Competition. We are currently recruiting for new teams for the 2014 Operations Challenge Competition (see page 37 for more information). We invite all who are interested to join in our committee and let’s make our 2014 Operations Challenge competition the best ever!

Contact via email:
Jewel.Minor@richmondgov.com
Co-Chair, Operations Challenge Committee

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In 2012, the VWEA Board updated their Strategic Plan with input from the committee leadership. Goals were re-prioritized and specific, measurable tasks were identified to see how we are doing. This effort was led by Supriya Murthy and Ryan Nagel.

The team identified the three top-priority strategic goals: 1) Leadership and Advocacy, 2) Membership Engagement, and 3) Education and Training; and identified objectives for each. So far, we have exceeded one goal’s targets, are about halfway to our target on another goal, and still working on the third. If the goals were easy to achieve, they might not be worthwhile!

In addition, we’ve created a performance dashboard (see below) to track our progress on each of our priority goals and to make sure that we are keeping our eyes on the initiatives that will lead to VWEA’s continued success.

For more information about our strategic plan performance tracker, please click on the following link: http://www.vwea.org/storage/documents/Committees/Strategic_Planning/VWEA_Strategy_Corner_Executive_Summary.pdf

<table>
<thead>
<tr>
<th>Strategic goal</th>
<th>Objective</th>
<th>Metric</th>
<th>YTD Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership &amp; Advocacy</td>
<td>Increase # of new webinars/seminars</td>
<td># of new events</td>
<td>TBD</td>
</tr>
<tr>
<td>Member Engagement</td>
<td>Grow membership by 10%</td>
<td>% growth</td>
<td>6%</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>Develop &amp; Implement Scholarship Program</td>
<td>Raise $20,000</td>
<td>$34,358 raised</td>
</tr>
</tbody>
</table>

So far, we have exceeded one goal’s targets, are about halfway to our target on another goal, and still working on the third. If the goals were easy to achieve, they might not be worthwhile!


The report will be updated quarterly to evaluate our progress towards strategic goals.

VWEA MEMBERSHIP GROWTH

2013-18 STRATEGIC PLAN PROGRESS REPORT

VWEA SCHOLARSHIP FUND

GOAL CHAMPION: CLARKE WALLCRAFT

METRICS FOR 2013
1. Grow new membership by 10%
2. Reactivate expired membership by 50%
3. Retain existing members by 5% (attrition goal < 5%)

GOAL CHAMPION: STACIE METZLER

OTHER METRICS FOR 2013
1. Rollout Scholarship Program at WaterJAM
2. Implement & award Five new scholarships

PROGRESS UPDATE
1. $102,949 was added from General Reserve to Scholarship funds in May 2013

FUNDS RAISED $34,358.74

FUND RAISING GOAL $20,000.00
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On behalf of the entire WaterJAM 2013 conference planning committee, we thank and extend our gratitude to all of our sponsors, speakers, exhibitors, and attendees of the 2013 annual conference. Your active participation and contributions made this year in our capital city of Richmond yet again a RECORD-BREAKING event. This year’s conference was definitely the best-attended and action-filled WaterJAM conference we have hosted thus far. We are ever so proud to announce that there were 1,337 attendees for WaterJAM 2013, slightly higher than last year. We also had over 190 exhibitors, a 10% increase from last year. The large-scale product display trailers for our vendors demonstrating hands-on water/wastewater products and services full-scale on the exhibition floor were yet again ever so popular.

Water For People and Water Reach committees had a goal to come out in strength this year and ended up raising over $3,000 during the silent auction, 5K run, exhibit hall raffle, and golf outing fundraisers. Our water and wastewater plant tours were over capacity this year, even though they are held the last day of the conference. The WFP 5K Fun Run on Tuesday morning on Brown’s Island was also very well attended.

From an education standpoint, we had a record 377 abstracts submitted this year. With this level of interest, our committee acted fast to arrange for an additional technical track for each day in order to deliver a record 179 presentations. No doubt our conference had the best of the best presenting in our technical program and there were still some rooms with standing room only.

After such a successful conference in 2012, our committee worked hard throughout the year to differentiate WaterJAM 2013. We continued to focus on ways to enhance activity in the exhibit hall and provide the quality of technical presentations that our audience deserves.

Many thanks to our YP Committee who have done a tremendous job in developing programs, hosting social events/workshops, and organizing a succession plan for future conference committee leaders. Major highlights included our

Thanks to all of our sponsors, speakers, exhibitors, and attendees of the 2013 annual conference. Your active participation and contributions made this year in our capital city of Richmond yet again a RECORD-BREAKING event.
WaterJAM A SUCCESS

outstanding networking events scheduled throughout the week. Monday started with a packed golf course at the Country Club at the Highlands, and our Clay Shoot at Providence Forge. Both events experienced a record turnout. The day ended with our racing-themed Meet and Greet at the Marriott where hundreds of folks reunited to make plans for the week. Tuesday began with a very well-attended Opening Session with keynote and featured speakers that everyone seemed to enjoy. After the first day of technical sessions, attendees enjoyed their free night at a multitude of Richmond hot spots. Wednesday’s fantastic technical sessions ended with several hundred folks coming out to the Awards Banquet and game night with the anticipation of a new format that included racing-themed activities. Lots of networking, changing tires, racing miniature race cars and arcade games, and picture-taking took place during the evening, culminating in awarding over $2,500 worth of prizes to fortunate winners. Thanks to everyone who came out to these events – they wouldn’t have been nearly as successful without you! We sincerely hope you enjoyed the conference, the excellent workshops, technical programs, exchange of information, networking during breaks, the food, and made valuable connections that will help you succeed in your career. We certainly did!

We are keen on you attending and encouraging another colleague to attend our event next year. Mark your calendars (September 8-11, 2014) for WaterJAM 2014 to be held in Hampton, Virginia. Our new conference committee is already in the planning mode and spicing things up to ensure that we have another record-breaking year.

A call for papers for WaterJAM 2014 will be issued on November 11, 2013 with a January 10, 2014 deadline. We are proud to announce Shawn Heselton (sheselton@hrsd.com) VWEA and Paul Delphos (delphosp@bv.com) VA AWWA will be next year’s JAM co-chairs. Please don’t hesitate to contact either Shawn or Paul if you are interested in lending a helping hand with one of the most successful state water conferences in the nation.

Respectfully Yours,
Erica Carter and Eddie Abisaab
WaterJAM 2013 Co-Chairs

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Young Professionals Events – WaterJAM 2013

The VWEA and VA AWWA Young Professionals Committee did a great job in organizing this year’s Young Professional (YP) events for WaterJAM 2013. Events included the Community Service/Outreach Event with the Chesapeake Bay Foundation and the City of Richmond, the Cornhole Challenge, Fresh Ideas Poster Contest, YP Workshop, YP Technical Session, and YP Reception. It was great to see the future of the industry getting involved in the many opportunities at WaterJAM.

WaterJAM YP Community Service Project 2013 – A Little Goes a Long Way!

By Michele Siminari

On the Sunday before WaterJAM, environmental professionals helped to kick off the Chesapeake Bay Foundation’s program to provide restoration and education in the Broad Rock Creek watershed. Volunteers suited up in waders for an intensive stream clean-up. The creek, located in the southern part of Richmond, was in disrepair, filled with trash, tires, and large debris. The team of YPs worked hard and was able to remove enough trash to fill 10 large trash bags, along with numerous large items such as appliances and tires. Volunteers enjoyed making a positive impact on the stream while networking with other professionals from around the state.
**WaterJAM Cornhole Challenge**

By Mike Mull

The Cornhole Challenge, located in the Exhibit Hall, was organized by the Young Professionals Committee for the second straight year! Brought back by popular demand, the event was once again a huge success. Over 100 conference attendees challenged each other in a one-on-one or team format during the day on Tuesday and Wednesday. After each game, participants were awarded raffle tickets. Each raffle ticket offered a chance to win the cornhole boards donated by VA AWWA/VWEA. Three sets of cornhole boards and bags (one more set than last year) were raffled off at the end of the day on Wednesday. The lucky raffle winners were picked at random and included Thomas Parker, Laura Kirkwood and Jim Ewing. Look out next year for another challenge and stiff competition in the Exhibit Hall. Special thanks to our volunteers and to VA AWWA/VWEA for helping make this year’s Cornhole Challenge a great success!

**Fresh Ideas Poster Contest**

By Ryan Clark and Katy Baragar

Once again, WaterJAM featured a diverse group of young professionals presenting their work in the 2013 Fresh Ideas Poster Contest. This year’s contest featured the work of eight members from academia and consulting, whose work was presented on Wednesday, September 11 in the WaterJAM lobby area, directly in front of the Exhibit Hall entrance.

The first-place winner for best water-related poster was Aaron Tice from Wiley Wilson for his poster “Let it Snow! Let it Snow! Let it Snow! Unique Design Challenges Associated with a Dual-Use Snowmaking and Raw Water Supply System.” The first-place winner for the best wastewater-related poster was Phill Yi from Hazen and Sawyer for his poster “Development of Process Models for Planning, Design, and Operations.”

The YP Committee would also like to thank all of the participants in this year’s contest. Special recognition goes to this year’s judges: Erica Carter with Kimley-Horn and Associates, Bruce Husselbee with HRSD, and Charles Bott with HRSD.
Young Professional Workshop
By Jason Kerns

This year’s YP workshop was divided into two parts and successfully bridged the gap between offering technical and career advice. The first part focused on pump station and pipeline rehabilitation and was presented by Jason Kerns, Jeff Sparks, Josh Crossen and Benjamin Custalow. Focused topics included lessons learned from previous rehabilitation projects, preferred pumping operation guidelines, and pipeline rehabilitation methods and techniques. The second part offered career guidance and was presented by JP Semper and Christel Dyer who each gave YPs several different career advancement examples. The YP workshop was well attended by both YPs and operators who all expressed an interest in the current trends ongoing in the water and wastewater industry.

YP Technical Session
By Aaron Tice

The YP Technical Session provided an excellent opportunity for young professionals to present on a broad cross-section of topics that included cutting-edge research, practical lessons learned, and incorporating sustainability into the water resources field. The first presentation, “Keep the Plant Running: Planning for a WRF 65% Hydraulic Capacity Increase” by Jennifer Moore (Atkins), provided practical insights and a template approach to developing a maintenance of plant operations plan to guide a utility through a nutrient treatment and capacity upgrade. The next presentation, “A Standardized Protocol for Assessing the Biodegradability of Trace Organic Contaminants during Wastewater Treatment” by Wendel Khunjar (Hazen and Sawyer), presented recent findings of Dr. Khunjar’s research group. The final three presentations focused on incorporating sustainable practices into water and wastewater treatment. Kelvin Coles (Greeley and Hansen) presented “Envision™ for Sustainable Infrastructure is Effecting Virginia’s Water Industry” an overview of the Institute for Sustainable Infrastructure’s Envision™

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certification program, which is intended to be a water resources counterpart to certification systems such as the U.S. Green Building Council’s LEED program and the Green Globes program. Joseph McCloud (ODU) presented a “Comparative Analysis of Greenhouse Gas Inventory Tools Applied to the City of Norfolk, VA” which compared results of two commonly used inventory tools to provide contrasts into how they can be effectively utilized to benchmark emissions reduction by local governments. The final presentation, “Small Changes = Big Savings: Energy and Lighting Evaluations Prioritize Steps towards Sustainability” by Christina Alito (HDR), presented the results and lessons learned from several highly successful energy audits at wastewater treatment facilities. Thank you to all of the YPs who presented their work! We are excited to host this session in 2014 and look forward to another year of insightful and YP focused papers!

Young Professionals and Student Reception at WaterJAM

By Christel Dyer

This year, the participation in the Young Professionals and Student Reception was outstanding! At one point, there were more than 60 young professionals, students, and professionals enjoying appetizers and drinks in the bottom floor of the Marriott Hotel. The reception was a great opportunity for everyone to come together prior to everyone joining the Awards Banquet, which was also in the Marriott.
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A BIG thanks to all who came out for the annual 5K Fun Run for Water For People this year at WaterJAM in Richmond, Virginia. We had a beautiful morning for a run with perfect weather and tons of enthusiastic athletes. We are pleased to announce this year we had a great turnout of runners and walkers, with over 30 participants who came out to jog along the James River and support Water For People. We would like to congratulate the winning male and female runners: Mike Demko (20:31) and Katherine Mohammed-Jones (27:24).

The Fun Run, in combination with other WaterJAM fundraising events, raised over $3,000 that will be sent directly to Water For People. Water For People works together to share the heartfelt vision of a world where all people have access to clean water, adequate sanitation, and basic health services. Water For People works with people and partners to develop innovative and long-lasting solutions to the water, sanitation, and hygiene problems in developing nations all over the world. To learn more about Water For People please visit, www.waterforpeople.org.

The Virginia Chapter of Water For People hosts many events throughout the year to promote awareness and work together towards a common goal of clean water for all. Be on the lookout for our upcoming March 2014 Workplace Giving event and the annual Herb Evans Memorial Golf Classic to be held on May 15, 2014.

Thank you so much to all volunteers and participants of this year’s 5k fun run. We couldn’t have done it without you! We are looking forward to seeing you at next year’s WaterJAM in Hampton, VA.
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- **Robinson Group (Applied Filter)**
- **S&N Airoflo**
- **Shand & Jurs Biogas**
- **SunCoast**
- **Tigerflow**
- **Wemco**
- **WesTech Engineering**

## TREATMENT / CLARIFICATION

### WesTech Engineering
- Flocculation, UF and MBR Membrane Treatment, Primary Clarification, COP™ Clarifiers, Spiral Rake Clarifier, Segmented Plow Rake, Secondary Clarification, Suction Header Clarifier, Suction Pipe Clarifier, Flocculating Clarifier

### SCRENNING

### WesTech Engineering
- Element Screen, Spiral Screen Perf Screen, Rotoscreen™, Monoscreen™
- MicroSHEAR™, CleanFlo™ Vertical Spiral Screen, Grit Removal

### Fairfield Service Company
- Claw Screens, Chain Screens, Cantenary Screens and Grit Removal

### SCREENING

### Lord and Company
- Complete SCADA Integration

### Mission Communications
- Wireless Telemetry and SCADA Systems

### Custom Control Technologies
- Custom Control Panels

### GE Energy
- Dissolved Oxygen Control Systems

## PUMP EQUIPMENT

### Gator Prime
- Self priming pumps

### Tigerflow
- Packaged Water Booster Pumping Systems

### Dakota Pump
- Flooded Suction, Self-Priming Wet Well Mounted, Self-Priming - Buried Vault, Submersible Valve Package, Vacuum Prime - Wet Well Mounted

### Wemco
- Self Priming Pumps Only

### Oldcastle Precast
- Precast Submersible Pump Stations

### Danfoss
- VFDs and Soft Starters

## DIGESTION / BIOSOLIDS

### WesTech Engineering
- Digesters Covers and Mixers, Duophere Gasholder

### RDP Technologies
- Hybrid Evaporators, Lime Stabilization Equipment

## AERATION / MIXING

### WesTech Engineering
- LANDOX Channel Aeration System, OxyStream™ Oxidation Ditches, Landy Surface Aerators, STM Aerotors

### GE Energy (Roots)
- Roots EasyAire, TurboMax High Speed Blowers, PD Blower Packages

### S&N Airoflo
- Floating brush rotor aeration technology

## SCADA / CONTROLS / VFD

### Lord and Company
- Complete SCADA Integration

### Mission Communications
- Wireless Telemetry and SCADA Systems

### Custom Control Technologies
- Custom Control Panels

### GE Energy
- Dissolved Oxygen Control Systems

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### DOer
- Activated Carbon Systems, Dissolved Oxygen Systems, Odor Control Chemicals

## GAS HANDLING

### Robinson Group (Applied Filter Tech.)
- Digester and Landfill Gas Cleaning Systems, Micro-Turbines

### Shand & Jurs Biogas
- Digester Gas Safety Equipment and Waste Gas Burners

## FILTERS / DISINFECTION

### WesTech Engineering
- Continuous backwash filters, disc filters, compressed media filters

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- Ozone Generation Systems

### Virginia

- **Bernie Moore:** (804) 720-9790 (m) bernie@clearwaterinc.net
- **Mick Heavener:** (252) 292-7300 (m) mick@clearwaterinc.net
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The 10th Annual VA AWWA Student Water Challenge, sponsored by the Student Activities Committee, was held at JAM on Wednesday, September 11. The competition focused on using a combination of engineering and science to address a real-world water problem. This year’s problem was to design a plant expansion in order to meet future demand. Teams were allowed six hours to put together their response and present it to a panel of judges.

Three teams competed in this year’s competition: ODU, VA Tech Team 1, and VA Tech Team 2. The first-place winner, receiving $1200, a plaque, and the traveling trophy, was awarded to VA Tech Team 2. The second-place winner, receiving $500 and a plaque, was awarded to VA Tech Team 1. Congratulations to all participants for their hard work!

Thank you to the following judges who volunteered to assist with the Student Water Challenge this year: Dan Horne, Eileen Leininger, Ignatius Mutoti, Bill Randall, Erik Rosenfeldt, and Kevin Smith.

The Student Activities Committee also provided judging for all student papers presented at JAM. First- and second-place awards are given to the best water paper and the best wastewater paper, respectively. Unfortunately, there were no water-related papers this year. However, in the wastewater category, there was a tie for first place. The committee is pleased to announce that Ryder Bunce and Mark Miller tied for the first-place award and both will receive $375. Congratulations, Ryder and Mark!
The Laboratory Practice Committee (LPC) held a very successful VWEA/VA AWWA WaterJAM workshop on September 9 at the Richmond Convention Center. The theme of the workshop was “Quality System Best Practices, Be the Best That You Can Be.” The workshop consisted of the following one-hour presentations for water, wastewater, and environmental laboratory professionals:

- Is NELAP Accreditation Just an Alternative Certification Program for Drinking Water Laboratories
  Nilda Cox, Eurofins Eaton Analytical
- Proactive Quality Improvement of Lab Processes
  Cathy Westerman, DCLS
- SOPs and Document Control
  Kim Turner, DCLS
- A Systematic Approach to Methods Development and Validation
  William Telliard, EPA retired

- Utility Demographics and Culture: “But we have always done it this way…”
  Kathy Mestayer, KMA consulting

Greg Hudson of EnviroCompliance Laboratories served as LPC Chair during the past year. In the upcoming year, Robin Parnell will serve as Committee Chair and Kimberlee Stubbs with the City of Richmond will serve as Vice-Chair. We have already started working on plans for the Good Laboratory Practice Conference and Workshops being held on July 28-29, 2014. We invite members from the water, wastewater, and environmental laboratory community to join the LPC. For information, please contact Robin Parnell at rparnell@hrsd.com or Kimberlee Stubbs at kimberlee.stubbs@richmondgov.com.
The Government Affairs Session at WaterJAM was again very well attended despite competition from other excellent technical sessions offering CPE credits. For those who attended other sessions or missed WaterJAM altogether, below are brief summaries of the five presentations. The speaker’s presentations will be available on-line except for DEQ Director David Paylor’s presentation as he spoke without slides.

L. Preston Bryant, Jr. is Chairman of the National Capital Planning Commission (NCPC) and serves with McGuire Woods Consulting LLC. The NCPC has review authority for all federal projects in a 2,500 square mile area covering the District of Columbia and adjacent areas in Maryland and Virginia. There are 90 federally owned sites in the Virginia area employing over 130,000 people. NCPC staff includes architects, urban planners, landscape architects, engineers, GIS and CAD designers, public affairs specialists and technology officers. While the NCPC has broad duties including comprehensive planning, federal capital improvements review and approval and long range planning, Mr. Bryant focused on the team’s efforts to comply with Virginia storm water regulations. He presented two case studies: the Millennium Project at Arlington National Cemetery, and the Intelligence Community Campus.

Melanie D. Davenport is the Director of the Virginia Department of Environmental Quality (DEQ) Water Division. She provided updates on recent, pending and upcoming regulations along with updates on three related issues. The most important recent actions included the MS4 General Permit. The pending actions...
“The current year has been the best on record for air quality. Nutrient loads from point sources have dropped dramatically.”

discussion focused on the groundwater withdrawal issues and included updates to the industrial storm water general permit. Upcoming issues included the triennial review of water quality standards and expansion of nutrient trading regulations. Other items discussed by Ms. Davenport included the implementation of the eDMR system, the James River Chlorophyll A study and the success of the Nutrient General Permit in lowering point source nutrient discharges.

Patty Buonviri is the Air Toxics Coordinator with DEQ. She provided detailed information on the new Sewage Sludge Incinerators Rules, regulations covering industrial, commercial and institutional boilers (area sources) and reciprocating internal combustion engines (RICE). Definitions and construction dates are keys to understanding the air regulations. With new regulations in place and tighter definitions regarding applicability, it is strongly recommended that anyone with a sludge incinerator, backup electric generator and/or boiler review the presentation.

Virginia S. Snead is the Manager, Office of Stormwater, Department of Environmental Quality and recently moved from DCR to DEQ, along with the bulk of the storm water permitting program. She covered the federal Clean Water Act industrial and construction storm water requirements and the Phase I MS4 individual permits and Phase II MS4 general permits. On the state side, she discussed statewide VA storm water management permits, erosion and sediment control regulations and requirements specific to the Chesapeake Bay Preservation area. The Arlington MS4 permit was finalized June 28, 2013. That permit will serve as a model for the other individual permits required. Ms. Snead also touched on the ongoing effort to develop new regulations for certification of nutrient credit banking programs.

DEQ Director David K. Paylor spoke on current priorities at DEQ. First, Mr. Paylor emphasized that real progress is being made. The current year has been the best on record for air quality. Nutrient loads from point sources have dropped dramatically. However, Mr. Paylor called storm water "the elephant in the room." In order to achieve the Chesapeake Bay TMDL goals, real progress must be made on non-point source pollution. He also emphasized the need to develop sustainable plans for groundwater withdrawal. Many of the state aquifers are being depleted at alarming rates. Finally Mr. Paylor addressed staff issues at DEQ. He stated that you never recover from budget cuts. While staffing may regain previous levels, the requirements laid on staff increase faster. The recent move of nonpoint programs from DCR to DEQ illustrated the point.

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A sanitary sewer system consists of both a public and private portion. The public portion includes sanitary sewer lines and manholes, located in the public right-of-way, which collect and transport wastewater to wastewater-treatment plants. The private portion consists of laterals from homes, businesses and industrial complexes which collect local wastewater and connect to the public sewer. Sanitary sewer systems are designed to collect and convey wastewater only, not storm water or ground water. However, many of the country’s aging sanitary sewer systems have been faced with excessive flows from the infiltration of ground water and inflow of stormwater. High levels of infiltration and inflow (I/I) can overload the sanitary sewer system in a significant way. These excess flows lead to sewer backups into homes and businesses, manhole overflows, and increased wastewater treatment and conveyance costs.

Many localities and municipalities have been addressing I/I in the public portion of the sewer system through various maintenance, rehabilitation and repair methods. Although the intention of rehabilitation is to make significant reductions in I/I, in most cases comprehensive I/I abatement cannot be completed without addressing the private portion as well. Often, rehabilitation of the public portion effectively raises the local ground water table and the I/I still flows, via the path of least resistance, to the private side and enters the sewer system.

The age-old questions remain:
• How do you cost-effectively address the problems?
• Do you simply rehabilitate 100% of the laterals in areas with significant I/I?
• Do you select laterals for rehabilitation based on mainline inspection observations?
• Do you conduct pre-rehab lateral inspections to identify the laterals with I/I or structural problems?

What does a comprehensive private property program look like? Throughout the United States, authorities estimate that up to 50%
of a sanitary sewer collection system’s footage is comprised of public-private laterals. Inflow and infiltration can originate from a variety of sources within a collection system; however, many of these sources are located on private property and/or not maintained by the local sewer authority. Based on surveys from many communities across the country, I/I derived from private sources ranges between 20-80% of the total system I/I. Though the percentage of I/I is highly dependent on factors such as the type of system, the existence of gutter and sump pump connections to the sanitary system, the system age, etc., the common conclusion throughout the industry is that private property I/I sources are significant.

Many utilities are now finding it cost-effective to address some of the private side I/I problems which can consequently reduce capital expenditures and operating costs. In many cases, municipalities and utilities look at the up-front cost and time to conduct lateral inspections as purely an added cost and an additional step in the maintenance process. Wholesale replacement of laterals in an area may seem like the responsible solution given system age alone. Another option is rehabilitating any lateral that “appears” to have infiltration during a conventional CCTV inspection. However, a risk-based replacement program founded on thorough inspections can pay for itself several times over.

Historically, laterals have been neglected and rarely inspected, largely due to often-complex public/private ownership issues, limited access, and unreliable inspection technologies. While quantitative assessment tools have largely been unavailable, several investigative techniques have been used over the years. Such methods include smoke, dye, and air testing to identify sources of infiltration. Hydrostatic testing can be used to identify exfiltration sources. However, the most common investigative method is a visual inspection using a closed-circuit television (CCTV) camera. Pushrod CCTV systems have been on the market for decades and while they are necessary tools, they...
require lateral cleanouts and/or right of entry to private property access points (e.g., downspouts, roof vents, toilets, etc.). The least invasive and most cost-effective investigative method is a CCTV inspection from the mainline sewer using a robotic crawler. Mainline lateral systems have been on the market for about a decade, but recent technological improvements make them the preferred method of inspection. Not only are more laterals accessible with improved technology, but laterals can be located with global positioning system (GPS) to update mapping and geographic information system (GIS) records.

To supplement the lateral CCTV inspection, utilities such as the Hampton Roads Sanitation District (HRSD) have been using wet weather simulation during the inspection to better identify I/I sources. This is conducted with a sprinkler/soaker system over the lateral to induce a 1.5-inch rainfall event that creates inflow sources and raises the groundwater to activate infiltration points. With the advent of the National Association of Sewer Service Companies (NASSCO’s) Lateral Assessment Certification Program (LACP), CCTV lateral inspections can be coded and are the only industry-wide quantitative assessment method. The LACP program is an evolution of the Pipeline Assessment and Certification Program (PACP) program, an industry standard that offers a more quantitative assessment of underground piping systems. Defect coding in PACP and LACP is similar, although LACP has an additional focus on fittings and access points that are unique to laterals.

Although still an evolving aspect of sewer system maintenance and peak flow reduction, the incorporation of a private property I/I abatement program just may be the missing piece necessary to solve many utilities wet weather peak flow issues. WEF has compiled a significant amount of information at http://www.wef.org/privateproperty/ which you may also find useful.

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VWEA Collection Systems Committee Chair
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The VWEA/VA AWWA Joint Laboratory Practices Committee (LPC) hosted its 19th Annual Good Laboratory Practices Conference at the Omni Hotel in Charlottesville, Virginia on July 29-30, 2013. The conference was a huge success with 200 registered attendees, exhibitors and guest speakers. The LPC would like to thank VWEA President Clarke Wallcraft for his inspiring introductory remarks, and VWEA Association Administrator Kathy Rabalais for her enthusiastic assistance.

After opening remarks from LPC Chair Greg Hudson, the recipient of the 2013 Lab Analyst Excellence Award winner, Lynn Lowder of Upper Occoquan Service Authority, was announced and recognized.

The event consisted of six workshops the first day and a fun-filled Mexican fiesta evening reception with vendor exhibit. The second day included a general morning session with the latest regulatory and certification updates and an afternoon technical program with three concurrent afternoon sessions focusing on management, drinking water and wastewater topics. There were approximately 30 exhibit booths displaying the latest in water and wastewater equipment, technology and software on site for attendees to visit.

The morning workshops on Monday consisted of the following topics:

• **Using Internal Audits, Corrective Action, and SOPs for Continuous Improvements**
  by Stacie Metzler, HRSD
  This workshop included examples of effective SOP writing and internal audit techniques, as well as tools for ensuring corrective actions are implemented.

• **The ABC’s and 123’s of Laboratory Calculations**
  by Erik Rosenfeldt, Ph.D., PE, Hazen and Sawyer
  The workshop provided an introduction (and review) of chemical concepts and calculations required for ensuring adequate laboratory practices.

• **Back to Basics: pH, ISE, Conductivity, Turbidity, and Spectrophotometer**
  by Kelly Sweazea, Thermo Scientific
  This workshop demonstrated the basics of using Ion Specific Electrodes (pH, Conductivity) and the Spectrophotometer. Discussion included methodology and troubleshooting.

The afternoon workshops on Monday consisted of the following topics:

• **Microbiology Methods for Wastewater Laboratories**
  by Tiffany Elston and Jonathan Ricks, HRSD
  This workshop introduced wastewater microbiology and various certified methods for bacterial testing of wastewater, including quality control procedures and compliance requirements.

• **Sensory Techniques for Evaluation and Improving Water Quality**
  by Andrea M. Dietrich, Ph.D., Amanda Sain, and Katherine Phetxumphou, Virginia Tech
  Taste, odor and visual issues were discussed in the workshop. The workshop included a review of the taste and odor wheel with applications toward identifying and describing odors and tastes.

• **Basic Laboratory Skills**
  by Wayne Staples, DEQ
  This workshop provided back to basics lab skills. Topics that were covered included general good laboratory practices and using pipets, glassware, burets and thermometers correctly.

The second day was even more exciting, with morning keynote presentations from well-known and respected professionals as well as informational and educational afternoon sessions:
Cathy Westerman from DCLS provided the first morning presentation on Laboratory Certification and Continuous Quality Improvement. Ms. Westerman has a BS in medical technology and has bench experience in clinical, forensic, and environmental laboratory analyses, as well as laboratory quality assurance. Ms. Westerman manages the Laboratory Certification Group within Virginia’s Division of Consolidated Laboratory Services. The Laboratory Certification Group is responsible for Virginia’s Safe Drinking Water Act and tuning fork certification programs as well as the administration of the environmental laboratory certification programs for noncommercial and commercial laboratories.

The second morning presentation was given by Shawn Kassner with Phenova on TNI Proficiency Testing Changes – Working Draft Standards. Mr. Kassner has a bachelor of science degree in biology from Metropolitan State College. He worked for eight years in environment laboratories performing GC/MS sample preparation and analysis, 17 years developing and managing proficiency testing programs, and is now a senior product manager with Phenova. Mr. Kassner has been a member of TNI since 2008 and is the current vice-chair of the Laboratory Proficiency Testing Committee (LPTC). The LPTC is the committee within TNI that creates and maintains the portion of the TNI standards that involve proficiency testing requirements that laboratories, proficiency testing providers, proficiency testing provider accreditors and accrediting bodies must follow for TNI accreditation.

The third morning presentation, entitled, Forward Through The Ages, In Unbroken Line: Going Above And Beyond Regulatory was presented by Dr. Andrew Eaton with Eurofins Eaton Analytical. Dr. Eaton has a PhD from Harvard University in geochemistry and did post-doctoral work at CalTech. He has been in the drinking water industry for more than 30 years and was involved in specialized drinking water monitoring programs such as the Information Collection Rule and each of the Unregulated Contaminant Monitoring Rules. His laboratory was the first commercial lab to pass all of the UCMR3 proficiency tests and supports several hundred utilities across the country with their UCMR3 monitoring.

The final keynote presentation was given by Walter Higgins of EPA on Green/Sustainable Investment for Water Utilities. Mr. Higgins is an environmental scientist with EPA Region 3 and the lead of the EPA Region 3 Energy Team (focusing on energy efficiency outreach to WWTP staff and management). Prior to EPA, Mr. Higgins has 10 years’ experience as a soil scientist for a PA County health department, environmental engineering firm, and an excavating company.

The Tuesday afternoon technical programs were held concurrently and covered the following topics:

**MANAGEMENT TOPICS**
- 40 CFR Part 136 Method Update Rule QA/QC Additions Stacie Metzler, HRSD
- Five Key Considerations in Selecting a LIMS Christine Pasko, ATL
- A Systematic Approach to Methods Development and Validation William Telliard, retired US EPA
- Using an ELN for Corrective Action, Preventive Maintenance, and Troubleshooting Cecilia Vernaci, UOSA

**DRINKING WATER TOPICS**
- Managing Taste and Odor Events From Algae Blooms Chris Volk, VAWCO
- Implications of Measuring at the Ultra-Trace Level in UCMR3 Dr. Andrew Eaton, Eurofins Eaton Analytical
- LIMS Without Limits: Field Electronic Data Collection Joe Yorke, Fairfax Water
- The Revised TCR from a Microbiological Perspective Gil Dichter, IDEXX Labs

**WASTEWATER TOPICS**
- Ammonia Nitrogen Analysis at a Wastewater Treatment Facility Miles Mangnum, City of Richmond DPU
- Trace Organic Compounds at a Wastewater Treatment Facility: A First Assessment of Spatial and Innovative Design Solutions

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The Water Reach Committee (WRC) would like to thank all the WaterJAM attendees who stopped by our booth and participated in our silent auction. Every dollar raised makes a difference in the Virginia communities that we assist!

**Interested in learning more about what we do?**

The Water Reach Committee’s mission is to ensure safe drinking water and proper sanitation to communities throughout Virginia. We do not provide design services but we do:

- Search for funding to support construction/inspection efforts
- Fundraise for smaller efforts
- Act as owner agent for communities
- Provide technical guidance
- Provide hands-on assistance

We recently developed focus groups so that our committee members can contribute in different ways. There are many opportunities to lead efforts or to contribute in a smaller capacity.

Focus Groups: Awareness, Activities, Fundraising, Funding/Agency Relations, Project Development, Tangier Island Assistance, and Town of Mineral Assistance.

Contact Jeff Kapinos (jkapinos7@gmail.com) if you are interested in joining or know of any Virginia communities in need. Also, check out our VWEA committee website (http://www.vwea.org/committees/water-reach) to learn about project specifics.

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Ask about our ChemScan® mini QP for sequesterant dosing and distribution system monitoring.
The Central Virginia Regional Activities Committee (CVRAC) has had a busy summer hosting two very successful events in the Richmond area. These included the annual CVRAC Golf Tournament and a tour of Chesterfield County’s Proctors Creek Wastewater Treatment Plant.

**CVRAC Golf Tournament**

On July 18, 38 golfers braved one of the hottest days of the year to attend the CVRAC Annual Golf Tournament at Hunting Hawk Golf Club in Glen Allen. Although the golfers enjoyed their time on the links, there’s no mistaking that the competition was fierce. Even though the captain’s choice format helped move the play along swiftly, landing shots in the flock of geese at the second hole didn’t help anyone! After wrapping up 18 holes, everyone enjoyed a great lunch and brief awards ceremony. Congratulations to our winning foursome: Jim Chastain, Mike Frazier, Clair Watson, and Mark Prentice. CVRAC would like to thank all our event sponsors and attendees, and look forward to next year’s event.

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**Chesterfield County’s Proctors Creek Wastewater Treatment Plant**

CVRAC hosted a tour of Chesterfield County’s Proctors Creek Wastewater Treatment Plant on August 29. The event began with an informative presentation on the organization of Chesterfield County Utilities Department, as discussed by George Hayes, the department’s Assistant Director. Scott Morris, the Plant Manager, followed with a presentation on the operation of the Proctors Creek facility. Afterwards, nearly 30 attendees were taken on a walking tour of the facility’s treatment processes. The highlight of the tour was seeing the recently completed Integrated Fixed Film Activated Sludge (IFAS) treatment process, one of the few such installations currently in operation in Virginia! After the conclusion of the tour, attendees reconvened at the Steel Horse Grille for a great after-hours event on their outdoor deck! We appreciate Chesterfield County Utilities Department hosting CVRAC for this event, and would also like to thank Combs & Associates for sponsoring the after-hours event.

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To reach wastewater professionals through *The Conduit* magazine and its targeted readership, contact Dave at your earliest convenience to discuss your company’s promotional plans for 2014.  

Dave Gill, Marketing Manager  
Toll Free: 866-985-9791  
E-mail: david@kelman.ca
The Sustainable Utilities Committee was well represented at WaterJAM 2013. Several committee members participated as speakers and moderators during the Sustainability Session. During the session, participants learned more about energy management strategies, sustainable construction practices, and comparing the sustainable rating systems LEED and Envision. On Thursday, the committee hosted a tour of the 48-acre engineered wetland treatment system in use at Philip Morris USA’s Park 500 facility in Chesterfield County. The natural treatment system, designed by CH2M-Hill, was put in service in 2008 to polish up to 2MGD of treated wastewater with over 150,000 native plants. To date, the wetlands have been visited by more than 100 species of wildlife and have served as a “living laboratory” for VCU research students. The committee congratulates Philip Morris on investing in and maintaining the natural treatment system and thanks Blase Keegel and Tony Nobinger for giving the tour.

The committee held a meeting at the conclusion of the Sustainability Session and picked up a few new members. The committee announced their appreciation to Will Schafer for his dedication as chair of the committee this past year. It was announced that Will would be stepping down, but would continue to be an active committee member. Denise Nelson, current vice chair, will assume the role of committee chair. Blase Keegel was nominated to vice chair.

The committee discussed a very active schedule of events for this coming year, including the continuation of our successful webinar series with future topics to include funding strategies for sustainable projects, bioenergy options, climate change issues including sea level rise, and construction waste management. We also discussed plans for newsletter articles and potential activities for WaterJAM 2014.

The committee is always recruiting new members and is currently looking for ideas on how to reach out to more utilities for participation. For more information, contact Denise Nelson, 804-204-2407 (dnelson@greeley-hansen.com).
Up to 8 CPEs and CECs for operators and engineers
1. Do you remember the basics of developing local limits?
2. How can local limits data be used to streamline your pretreatment program?
3. What can you expect from DEQ audits and inspections?
4. What do YOU put in the annual report?
5. How can you conduct an efficient industrial survey without missing the boat?
6. What are you looking for when reviewing sampling protocols and QA/QC?

Workshop Theme (4 hours Monday)
Industrial Wastewater College: Fundamentals of Building and Maintaining a Pretreatment Program
Especially useful for new pretreatment coordinators!
Orientation and training on the specific responsibilities, procedures, and processes involved in running a pretreatment program
Data recordkeeping, reporting, and monitoring
Options for dealing with significant non-compliance
How to perform headworks analysis
Development of local limits

Annual IW & P Seminar and Exhibition (8 hours Tuesday)
Regulatory and Technical Developments in Industrial Waste Management
A range of topics of interest to regulators, operators, owners, engineers, consultants, and suppliers.
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The Collection Systems Committee has been busy in 2013 with a number of different activities. Past events and activities include:

- Hosting a NASSCO PACP Re-certification course in the spring and a full certification course in October.
- Soliciting nominations for the 2013 VWEA Golden Manhole Award and selecting Pete Kurz of Pipeline Renewal Technologies as the recipient. (The award was presented at the WaterJAM Awards Luncheon in Richmond).

Upcoming events and activities include:

- A fall seminar on Private Property I/I Abatement to be held in Glen Allen.
- Development and inclusion of a Collection Systems Track at the Operations Conference to be held in Wintergreen in 2014.

If you are interested in helping out with any of these events, please feel free to join us at one of our monthly meetings by contacting the Committee Chair, Chris Wilson, at cwilson@brwnald.com.
Eastern Virginia Young Professionals Committee

SERVICE EVENT – Oyster Roundup with the Chesapeake Bay Foundation

The Eastern Region Young Professionals (YPs) teamed up with the Chesapeake Bay Foundation (CBF), to participate in the annual oyster roundup event. On September 21, volunteers assisted CBF in the oyster roundup at the Norfolk Yacht and Country Club located in Norfolk, VA. The volunteers learned about the numerous oyster restoration projects, all while collecting mature oysters from local oyster gardeners. Oyster gardeners are local residents who have access to waterfront property capable of supporting oyster growth. The gardeners purchase baby oysters, called oyster spat, and grow the oysters in secured floats. The baby oysters will grow from less than half an inch in size to over two inches in one year. The mature oysters are then dropped off at one of the CBF roundup events to be transplanted to local sanctuary reefs, where they will continue to clean water and reproduce.

The volunteers also had the chance to speak with local Congressman Scott Rigell, who was out to support the oyster restoration efforts. To conclude the event, the YPs participated in the transplant of the collected oysters to one of the newest sanctuary reefs. For more information on the Chesapeake Bay Foundation’s oyster restoration efforts, visit CBF Oyster Restoration.

Northern Virginia Young Professionals Committee

ACTIVITIES

The Northern Virginia section of the joint VA AWWA/VWEA Young Professionals Committee hosted A Night Out at the Park to watch the Washington Nationals take on the Los Angeles Dodgers on Friday, July 19. There were a total of 24 attendees made up of association members, family, and friends!

The event provided an opportunity for local VWEA and VA AWWA members to network while also having a good time with family and friends. A special thanks to all the members who attended.

Stay tuned for the remaining events for this year!
• NVRAC Joint Afterhours Event – October or November

We highly encourage involvement and participation! If you have any questions or would like to get involved, please contact Phill Yi (pyi@hazenandsawyer.com).
is searching for additional members to assist with planning the 2014 WaterJAM Conference in Hampton, Virginia, September 8-11

So, if you would like to be part of the planning effort responsible for the continued success of our WaterJAM conferences, the WaterJAM Planning Committee is for you.

It is easy to sign-up. Just contact Shawn Heselton (VWEA Co-Chair) at SHeselton@hrsd.com
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