

Established 1928

Newsletter

Federal Water Quality Association

An Affiliate of the Water Environment Federation; www.fwqa-dc.org

2017-18 Theme - Water Resources & Climate Change: Back to Basics?



Climate Change is Water Change ---

Remarks of Mr. Ben Grumbles, Maryland's Secretary of the Environment By K. Jack Kooyoomjian, Ph.D.

On April 26, 2018 at the Elephant & Castle Restaurant in Washington, DC the Federal Water Quality Association (FWQA) hosted Mr. Ben Grumbles as guest speaker to address the broad topic on this year's FWQA theme "Water Resources & Climate Change: Back to Basics?" Mr. Grumbles described the State of Maryland's progress on the energy and water nexus and climate change issues. He was appointed by Governor Hogan in 2015 as Maryland's Secretary of the Environment.

Mr. Grumbles came prepared with handouts, including a fact sheet on Maryland's Commission on Climate Change, on which he serves as chair. The fact sheets covered topics such as greenhouse gas emissions, sea-level rise, water temperature effects on the Chesapeake Bay, the more frequent heavy rain events which can devastate communities, bring heat waves and drought, and other adverse economic impacts. The fact sheets addressed how the State of Maryland is increasing resilience to climate change to protect its residents from numerous impacts, including ecological, economic, health and tourism impacts. He touched on the importance of science and technology related to climate change, stressing that we need to be involved in the science of climate change because it directly relates to water change.

In addition to being Maryland's Secretary of the Environment, Mr. Grumbles serves as (Continued on Page 5)

Why are these young adults smiling, and what is FWQA President Janet Goodwin doing? See the articles on Pages 2, 4, and 11-13 of this issue for details on the May 2018 FWQA Awards Luncheon.

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President's Corner

On May 17th we wrapped up a very successful season of FWQA events. We held several very good luncheons beginning with a luncheon that was hosted by Alexandria Renew and concluding with our Awards luncheon where we honored our scholarship and science fair winners. I look forward to another interesting year of luncheons and other events next year. We are hoping to arrange an embassy event, possibly with the Canadian Embassy, so look for notices of that in the coming year.

I have really enjoyed this year as the President. I believe that FWQA is a worthwhile organization and has a special place as a Member Association of WEF. I hope we can continue to bring speakers to discuss important topics in the field of water resource protection. I look forward to seeing you at an upcoming FWQA event.

Janet Goodwin
janetkaygoodwin@gmail.com

FWQA Award Honoree:

At the May 17, 2018 FWQA Awards luncheon, Past President of the FWQA, Carolyn K. Offutt (center) received the Water Environment Federation's Lifetime Member Award from FWQA President Janet Goodwin (left) and WEF's Deputy Executive Director, Tim Williams (right). Congratulations Carolyn!



What's the Connection Between Water Infrastructure and Congress?

By K. Jack Kooyoomjian, Ph.D

On March 29, 2018 at the Elephant & Castle Restaurant in Washington, DC the Federal Water Quality Association (FWQA) hosted Mr. Matthew Klasen (pictured right) to address the broad topic on this year's FWQA theme "Water Resources & Climate Change: Back to Basics?" Mr. Klasen addressed the Congressional Water Infrastructure Priorities and Prognosis, focusing on what the 115th Congress (and the Administration) have been proposing and debating regarding clean water and drinking water infrastructure, and his sense of the likelihood that these proposals might be enacted in some form before the end of this 115th Congress.

Matt began his Environmental Protection Agency (EPA) career in 2007 as a Presidential Management Fellow (PMF). During his EPA career, he worked in EPA's Office of Environmental Information, Office of Water, and the Office of the Administrator, in EPA's Region 9 (San Francisco, CA) office, as well as at the Council of Environmental Quality (CEQ) in Washington, DC. In his Federal career, Matt has worked on such diverse EPA issues that included environmental indicators, the United States (U.S.)-Mexico border, energy and climate measurement and tracking, mountaintop removal mining, Clean Water Act jurisdiction, and the Clean Water Section 404 program. Matt has a B.A. in Environmental Studies and Political Science from Washington University in St. Louis, and a Master's Degree in Public Administration (MPA) in Environmental Science and Policy from Columbia University.

In Mr. Klasen's presentation, he disclosed that these are his personal thoughts and observations. He opined that the subject matter of infrastructure is timely, as the President is going to Ohio to deal with the infrastructure plan. He observed that it would be a "stretch" to formulate a big infrastructure plan within the rest of the 115th Congress, but that the topic is clearly on the agenda in this Administration. Matt proceeded to outline the broad



infrastructure needs of the Country, noting that there is a \$750 billion need across the drinking water and wastewater infrastructure community. He observed that at the local, state and federal levels, there is no great solution on the horizon to meet this enormous need. In fact, there is broader recognition at all levels of government that the U.S. overall infrastructure needs for roads, bridges, drinking water, wastewater treatment is immense and clearly exceeds the funds available from all levels of government and other sources.

Most of the public has been informed of the Flint, Michigan water crisis, and infrastructure is getting more attention than ever before to the point that infrastructure has become a "front burner" issue at the White House. Other issues such as health care reform and tax reform are also garnering the attention of the White House, the Congress and the American people. In the case of infrastructure, there is an effort to encourage state and local funding to step up in addition to Federal funding. It is viewed that the Federal funding should act as a catalyst to other (State, local and possibly private) funding sources. In fact, the greater majority of funding is happening currently at a state and local level, and typically, state and local funding exceeds Federal funding.
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Williams Recognizes 2018 FWQA Scholarship and Science Fair Winners *By K. Jack Kooyoomjian, Ph.D*

On May 17, 2018 at the Elephant & Castle Restaurant, Washington, DC the Federal Water Quality Association (FWQA) hosted Mr. Timothy S. Williams, Deputy Executive Director of the Water Environment Federation (WEF) as the guest speaker to address the FWQA's Scholarship and Washington Metro Area Regional Science Fair winners. Tim, as Deputy Executive Director of the WEF oversees development and delivery of innovative programs and services for WEF members, including education and training, publications, communications, volunteer engagement, and advocacy. Earlier in his career, Tim played a key role in the passage of the infrastructure finance legislation and served as staff director for a multi-stakeholder effort which presented a blueprint for 21st Century water policy. He has managed a US-Eastern European water technical exchange program and a pioneer effort to develop environmental management systems for water utilities. Tim is a native of the Washington, DC area. Prior to joining WEF, Tim worked for the Maryland General Assembly and on the staff of a U.S. Senator recognized as the father of the Chesapeake Bay Program. He received his B.S. in Government and Politics from the University of Maryland and currently lives near Annapolis, MD.

In introducing Mr. Williams, Ms. Jan Goodwin, FWQA President, explained how the FWQA is

affiliated as a Member Association (MA) of the WEF. Mr. Williams advised that the WEF was started in 1928 as the Federation of Sewage Works Associations and then changed it's name to the Water Pollution Control Federation (WPCF). In the late 1980's, WPCF changed it's name once again to the Water Environment Federation (WEF), taking account of and recognizing it's members professional and technical activities on nearly all aspects the broad topic of dealing with the water cycle. He noted that there is an FWQA scholarship dedicated to the memory of Dr. Harvey Olem, who conducted research on runoff from coal mines and acid deposition from power plants. He co-authored a textbook on prevention, identification and management of diffuse (i.e., non-point) pollution. Dr. Olem was an active member of the FWQA, and began his career as an environmental engineer with the Tennessee Valley Authority and later worked as a project manager at the U.S. EPA. He was the founder and President of Olem Associates and the Center for Watershed Protection. We lost Harvey in May of 1994 when his plane disappeared in Bolivia during a World Bank project. Harvey conducted research on subsurface migration, fertilizer runoff from farms, stormwater from streets and other forms of non-point sources of pollution, which lead to the broader recognition in society of the significant impacts from non-point sources of pollution.

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Pictured below are the 2018 FWQA Scholarship and Science Fair Winners along with speaker Timothy S. Williams of WEF, and Award presenters. See more winner details on Pages 11 and 12.



Climate Change is Water Change

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Chair of the Governor's Chesapeake Bay Cabinet, Chair of the Regional Greenhouse Gas Initiative, Chair of the Ozone Transport Commission and member of the Susquehanna River Basin Commission. Mr. Grumbles has served as President of the U.S. Water Alliance, Director of Arizona's Department of Environmental Quality, EPA Assistant Administrator for Water, and senior staffer and counsel for the Transportation and Infrastructure Science Committees in the U.S. Congress. He has lived, worked and played in the Chesapeake Bay region since 1985.

Mr. Grumbles touched on the work of the Maryland Commission on Climate Change which has four working groups: 1) Mitigation, 2) Adaption and Response, 3) Science and Technology, and 4) Education, Communication and Outreach. Most of the water strategy is embedded in the State of Maryland's adaption and response strategy to be a leader in reducing greenhouse gas emissions, while also protecting Maryland's economy and jobs. He stressed that the State of Maryland has embedded the Greenhouse Strategy of 2008 based on science, collaboration with experts and facts to reduce the state's carbon footprint. The State of Maryland is on board with the scientific thought that warmer temperatures bring about a whole raft of activity that necessitates a thoughtful, multi-pronged prevention, preparedness and response strategy. He summarized the National Climate Assessment succinctly as follows: we are going to see events that are essentially "warmer, drier, wetter and wilder," with regional variation. For instance, in Arizona "hot and dry" will intensify. People there understand that the economy runs on water and that every drop counts. One of the most challenging topics is Storm Intensity, and it is most challenging to regulate stormwater in the big outdoors when your community is subject to intense storm effects. To build resiliency, one has to consider building green infrastructure, and be smart about stormwater management (SWM). Incorporating swales, green roofs, low-impact development techniques, increasing permeable surfaces, and other related best management practices really matter. The "urban heat island effect" is real and grows worse with increasing intensity when there is a lot of impervious surface area. Maryland requires treatment of impervious surface areas as part of its municipal stormwater permitting program.

Ocean chemistry, including acidification, is affected by combustion processes globally, which result in warmer temperatures and turbo-charged atmospheric conditions. These conditions over time are adversely affecting coral reefs, such as the bleaching effect. It truly is the "Tragedy of the Commons." The cumulative risks to changing the geo-chemistry of the oceans, as well as the consequences of sea level rise bring about formidable management challenges. The State of Maryland has over 3,100 miles of shoreline and a robust agricultural (including concentrated animal feeding operations), tourism and fishing sectors. We are beginning to see the emerging consequences of sea level rise, soil subsidence, storm surges, including "sunny day" (nuisance) flooding. We need to understand the science, manage the risks, and work smartly to improve resiliency. We are very aware that the shoreline is a living, breathing creature, and as a direct consequence, the coastal towns are constantly dealing with and actively engaged in protecting and restoring the ever-changing shoreline.

According to Mr. Grumbles, we face a "climate of opportunity" in finding environmental, economic and ethical solutions. This includes active flood plain management and also dealing with the toxic soup left in the aftermath of major hurricanes, such as recent hurricane Harvey in Texas, and hurricanes Irma and Maria which devastated Puerto Rico, the U.S. Virgin islands and the islands of St. John and St. Thomas. "Smart Growth" is part of the solution, especially considering sea level rise, wetlands protection, and the cost of insuring against and responding to disasters. What is the best and appropriate standard to prepare for? The 2 year storm? The 10 year storm? The 100 year storm? ... or should it be something else?

Mr. Grumbles touched on the challenges by asking the question, "How do we restore and
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LIFT Program Expands with Water Technology Innovation Clusters

By Morgan Brown



Morgan Brown is Water Innovation Cluster manager at the Water Environment Federation (Alexandria, Va.). She can be reached at mbrown@wef.org.

The Water Environment Federation (WEF) is an avid supporter of innovation in the water sector. In fact, one of WEF's critical objectives is to "establish the conditions that promote accelerated development and implementation of innovative technologies and approaches."

As part of this initiative, WEF and The Water Research Foundation (WRF) jointly created the Leaders Innovation Forum for Technology (LIFT) program more than 5 years ago to help facilitate the adoption of water technologies and move innovation into practice.

For the newest addition to LIFT, WEF is coordinating a nationwide network of Water Technology Innovation Clusters, which were originally developed by the U.S. Environmental Protection Agency (EPA). The clusters program will be run as a LIFT focus group led by Bryan Stubbs, executive director of the Cleveland Water Alliance, and Aayushi Jain, market transformation associate for the Los Angeles Cleantech Incubator.

What are water clusters?

Water Technology Innovation Clusters are regional groupings of businesses, government, research institutions, and other organizations focused on innovative technologies to provide clean and reliable water. WEF will facilitate cluster communications, advise cluster organizations, enable collaboration among clusters, and identify water programs that support cluster activities.

Clusters have a key role to play in addressing the nation's pressing water issues.

Spur innovation. Clusters create a situation where companies and organizations can easily share ideas and solutions.

Accelerate the development of new technologies. Connections within clusters lead to partnerships between businesses and researchers, facilitating the transfer of new technologies to the market.

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Congress and Water Infrastructure (continued from page 3)

In the current Federal incentives programs, there is a priority for rural projects. Additionally, the Administration has proposed a number of regulatory and permitting reforms with a focus on workforce development (jobs). In the EPA area, this involves the 404C Program (Clean Water Act Section 404(c)) for dredged or fill material at specified sites in waters of the United States, and the possibility to change EPA's ability to deny or revoke approvals by the U.S. Army Corps of Engineers under Section 404(c). The proposal does not have too much to get approval from Congress, and the Hill seems supportive of doing a better job of matching up Federal funding to support State and local efforts. In the view of the 115th Congress, there are currently too many steps to obtain funding and it needs to be streamlined. The perspective from the Democratic side of Congress is that only a small portion of projects are delayed because of permitting requirements. Prospects are good for "the Infrastructure Plan" in the future moving into November and beyond with the upcoming mid-term elections.

The overall view is that the infrastructure issue is "middle-of-the-road" and a big part of the overall infrastructure push may have already been addressed with the recently passed budget levels for Fiscal Year (FY) 18 which include specific budget items for infrastructure. In the EPA program for the State Revolving Funds, this has levels equal to the last enacted (FY 17) budget, but there are add-ons for funding infrastructure and domestic programs. The Republicans claim that this is not for domestic programs, but for funding infrastructure needs. The Democratic perspective is that the Republicans took "credit" for more funding for EPA programs. The fact is that there is \$300 million more available for the Clean Water Fund and the Drinking Water Fund and it enables the U.S. EPA to magnify and leverage up to \$6 billion in loans. For instance, \$200 million in Federal funds can be leveraged to \$1.5 billion in funds. There is a program for testing lead levels in water in the schools, and there is more for EPA Superfund and Brownfields programs. However, there is only so much time between now and the fall mid-term elections.

The Water Infrastructure Finance and Innovation Act (WIFIA) program accelerates investment in our nation's water infrastructure by providing long-term, low-cost supplemental loans for regionally and nationally significant projects, and the WIFIA program is currently accepting letters of interest for up to \$5.5 billion in loans. The Drinking Water State Revolving Funds (DWSRF) builds on the Clean Water State Revolving Funds (CWSRF) and funding for Federal partners. As the current Congress discusses the infrastructure issue, some "pieces" of programs are likely to be retained in the bill, and both parties are talking about not wanting Federal bureaucracy to get in the way. Maybe there is a middle ground, but project streamlining elements are likely to be incorporated to "hold the Agency's feet to the fire" for eliminating what might be perceived as bureaucratic requirements. So, there may be common ground on streamlining, and it will be an exciting year to see what happens.

Mr. Klasen's discussion was followed by a lively and diverse question and answer session. Some of the participants were encouraged to see the President's focus on infrastructure, where he was in Richfield, Ohio on March 29th to promote his infrastructure plan. Matt observed that the Council on Environmental Quality (CEQ) has also played an important role on infrastructure issues, but that CEQ does not currently have a nominee as Chair. There were questions related to specifics of funding within the wastewater funding area, the State Revolving funds, and the Clean Water Act Infrastructure funding, such as \$63 million for the WIFIA program. Matt noted that there are not any new conditions or principles on how to distribute the funds, and he anticipates that the money will evolve to the states as before. Specifically in the WIFIA program, being a Grant program, EPA will decide which projects get funded.

There was a question on the Superfund and Brownfields programs with regard to job creation and a land development perspective where infrastructure funding can spur development. A discussion followed on tax exempt bonds as a separate funding source during the tax reform debate. Matt observed that WIFIA provides only 49% of funding, and that other funds come from other sources. A discussion followed on the New York/New Jersey Gateway Tunnel project, tax-free financing, loans and grants for government, and Matt opined that some of this gets very complicated. He was greeted with enthusiastic applause from the participants.

Water For People's Spring Campaign Has Launched!

Meet the People Behind the Water

Behind every pump and pipe is a person. A person whose life is changed by having access to safe water and sanitation. A person whose determination and leadership helped make water a reality for their community. Water For People wants to introduce you to these people and share their stories.

Notable Campaign Dates:

May 1st: Campaign kick-off

May 27: Menstrual Hygiene Day. Meet the Menstrual Hygiene Committee in South 24 Parganas, India.

June 12-16: \$10,000 match with CDM Smith. Every donation up to \$10,000 will be doubled during these 5 days!

June 16: Campaign ends, aligning with Water For People's presence at ACE.

If you'd like to contribute to Water For People, there is no better time to make your impact count. If you're interested in joining the DC Water For People Committee or want to learn more, please contact us at dcwaterforpeople@gmail.com.



Save the Date - Water For People Hike Sept 30th By Kiri Anderer, P.E.

Please mark your calendar! The DC Water For People Committee is pleased to announce we will be hosting our annual hike on Sunday, September 30th (Picture below shows last year's hikers). This year we'll be heading to the beautiful urban oasis of Greenbelt Park in Maryland. We'll hike about 5 miles on wooded trails and there will be trivia checkpoints for great prizes along the way. We'll have lite lunch afterward. To sponsor the event or donate prizes, please email DCWaterForPeople@gmail.com. Registration will be open soon - check back at <https://www.eventbrite.com/o/washington-dc-water-for-people-committee-8444031338>. Join us and walk a few miles to help people gain access to safe drinking water and adequate sanitation. You'll be hiking about what an average girl has to walk to fetch water every single day, but without 40 pounds of water on your head...you can do it for just one day!



Climate Change is Water Change

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protect the Chesapeake Bay?” He touched on the Chesapeake Bay total maximum daily load (TMDL) pollution “diet” approach to restore the Chesapeake Bay, which is a success story, and is working to effect positive change in our communities. We are witnessing in our time successes in reducing nutrient and sediment loadings, and providing cleaner water. This in turn allows sunlight to provide conditions for healthy increases in submerged aquatic vegetation, which in turn provides habitat for fisheries and so on. In the Chesapeake Bay drainage basin area, there are 6 states (MD, VA, West VA, DE, NY, and PA), the entire District of Columbia and the U.S. EPA in partnership to reduce pollution to the Bay, with the specific goal of reducing nutrients (nitrogen & phosphorus) and sediments by 2025. The drainage basin encompasses 64,299 square miles and crosses a diverse topography within these multiple jurisdictions and we are right in the middle of this active and successful cleanup and restoration program, and climate change is a real and complicating factor in the overall mix.

Mr. Grumbles also described the Conowingo Dam, which was constructed in 1928 as a large hydroelectric dam in the lower Susquehanna River near the town of Conowingo, MD, which is 10 miles from the Chesapeake Bay. He noted that bald eagles and other birds and wildlife that feed, breed and nest near the Conowingo Dam. The dam was projected to fill in with sediment by 2025, but it is filled in now (2018). For decades, this dam has been trapping sediment and nutrients in runoff from a 27,000 square mile area covering ½ of Pennsylvania farmland and communities and parts of Maryland and New York. The Susquehanna River provides half of the Chesapeake Bay’s fresh water. The dam’s owner is Exelon Corp. and is in the process of applying for a 50 year re-licensing. The Conowingo dam is a “leaking time-bomb” if it isn’t dealt with properly. Mr. Grumbles advised that setting a stringent set of environmental conditions with regard to the dam is part of a broader strategy to speed bay cleanup and hold our partners accountable for doing their part to create a healthier watershed. The Susquehanna River ecosystem nutrients and sediments, coupled with climate change contributions, provides added risks that need to be mitigated.

In his view, Maryland has an aggressive approach to deal with climate change and to protect the Chesapeake Bay, as well as to reduce water waste and use proper science in the process of achieving a resilient economy. He asserted that Maryland is a real leader in the greenhouse gas initiative. He also asserted that a cap and trade program is in place in Maryland. His presentation was followed with a lively question and answer session. Some of the participants asked about the contributions for cleaning up sediments and nutrients from upstate New York and Pennsylvania. In this dialogue, Mr. Grumbles noted that Maryland and EPA have made the Conowingo Dam a priority issue, because of its large potential impacts on the Bay’s water quality. He noted that Maryland is asking Exelon to consider a range of options from best management practices to conservation banking and restoration, as well as dredging and payment of in lieu fees. More questions followed on dredging the estimated 25,000 cubic yards of sediment at the base of the Conowingo Dam and how this might be exacerbated by climate change. It was concluded that any such activity is bound to be expensive and take time to do properly.

In talking about the benefits of improving fuel efficiency of vehicles, and on a light and humorous note, Mr. Grumbles offered a statistic that on an annual basis, the average golfer walks 800 miles per year and drinks 18 gallons of alcoholic beverages, and that translates to 44 miles per gallon. One question was whether anyone was listening to the challenges raised by Emanuel Macron of France? The short answer was, “Yes, but they don’t have the gavel” (to make decisions). More questions followed about how to dredge the sediments behind the Conowingo Dam, or to divert the Susquehanna River flows. Other questions focused on finding common ground on wise water usage and strategies of Federal, state and local governments to work together to identify common ground on water efficiencies and wise water use. Mr. Grumbles closed on an upbeat note. He reflected on his time at EPA as one of the highlights of his professional environmental career, and indicated that working in Maryland for Governor Hogan is also a highlight where he gets to serve with dedicated and talented people who have a strong sense of purpose and an appreciation for the proper role of science in this process.

Water Clusters

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Streamline the adoption of new technologies. Clusters provide companies with easier access to test beds and partners for pilot studies and encourage communication among companies and regulators.

Building on past efforts

While the program is a new addition to LIFT, the clusters have been involved in WEF's Technical Exhibition and Conference (WEFTEC). For the last several years, the Water Technology Innovation Clusters, under the auspices of EPA, had a formal meeting at WEFTEC and have been showcased in several sessions within the WEFTEC Innovation Pavilion.

In 2017, cluster leaders from the New England Water Innovation Network (NEWIN), Current, The Water Council, and the Los Angeles Cleantech Incubator participated in a lively panel discussion titled "How can I benefit from a water innovation cluster?" Panelists talked about how clusters support pilot projects, foster collaboration among utilities and universities, and link entrepreneurs with advisors and customers.

Also at WEFTEC 2017, an Innovation Pavilion session, titled "The Water Council's BREW (Business – Research – Entrepreneurship – in Wisconsin) Accelerator," held a business-pitching session modeled after the successful show "Shark Tank." BREW participant companies pitched for 3 to 5 minutes, after which a panel grilled them about their business model, technology, intellectual property, marketing strategy, and more. Nothing was off limits in these lightning fast pitches.

In a third session, the Cleveland Water Alliance discussed the Erie Hack, which is Lake Erie's first water innovation competition. The Cleveland Water Alliance partnered with DigitalC, a civic tech collaboration organization to hold this competition. The Erie Hack brought together more than 100 partner organizations and 200 participants — coders, developers, engineers, data experts, and water professionals — from nearly every major city around the lake to work on its greatest challenges, especially harmful algal blooms.

As a follow-up to the Erie Hack, the Cleveland Water Alliance branched out into another water innovation competition, the Internet of H2O Challenge. This competition seeks to leverage next-generation networking and sensor technology to monitoring and managing nutrients in Lake Erie and beyond. The goal was to generate robust and resilient nutrient monitoring pilots with the potential to scale across the Great Lakes. The alliance partnered with DigitalC as well as US Ignite, which spurs the creation of next-generation applications and smart cities, and the National Science Foundation. Other participants include the Great Lakes Observing System, IBM, City of Sandusky, Bowling Green State University, Heidelberg University, AT&T, U.S. EPA, Great Lakes Commission, NOAA, Limnotech, and others to focus the Erie Hack's energy on developing a resilient monitoring system for nutrients.

Moving innovation forward

Water Technology Innovation Clusters are uniquely making a difference at a local and regional level. Even though each cluster is a separate entity located in various regions, this overall program brings together the cluster leaders so that they can work on a larger national scale.

For example, the cluster leaders previously have worked together to produce such reports as

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Williams Recognizes Winners (Continued from Page 4)

Mr. Williams was delivering a message to the students in the room that it takes a broad array of disciplines, such as engineers, scientists, lawyers, planners, and other disciplines and expertise to deal effectively with environmental issues. He indicated that the WEF had formed the Water Environmental Research Foundation (WERF) to support research in the water area, and this has had a name change to be currently known as the Water Research Foundation (WRF). He noted that the WEF's MA's actively work with state and local governments to address and correct environmental issues. In 1969, the U.S. Congress signed the National Environmental Protection Act (NEPA), and in 1970 the U.S. EPA was formed, and in 1972, the U.S. Congress passed the Clean Water Act. He indicated that we (Tim & others in the room and around the Country and world-wide, who have worked in this field for the past 4 decades) are at the "other end" of our careers in water, but that the opportunity is certainly there for talented young people to meet the many challenges that are currently before us, as well as those new challenges that will be evolving.

He cited a comment made by George Hawkins, Director of DC Water regarding jobs, and it went something like this... "All of the jobs are responsible to water, because you couldn't do anything without water." Tim then introduced Ms. Megan Livak of WEF to talk about WEF's opportunities for students. Megan came from the New Jersey WEF MA. Megan touched on the WEF programs for students. She mentioned the Stockholm Junior Water Prize, the student competitions coming up in North Carolina, the WEFTEC annual conferences in New Orleans and Chicago where there are student receptions and interviews for students who are graduating from college, as well as career fairs to prepare for jobs in the water sector. She also touched on the student design competitions at WEFTEC and noted that there are over 100 student chapters in WEF. This was followed by presentations of awards to the regional science fair winners and scholarship awardees.

2018 Scholarship Winners *by Janet Goodwin*

This year we awarded four scholarships to outstanding students who intend to study environmental science or engineering in college.

Aaron Chai is the winner of the Barber Scholarship. Aaron will graduate from Freedom High School in Loudoun County and attend Duke University next year, studying Environmental Science.

Julia Hakeem is the winner of the Olem Scholarship. Julia will graduate from James Madison High School in Fairfax County and attend George Mason University, studying Biology.

Hania Abboud is the winner of the McCallum Scholarship. Hania will graduate from James Madison High School and attend the University of Virginia, studying Environmental Science.

Bailey Wilder is the winner of the President's Scholarship. Bailey will graduate from South River High School in Anne Arundel County and attend Vassar College, studying Biology.



Pictured above are the President's and McCallum Scholarship winners, along with all 2018 scholarship, science fair winners, and presenters. Congratulations! (More pictures on Page 12)

Water Clusters (Continued from Page 10)

Overcoming Barriers to Water Innovation in the U.S. and Building a Successful Technology Cluster. These resources are beneficial not only to existing clusters, but also to those seeking to create a cluster in their region.

WEF is excited to take on this program set up by EPA and to continue to build valuable innovative programs for our members through LIFT and the WEFTEC Innovation Pavilion. For more information on the Water Technology Innovation Clusters program visit www.wef.org/techclusters.

And the Winners Are ...! *By Jan Goodwin*

We had a successful season judging several science fairs in 2018. Pictured below from our May 17 Award Luncheon are all Science Fair winners who attended the luncheon and FWQA President Janet Goodwin. Our first place winners are:

Prince William County

Abigail Sepupro, Osborne High School
Anisha Ramakrishnan, Ronald Reagan Middle School
Dikchhya Pradhan, Ngoc Thai, and Nisha Townes, Governor's School at Innovation Park

District of Columbia STEM Fair

Jalen Richardson, Washington Latin School
Anika Heywood, Stuart Hobson Middle School
Alisha Campbell and Helena Ikenberry, Washington Latin School

Fairfax County

Clare Sparling, Oakton High School
Adam Musmar and Sam Barbaro, South Lakes High School

Loudoun County

John Beisler, Academy of Science and Woodgrove High School
Isha Bangui and Medhini Sosale, Briar Woods High School

Northern Virginia

James Licato, Washington-Lee High School
Kathleen Love and Sydney Jones, Yorktown High School

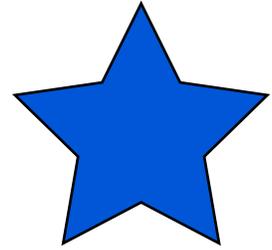
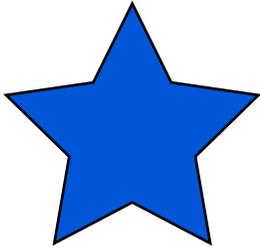
Also, here's a **BIG** Thanks to our Science Fair Judges:

Anthony Tripp
Jack Kooyoomjian
Clancy McQuigg
Tanner Metzko

Joe Ford
Kathleen Onorevole
Christa Lash
Joanne Eaglet



Thank You to Our Scholarship Sponsors!



Chesapeake Water Environment Association

National Association of Clean Water Agencies

National Association of Water Companies

Water Environment Federation

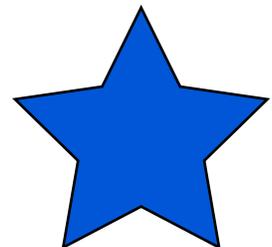
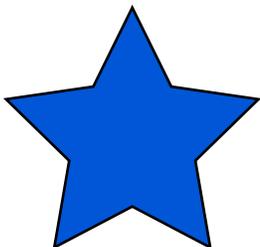
Debra Coy

Mary B. Klein

Jack Kooyoomjian

Sharon and Bert Nye

James Wheeler



FWQA Election of Officers
Official 2018 Ballot

Ballots must be received by FWQA
P.O. Box 14303, Washington, DC, 20044
by email to fwqaevents@gmail.com
by June 30, 2018.

President

- Janet Goodwin**
 Write in _____

President Elect

- Amanda Waters**
 Write in _____

Vice President (vote for one only)

- Christian Davies-Venn**
 Write in _____

Secretary

- Sharon Nye** _____
 Write in _____

Biographical Information

Janet Goodwin Janet Goodwin has a bachelor's degree in Environmental Science and Biology from the University of Virginia. She worked at EPA's Office of Water for over 30 years in the Effluent Guidelines program. Janet has been an active member of FWQA and has coordinated the science fair judging for the past 12 years."

Amanda Waters is General Counsel & Director of Public Affairs for the National Association of Clean Water Agencies (NACWA). Amanda manages NACWA's litigation portfolio, implements the Association's legal advocacy initiatives and oversees strategic communications. She was previously Deputy Executive Director & General Counsel for SD1 of Northern Kentucky, as well as Executive Director of Sustainability for New York City Department of Environmental Protection. She has also served as Deputy General Counsel for the State of Kentucky Environmental & Public Protection Cabinet and as a staff attorney with the West Virginia Department of Environmental Protection. She received a law degree from Pace University and a BS in biology from Eastern Kentucky University.

Christian Davies-Venn is currently a Vice President and Chief Engineer for PEER Consultants. He has a Bachelor of Civil Engineering degree from the University of Sierra Leone, and his M.S. and Ph.D. degrees in Environmental Engineering from the University of Cincinnati and the University of Arkansas, respectively. He is an Adjunct Professor at the Johns Hopkins University Whiting School of Engineering and a past president of the American Academy of Environmental Engineers and Scientists. He is also an active member of the WEF and the Federal Water Quality Association and is a member of the FWQA's Scholarship Committee.

Sharon Nye recently retired from her position as a research analyst with the Water & Wastewater Equipment Manufacturers Association (WWEMA) where she worked for 24 years, assisting the president in a variety of legislative and regulatory issues. She remains active in the water industry in many capacities, and is an active volunteer and science fair judge in Loudoun and Prince William Counties. Sharon has served as Secretary for the Federal Water Quality Association for several terms and also serves as head of the Scholarship Committee. She is a recipient of the 5S award.