



Established 1928

# Newsletter

## Federal Water Quality Association

An Affiliate of the Water Environment Federation; [www.fwqa-dc.org](http://www.fwqa-dc.org)

*2014-15 Theme: Charting the Course for Water Innovation and Sustainability*

### Lape Navigates the Future of Water Resource Careers for Awardees

by K. Jack Kooyoomjian, Ph.D.

Jeff Lape, speaker (on left) inspires scholars, parents, sponsors, FWQA members, and guests (on right) at the 23rd annual FWQA Awards Lunch at the Elephant and Castle on May 28. More pictures and articles on Page 4



On May 28, 2015 the Elephant & Castle Restaurant, Washington, DC was the place to be at the Federal Water Quality Association’s (FWQA ) 23rd Annual Scholarships and Awards Luncheon. FWQA members and their guests, including science fair winners, scholarship winners, their parents and advisors were given a brief presentation by Jeff Lape, Deputy Director of the U.S. Environmental Protection Agency’s Office of Science and Technology. Jeff brings over 40 years of water program experience, including federal, state and local government, as well as nearly a decade in the private sector. Jeff’s mission was to inspire the students to follow environmental careers.

In keeping with the current generation’s propensity to the modern medium, he chose a brief You-Tube video to convey his message. Some of the brief snippets that flashed by the audience included such

information as the Earth contains 366 quintillion gallons of water, and only 0.007% is potable, the ice on Mount Killimanjaro has shrunk 80% in the past 75 years, and it is only 1/10 of the size of 10 years ago! In a world population, 1.2 billion people on the earth have access to clean water, but 2.5 billion people lack access to adequate sanitation (approx. 1 in 3 of the world’s population). Achieving universal access to safe water and sanitation would save 2.5 million lives each year. About 500,000 children die each year from diarrhea caused by unsafe water and poor (continued on Page 3)

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## Newsletter Editor

Mary B. Klein  
([MaryL2002@earthlink.net](mailto:MaryL2002@earthlink.net))

## President's Corner

As I write this message we have just held our annual scholarship luncheon. It was another successful event and it is truly energizing to see the recipients and the passion they have for protecting the environment. I want to especially thank all the sponsors and members of FWQA who work very hard to make the annual event such as success.

As we enter the summer we are concluding our annual luncheon series which has featured a number of interesting topics and speakers on a wide range of water quality challenges. It would be nice to see more of our members participate in these events and take advantage of the networking opportunities they present. To that end I would challenge each of you to attend at least one FWQA event in the next year. I would also challenge you to invite at least one colleague who is not a member of FWQA to attend an event and encourage them to join the association. It is especially important for FWQA to find opportunities for young professionals to become active members of the association so it can continue to remain viable into the future. If you have any ideas for ways in which we can develop events and programs to increase their participation we would welcome your input.

I wish each of you a safe and happy summer and look forward to seeing you at a future FWQA event.

Greg Mallon

### Save the Dates! Future DC Water for People Committee Events

August 22 -- Annual Friends and Family Canoe and Kayak event tentatively scheduled. It will once again be at the Washington Canoe Club in Georgetown.

October 31 -- Fall hike-a-thon tentatively scheduled. Yes, Halloween...maybe there will be a costume contest or other Halloween themed fun. This year's event will be at Rocky Gorge Reservoir outside Laurel, MD.

## Awards Luncheon (contd. from page 1)

sanitation. That's over 1,400 children a day! In sub-Saharan Africa, diarrhea is the 2nd biggest killer of children under 5 years old.

To make a burger, it takes 2,200 to 3,700 gallons of water. This involves growing the wheat, lettuce, tomatoes, raising the cow, delivering the product to market, and water was involved in the process in some fashion. In the U.S., the average daily consumption of water is 151 gallons per person per day. In Europe it is 66, while in Sudan, it is 5 gallons per person per day. Mr. Lape concluded that, while much progress has been made, with so many problems still existing worldwide, that his generation appears to have failed to deliver, but we have to look toward the generations ahead as there are plenty of opportunities and challenges for our youth to solve the world's environmental and public health problems.

He remarked that in practically any city in the Southwestern United States, the challenge is sustainability. He cited several cities in Texas, for instance, where communities are building pipelines for miles to reprocess wastewater effluent to yield other re-use opportunities, including agriculture, cooling water, and drinking water. He cited many instances of water re-use, locally on the Potomac River. He cited the use of Lake Erie for drinking water in Toledo, Ohio and the subsequent challenges of algal blooms producing toxins, requiring the water supply to be shut down for two days.

Jeff also commented on excessive nutrients into the Chesapeake Bay degrading the amazingly productive fishery, along with the problems of over fishing. If awardees are going to spend the best part of 40 hours per week working after they obtain their education, Mr. Lape suggested and encouraged the students to seriously think about a career that is "fun," a 3-letter word. He concluded with "We hope that the (challenges and opportunities on the) Chesapeake Bay (as well as the many other environmental and public health challenges) runs through your veins as you consider a career in the environment."



2015 FWQA Scholarship Winners (left to right):

Cassandre Arkema - Barber Scholarship  
 Devin Comba - President's Scholarship  
 Kara Ritterpusch - McCallum Scholarship  
 Samantha Iliff - Olem Scholarship

## 23rd Annual Scholarship Award Winners Honored *By Sharon Nye*

Congratulations to the FWQA 23rd Annual Capital Environmental Scholarship Program Winners. This year four outstanding students were honored along with local science fair winners at FWQA's yearly awards luncheon held at the Elephant & Castle in May (see related article). These talented young women were awarded \$2,000 each and will go on to pursue their environmental studies at various universities in the U.S. Applicants from D.C. and surrounding Maryland and Virginia counties were rated on academic achievement, environment-related essays, references, extra-curricular activities related to the environment, and overall presentation. A fourth scholarship was awarded this year due to the high caliber of applicants and their environmental awareness relating to water quality.

Thank you to our committee of judges – Marisa Tricas (WEF), Christian Davies-Venn (PEER Consultants), Sheila Olem (Herndon Town Council), Mary B. Klein (EPA retired), and Sharon Nye (FWQA), for their hard work and dedication to this program and especially to our sponsors – we couldn't continue this program without you!

Happy Summertime from the FWQA Board!!  
 Remember to VOTE! Check Your Email or see Page 9 for Ballot

## Navigating the New 114th Congress on Water Resource Policy

By K. Jack Kooyoomjian, Ph.D

On March 5, 2015 at the Elephant & Castle Restaurant, Washington, DC the Federal Water Quality Association (FWQA ) hosted Claudia Copeland (picture below), a specialist in environmental policy with the Resources, Science and Industry Division of the Congressional Research Service of the U.S. Library of Congress. She has spoken to the FWQA in the past when there has been a shift in the membership and committee assignments in the U.S. Congress following the Congressional elections. As expected, FWQA members and their guests were treated to very perceptive insights by someone “in the know” about the Congressional and Senate Committee and Subcommittees leadership in the new 114th Congress.

Ms. Copeland started off by acknowledging that the Senate and House are considerably different, with both the House and the Senate having Republican majorities and leadership. In the Senate, there are 12 new Republicans and 1 new Democratic Senator. (Continued on Page 5)



### FWQA 2015 High School Science Fair Winners:



Janet Goodwin, Science Fair Coordinator Chair, and Jim Wheeler, Treasurer, happily congratulate the high school science fair winners for 2015 who attended the 23rd FWQA Annual Awards luncheon on May 28th at the Elephant and Castle in Washington, DC.

### Thank You Judges!

by Janet Goodwin

FWQA once again judged at a number of area Science Fairs this year. I am pleased to report that we had some new volunteers to judge at a couple of science fairs. Our judges this year included:

*Maribeth Gravunder*, with Stantec, who judged at the Montgomery County Science Fair on March 14th; *Jack Kooyoomjian*, retired EPA, who judged at the Prince William County Science Fair on March 14th; *Sharon Nye*, retired WWEMA, who judged at the Loudoun County Science Fair on March 19th; *Christine and Paul Mayeur*, Christine is with InspireGreen and Paul with Appian Corp., who judged at the DC STEM Fair on March 28th; and *Janet Goodwin*, with EPA, who judged at the Northern Virginia Science Fair on March 7th. Thanks to all of our judges and congratulations to all of our winners!

Navigating the New 114th Congress on Water Resource Policy (contd. from page 4)

In the House, the Republicans are still in charge, moving from 234 to 246 Republicans. The Democrats in the House have moved from 201 to 188 Democrats. A lot of members are former mayors or state representatives. [See the two tables and explanation box below.] (continued on page 6)

**Table 1. Select Senate Committees and Subcommittees – 114<sup>th</sup> Congress**

Committee/Subcommittee	Chairman	Ranking Member
Appropriations Committee	Cochran (MS)	Mikulski (MD)
Interior and Environment Subcommittee	Murkowski (AK)	Udall (NM) *
Energy and Water Subcommittee	Alexander (TN)	Feinstein (CA)
Agriculture Subcommittee	Moran (KS) *	Merkley (OR) *
Environment and Public Works Committee	Inhofe (OK) *	Boxer (CA)
Fisheries, Wildlife & Water Subc.	Sullivan (AK) *	Whitehouse (RI)
Agriculture, Nutrition and Forestry Cmte.	Roberts (KS) *	Stabenow (MI)
Commerce, Science, Transportation Cmte.	Thune (SD)	Nelson (FL) *
Oceans, Atmosphere, Fisheries Subc.	Rubio (FL)	Booker (NJ) *
Energy and Natural Resources Committee	Murkowski (AK)	Cantwell (WA) *

**Notes:** New Committee or Subcommittee Chairman; New Committee or Subcommittee Ranking Member; Freshman Senator  
 \* = New leadership position for Member (i.e., was not chairman or ranking member in the 113<sup>th</sup> Congress)

Table 1 (top) shows the new Senate Committee or Subcommittee Chairman in red and the new Committee of Subcommittee ranking member as freshman senators in blue.

Table 2 (bottom) shows the differences in chairmen and ranking members in the House. Ms. Copeland noted that while there are a number of changes in in the Senate, not as many changes have occurred in the House, since the Republicans were already in charge of the House of Representatives. She also observed that some former Chairs have cycled out because of term limits.

**Table 2. Select House Committees and Subcommittees – 114<sup>th</sup> Congress**

Committees/Subcommittee	Chairman	Ranking Member
Appropriations Committee	Rogers (KY)	Lowey (NY)
Interior and Environment Subcommittee	Calvert (CA) *	McCollum (MN) *
Energy and Water Subcommittee	Simpson (ID) *	Kaptur (OH)
Agriculture Subcommittee	Aderholt (AL)	Farr (CA)
Transportation and Infrastructure Cmte.	Shuster (PA)	DeFazio (OR) *
Water Resources & Envir. Subc.	Gibbs (OH)	Napolitano (CA) *
Agriculture Committee	Conaway (TX) *	Peterson (MN)
Energy and Commerce Committee	Upton (MI)	Pallone (NJ) *
Environment and Economy Subc.	Shimkus (IL)	Tonko (NY)
Energy and Power Subcommittee	Whitfield (KY)	Rush (IL)
Natural Resources Committee	Bishop (UT) *	Grijalva (AZ) *
Oversight and Government Reform Cmte.	Chaffetz (UT) *	Cummings (MD)
Interior Subcommittee	Lummis (WY) *	Lawrence (MI) *

**Notes:** New Committee or Subcommittee Chairman; New Ranking Member; Freshman Representative  
 \* = New leadership position for Member (i.e., was not chairman or ranking member in the 113<sup>th</sup> Congress)

## Navigating the New 114th Congress on Water Resource Policy (contd. from page 5)

Ms. Copeland observed that the Interior and Environment Subcommittee, looking at the US EPA could be an interesting place examining oversight on the US EPA and holding the Administration's feet "to the fire." She believes that there will be a focus on reviewing what the agencies are doing, rather than focusing on broad legislation that needs to be in place. For instance, she opined that the Toxic Substances Control Act (TSCA) needs refinement. She was surprised to see amendments to the Clean Water Act (CWA). She predicted that it is not very likely to see other CWA amendments, such as addressing non-point source pollution. She believes that the main area of activity in the CWA will be rules focused on defining "waters of the US." Bills have been introduced to block the US EPA and the US Army Corps of Engineers from formalizing the rules on defining "waters of the US." The potential is greater that the House and the Senate will pass rules defining "waters of the US," but there is the Presidential veto possibility. Until the rule is finalized, it is likely to stay where it is for now.

One interesting category of legislation that will be active is the Regulatory Reform Bills. Proposals to reform the regulatory process have been a part of the legislative agenda to streamline the permitting process for energy and environmental items. The widely held view is that the regulatory process has broken down, is done "in secret," and harms the public. The response is to change the way the process is done. For instance, the US House of Representatives have already passed 5 of these regulatory reform bills. Bills have been introduced in the House and the Senate to review old bills and rules that need to be re-done and reformed, such as the Outdated Rules - - the Scrub Act. Also the Responsibility and Professional Integrity Development (RAPID) Act, as well as the Regulatory Accountability Act, to expand the accountability analysis. A number of bills have been introduced to support and reduce burdens on small business, and also include the Unfunded Mandates Act to reduce additional burdens on businesses. There is also the EPA Science Advisory Reform Act and it legislatively prescribes and addresses the topic of who should be included or represented on SAB Panels and what the SAB does in the process. In addition there is the SAB Science Advisory Disclosure Act and all the data that it uses. These bills would have a serious impact on the way the EPA conducts business of science reviews.

Claudia observed that we need to pay attention to the thinking of Congress and its skepticism toward the EPA and particularly the perceived "overreach" of the EPA and its management of the process of how the EPA conducts its business.

Ms. Copeland also touched on the appropriations process. Congress promised that the "trains will run on time." The reality is that it is going to be a very tough year with regard to appropriations and funding of environmental programs. She observed that they are not being well received, except for environmental infrastructure. The EPA, USDA and Department of the Interior budgets have very difficult choices. In 2011 there was agreement in the Budget Control Act to set spending limits over the next ten years. The funding caps come down automatically each year. The U.S. Congress has set a requirement to set these spending cuts and automatic sequestration caps - - - each cap needs to be re-set in Congress. The budget repositioning will provide the framework for the Committees and Subcommittees and the Appropriations Committee. You can expect that these will be tied into the Appropriations Bill in the September/October time frame in an Omnibus Bill.

Ms. Copeland concluded that if the President opposes the actions, he can veto some of these. The partnership and ideological struggles appear to be on track to present issues and struggles on philosophical and policy differences.

A question and answer session followed. It was observed that the House Oversight and Reform Committee has a very broad portfolio, and that it may be difficult for the House to override a Presidential veto. It was asked if the Tea Party activists will have a separate agenda. The answer was "Yes," and that there is a broad outline and vision for reducing spending over the next decade, but even within the Republicans as the majority party on the Hill, there is disagreement on the process.

# Utility Regulatory Compliance and Continuous On-Line Monitoring

By K. Jack Kooyoomjian, Ph.D

The Elephant & Castle Restaurant, Washington, DC was the venue on April 23 when the FWQA hosted two speakers to address the topics of regulatory compliance and continuous on-line monitoring in the utilities area. Ms. Christine Owen, Senior Manager of Regulatory Compliance with Tampa Bay Water in Clearwater, Florida provided a view on these topics from the perspective of a utility. Mr. Jeffery Rosen, President and Managing Partner of Corona Environmental Consulting provided the perspective of a support contractor addressing regulatory compliance, implementation and support to the utility industry.

**Ms. Owen** opened with the statement that utilities collect a lot of data, and that utilization of on-line instruments is increasing. She posed the question, "What do we do with all that data?" In the process of delivering quality water, we conduct routine sampling and collect data to conduct operations, inform customers, provide regulatory compliance information, provide for security and a variety of other activities which are unique to location, source and season. Typically in a larger utility this involves more than 200 instruments collecting thousands of data points daily, providing calibration cycles for such things as for monitoring dissolved oxygen, alkalinity, turbidity, chlorine, total organic carbon, pH, monochloramine levels, fluoride, etc. Effective quality control requires thoughtful expert decisions throughout the entire process to provide value to the data being collected. This involves expert human judgement and understanding human behavior, training, understanding the compliance issues, as well as the operating issues in the system, establishing and automating quality control checks, establishing control limits for each parameter, and continuously updating control limits, as well as flagging questionable data points. It is necessary to have tools to evaluate the data, along with expertise of the operators and managers, along with customizing control limits by specific locations within the system. Such a system requires much "care and feeding" by qualified individuals who are trained and certified to operate such a system effectively.

*Bottom right, Ms. Christine Owen speaking about Tampa Bay FL's monitoring systems.*

Water and wastewater systems usually have supervisory control and data acquisition (SCADA) systems to help the operators have timely intelligence about the system operations. When things go wrong, the SCADA system and other monitoring instrumentation help the operator minimize operating failures and to correct them quickly so as to be in regulatory compliance with the operating parameters of the operating permit, such as an NPDES (National Pollutant Discharge Elimination System) Permit. A variety of things come into play and include understanding human behavior, understanding the physical system that the utility has invested into, including the SCADA system, the features of operational control that allows the operators to maintain regulatory compliance, the needs for data storage and data retention, what to do when there are instrument failures, and planning ahead for the capital and operations & maintenance (O&M) costs to calibrate the instruments and to run such a system effectively.

**Mr. Jeffery Rosen** addressed issues involved with on-line monitoring for compliance reporting, and particularly embracing the implementation of on-line sensors system-wide, and fine-tuning of on-line data with the specific objective for event detection, including terrorist events and emergency response. He stated that to implement such as system, there must be a clear set of objectives, and the use of on-line sensors requires a significant investment in instruments, information systems, communications, data review and response. He brought up the need to consider how the data are aggregated, what and where errors may appear that might cloud or confound the decisions to be made. He acknowledged (contd. on page 8)



## Utility Regulatory Compliance and Continuous On-Line Monitoring (contd. from Page 7)

that there are also routine issues to be dealt with such as maintenance problems, pipe breaks, monitoring of temperature, pH, chlorine residuals, and a host of other items. In a utility system such as is found in Philadelphia, PA, which monitors 5,000 miles of pipe for 5.2 million customers, he indicated that a monitoring system referred to as “Canary,” has been installed and calibrated as an event detection system. There are significant issues with tracking on-line sensors, data management and data analysis. Sometimes in the same trough, there are multiple instruments. Such a system may employ over 200 instruments. He asked, “Where are all the technicians (over 160,000) going to come from in the United States to run utility systems such as these in the future? For instance, there is a pressing need within the Community College systems to provide education for technicians at the Associate Degree level. The compensation levels range currently around \$50,000 per year.

Mr. Rosen touched on expectations versus realities. On-line data and grab samples sometimes do not match. This poses challenges and can require changes in dosage, requires valves to open or close, etc. While there are expectations for sensors, there are also challenges with sensors as they degrade or change sensitivity over time. Most importantly, to effectively engage all, a change of culture is needed within the organization, and both management and staff need to embrace the systems. The technique of taking grab samples need to be understood with respect to the

instruments. Action teams developed operating strategies in the Philadelphia, PA system. There are significant challenges in data management, quality assurance, analysis and interpretation of results, calibration of instruments, and liabilities. There are complications such as down times for electricity failures, electrical spikes, etc. The challenges of adequately staffing monitoring stations, the proximity to action levels, and the ability to stay below the maximum contaminant level of a pollutant gets more complicated the closer we get to the higher (more stringent) compliance levels. The result is that utilities will build in a larger safety factor to stay within regulatory compliance.

A lively question and answer session followed. Topics covered included issues dealing with log-normal distributions of data, the need to set Data Quality Objectives (DQO’s), accuracy and precision issues, operating issues dealing with the use of more sensitive instrumentation, the use of moving averages over time to get the best (most reliable) reading, magnetic issues with pumps kicking on and off over time, calibration of instruments, once every 4 operating days or so, and the need for field verification of instruments every so often. Some instruments need to be calibrated once/week while other instruments can be calibrated once per month. It was asked whether robotics could be used in such an application. The response was that enough people are needed to man the monitors, and this is a place that we still need human intervention. However, there is a role for robotics with repetitive data. West Virginia utilities are now facing over \$1 Billion in liabilities after the recent West Virginia storm that released nearly 7 to 10 thousand gallons of MCHM for a few days before American Water detected this leak. We need to ask, “How much are we willing to pay for these things?”



*Above, captivated audience at April 23 luncheon. Bottom right, Mr. Jefferey Rosen, speaking about monitoring expectations.*



## FWQA Election of Officers Official 2015 Ballot

Ballots must be received by the FWQA  
P.O. Box 14303, Washington, DC, 20044  
by June 30, 2015.

### Ballot Instructions:

Fill out –scan –email to [FWQAevents@gmail.com](mailto:FWQAevents@gmail.com)

Fill out and mail to FWQA-P.O. Box 14303, Washington, DC, 20044

### President

- Greg Mallon
- Write in \_\_\_\_\_

### President Elect

- Tim Connor
- Write in \_\_\_\_\_

### Vice President

- Joe Ford
- Write in \_\_\_\_\_

### Treasurer

- James Wheeler
- Write in \_\_\_\_\_

### Federation Delegate

- Tim Schmitt
- Write in \_\_\_\_\_

fold

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### Biographical Information

**Greg Mallon** is currently Vice President with Tetra-Tech, an environmental consulting firm in Fairfax, VA. Tetra-Tech provides engineering services to government and private clients around the world. Greg has over 25 years of experience in environmental engineering and program management. Before joining Tetra-Tech, Greg worked as a Project Manager for Weston Solutions and as a Senior Program Manager for SAIC. Greg has an engineering degree from New York State University. Greg is currently serving as FWQA President and is an active WEF and FWQA member.

**Tim Connor** has been with the US Environmental Protection Agency for 18 years, working primarily in the Office of Water. He currently works in the Office of Wastewater Management on new requirements of State Revolving Funds along with municipal technology research. In prior positions within EPA, Tim managed engineering and economic support for the water quality standards program and helped develop multiple industrial effluent guidelines. Prior to EPA, he worked as a research chemist and an oil drilling engineer. Tim holds a MS degree in Environmental Engineering from Clemson University and a BS in Chemical Engineering from the University of New Mexico. The past year he has served as Vice President of FWQA.

**Joe Ford** is currently an Environmental Engineer in EPA's Office of Chemical Safety and Pollution Prevention since 1997. He has reviewed the environmental fate for over 1,000 chemicals for the High Production Volume Chemicals Challenge Program. Before EPA, he served as a water sanitation volunteer for the United States Peace Corps, in Zambia, Africa (1995-1996). Joe holds a Master's of Science in Environmental Engineering from Johns Hopkins University and a BS in Geology from Western Michigan University.

**Jim Wheeler** recently retired from the US Environmental Protection Agency, Office of Wastewater Management in Washington, DC. Jim has over 40 years of experience in environmental engineering, environmental regulations, and municipal technology. Before joining the EPA, Jim worked as an environmental engineer and project manager for several international consulting firms. Jim has a degree in Environmental Engineering from Virginia Tech and a Masters of Public Administration from the University of Southern California. Jim served as the FWQA President from 1994 to 1996, was Federation Delegate for eleven years, and has served as Treasurer since 2007. Jim is an active life member of WEF and FWQA.

**Tim Schmitt** is currently Senior Environmental Scientist with Limno-Tech, an environmental consulting firm in Washington, DC. Limno-Tech provides engineering services to government and private clients around the world. Tim has over 20 years of experience in environmental science and program management. Before joining Limno-Tech, Tim worked as an environmental scientist and program manager for Parsons Engineering Science. Tim has a degree in Biology from Colgate University and a Masters in Marine Science for the University of North Carolina. Tim served as the FWQA President in 2008 and as Federation Delegate from 2009 to 2012 and is currently an active WEF and FWQA member.