

**The Horinko Group**  
**Second Annual Water Summit Proceedings**  
***Sustaining Our Nation's Water Resources***  
***Answering the Call for Stewardship***  
**October 25, 2011**  
**University of Maryland, College Park**

**PURPOSE AND OVERVIEW**

How to make the transition from being individual water users to cooperating water stewards was the underlying theme of The Horinko Group Water Division's Second Annual Water Resources Summit. The gathering convened 116 participants (refer to *Attachment I: Final Attendee List*) to the Stamp Student Union at the University of Maryland on October 25, 2011 to discuss answers and insights for developing a more integrated strategy for a sustainable water future through collaborative stewardship.

The day engaged three panels of thought leaders and practitioners from three sectors of the water industry – public, advocacy, and business (refer to *Attachment II: Final Agenda*). Panelists provided context, examples, and new ideas for jointly addressing our nation's most critical water issues. Following panelist remarks, each moderator facilitated a lively dialogue among the panel, delving deeper in the subject matter. Participants were invited to submit questions to the panel following the moderated discussion.

**OPENING REMARKS**

**Brendan McGinnis, Director of The Horinko Group's Water Division**, kicked-off the Summit with welcome and introductions. He reflected on why this year's discussion emphasizes stewardship. He called attention to the importance stewardship will have to foster a shift toward a systems context for management and governance, providing the rationale to move us from the current compliance culture. A sustainable water future for us all rests on an informed and engaged water resources community, he added. When appropriately informed, we are confident our communities will be repositioned to make a greater contribution driven by a greater sense of informed concern for actionable problem solving.

Diverse approaches need to be available to meet the needs and aspirations of diverse audiences in different regions, sometimes facing unique constraints. Broader representation within affected communities must be a part of this process.

Mr. McGinnis provided a brief overview of the program and touched on each of the three topical areas of focus – governance, advocacy, and the business of water.

Panel one's focus is on *Governance* and how the federal family and their state counterparts can best match authorities to current water challenges. Panel two examines the role *Advocacy* must play in producing an informed and interested citizenry around water. And, the final panel centers on the *Business of Water*, providing a closer look at private-public partnerships, a new paradigm for compliance, and making the case for water re-use.

He reinforced the Water Division's continued commitment to seek out collaborative efforts and models for promoting water resources sustainability by calling greater attention to the merits of a system approach embracing the principles of adaptive management and utilizing an integrated water resources management framework.

He concluded by commending the participant's interest in these critical water matters that affect us all. A strong stewardship ethic among formal initiatives at local, regional, state, and federal levels, grassroots efforts, individual responsibility, innovation, and the enthusiasm of youth, can and will propel progress.

## **PANEL 1 – WATER GOVERNANCE**

**Jeff Jacobs, Scholar, Water Science and Technology Board, National Research Council**, moderated an esteemed panel featuring federal and state interagency leadership from U.S. EPA, U.S. Department of Agriculture, U.S. Army Corps of Engineers, and the Association of Clean Water Administrators.

He provided context for the discussion by providing an overview of governance structures currently in place to address water laws, policies, and funding related to the development and management of water and related resources infrastructure.

Citing the growing national issues of aging infrastructure, urban stormwater management, watershed degradation, and public safety, an actionable path forward is faced with overcoming funding constraints, political conflicts, bureaucratic and regulatory limits, and diminishing resources available to serve competing water purposes. Solutions may be found in regional approaches and entities, collaboration, and scientific advances.

**Alex Dunn, Executive Director of the Association of Clean Water Administrators** offered that silos are breaking down for the benefit of elegant, integrated, and interactive solutions, especially a collaborative watershed approach that fosters prioritization across resources and the leveraging of powers and authorities.

The outcome is to address the "Tragedy of the Commons" by an enhanced appreciation that when something belongs to all, people should try to do more to address the risks that attend to it, but they often do not. This is why a watershed approach is important.

There are many examples of a watershed approach, including interstate commissions that serve integrated and interstate issues. A good example is the New York Watershed Management Cycle, a comprehensive state water policy that includes assessment, planning and management, implementation and permitting, compliance and enforcement, and monitoring – a full life cycle of responsibilities. Another is the Ohio River Sanitation Commission's regional approach, which pools resources and funds. Similarly, the Great Lakes Commission works through a state-federal partnership to share resources and ideas to tackle shared issues across member states to address invasive species, erosion, and other common issues. The Upper Mississippi River Basin Association Water Quality Task Force has addressed the hypoxia issue across five states in the Gulf of Mexico. The Delaware River Basin Commission is approaching hydro-fracking by seeking a holistic approach for drilling in ways that protect the environment and water quality.

Ms. Dunn reiterated the wisdom of John D. Rockefeller's statement, "Don't be afraid to give up the good to go for the great," to work everyday to influence the future, as the above entities are doing. In the future, the federal role should be to provide support, assistance, and partnerships.

**Ann Mills, Deputy Under Secretary for Natural Resources and Environment at the U.S. Department of Agriculture (USDA)**, stated that the protection and preservation of freshwater resources are the issue of this century. The call for stewardship is critical to address the water resources challenges facing our planet. Governance will affect our ability to support a stewardship ethic and innovative solutions.

USDA plays a significant role in 21st century conservation through the Natural Resources Conservation Service (NCRS). Freshwater is critical to the agricultural sector and rural economies for economic vitality, ecosystem health and recreation. For instance, the USDA collects and analyzes key water and agricultural data and publishes data points in the National Resource Inventory to provide resource conditions and trends; technical advice to farmers, ranchers, and private forestland owners; fence cattle from riparian zones; and re-vegetate perennial plant species. Restoring landscapes involves investments in water resources through an all-landscape approach that brings science to the forefront through collaborative and targeted efforts.

Ms. Mills announced the formation of a Federal Mississippi River Basin Water Quality Monitoring Framework that will serve as a regional model that is engaging a federal, state, and tribal coalition, as well as land grant universities, to establish a baseline of effective and ineffective practices. The Everglades Restoration Project is another example where the State is working with local landowners, water districts, and business to slow the flow of water and focus on pollution through conservation easements, habitat restoration, timing of water flows, protection of endangered species, and keeping ranches working productively.

Innovations supported by USDA include such system-wide frameworks as the Conservation Effects Assessment Project, the Watershed Condition Framework, and the new Mississippi River Basin Water Quality Monitoring Framework, developed and implemented in partnership with other federal agencies (e.g., EPA, USGS, USACE) to evaluate the effectiveness of conservation measures for targeted watersheds and leverage monitoring efforts.

Voluntary conservation efforts are a huge part of USDA's work. Conservation Innovation Grants provide a catalyst for innovation and conservation. New ideas being pursued include trading markets for carbon and wetlands to bring private capital into the equation. USDA is working hard with farmers and private landowners to incorporate conservation practices into their land management. The win/win collaboration among landowners, federal-state governments, and universities is producing results that show a return on public water resources investments.

Furthermore, President Obama's "America's Great Outdoors" (AGO) initiative is currently helping people focus on a collaborative bottom-up approach and cross-agency collaboration for conserving natural resources and encouraging the enjoyment of the outdoors through recreation. The AGO Action Plan specifically calls out rivers and water resources as important focal points for reconnecting Americans to the importance of America's natural capital. Despite diminishing resources, government at all levels can play a major role in demonstrating and encouraging stewardship. The urgency is now. Collaboration does matter and works.

**Mike Shapiro, Deputy Assistant Administrator, U.S. EPA's Office of Water,** emphasized and illustrated how partnering is the new order at EPA. No single state or agency can fully address the water resources challenges facing us. There are many ongoing collaborative experiments that deserve attention.

The upcoming 40th anniversary of the Clean Water Act (CWA) provides the opportunity to focus on ecosystem health and management. As point and non-point water pollution sources are addressed, problems remain from stormwater runoff, urbanization, population growth, deteriorating infrastructure, and climate change. The CWA provides a good example of a federal-state partnership wherein the federal government sets water quality standards and the states monitor and assess implementation efforts to meet them using both regulatory mechanisms and incentives for the private sector.

State Revolving Funds are another important mechanism. Just the same, it is impossible to separate water quality from water quantity issues. Effective water resources management requires managing both collaboratively among agencies and in an integrated manner.

Good examples of efforts that promote a more sustainable water future with broad based stakeholder involvement include the Urban Waters Federal Partnership, which expedites work in the Columbia River Basin, San Francisco Bay Delta, Puget Sound, and Great Lakes; the Chesapeake Bay watershed; the Gulf Coast Hypoxia Task Force work on the Mississippi River; the Interagency Climate Change Adaptation Task Force; and, the Comprehensive Everglades Restoration Plan in the South Florida ecosystem. He added, a key to aquatic ecosystem functionality is "getting the water right...quality, quantity, timing, and distribution."

**Steve Stockton, Director of Civil Works for the U.S. Army Corps of Engineers,** expressed several water resources challenges that have led the Corps to assume a leadership role in stimulating a continued dialogue about collaborative initiatives to address these challenges. The water resources world is evolving given intractable problems such as degraded natural resources and water quality, diminishing fiscal resources and water supply, and climate change. The newly released Civil Works Strategic Plan is a systems-oriented response to address these challenges through six crosscutting strategies for risk-informed communications and decision-making. The current tight budget environment, however, bespeaks the need to partner for an adaptive management life-cycle approach to repair, rehabilitate, recapitalize, repurpose or divest aging infrastructure through smarter planning, implementation, monitoring, and adjustment.

The expected release of the revised Principles and Requirements for federal public water resources planning and investment will inform decision-making about water resources choices, priorities, and trade-offs to suit multiple water uses. New solutions necessitate modernization of the planning process and new financing alternatives. The Corps is guided as well by a national report published in August 2010, *Responding to National Water Resources Challenges*; a collaborative effort among 12 federal agencies and with state, tribal, and NGOs dedicated to planning a path forward for a more sustainable water future. One hundred and forty specific recommendations provide guideposts for moving ahead with a systems approach, collaboration, and a clear unifying vision of a water resources future. A first step will be to establish a single data portal to access a Federal Support Toolbox of metadata about water resources across the federal family, with input from the states, interstates entities, and others. A beta test is due in 2012 for an operational launch in 2013. Access to success stories and lessons learned will stimulate collaborative efforts. Already, the Western States Federal Assistance

Support Team (WestFAST) has been established to co-locate a liaison for federal agencies at the Western Governors Association.

There is no one-size-fits-all approach to governance of water resources approaches or solutions. Joint efforts must be pursued, but the river basin commissions, and systems-based studies, such as the Hudson-Raritan Estuary Comprehensive Restoration Plan, provide examples of the path ahead.

## **PANEL 1 – QUESTION & ANSWER**

1. What are some of the governance “success stories” in U.S. water management in the past 10 years? Are there common elements in national or regional successes that have larger implications for what “good water governance” might entail?

- A. Dunn: We need a concept of shared leadership, i.e., 2-3 conductors who lead different sections of the orchestra, rather than a single orchestra conductor. This will take time to develop a trusting relationship with states.
- A. Mills: The opportunity to work together on large landscapes can help because it forces everyone to sit down together and listen to one another. The federal government must let go of being in the driver’s seat for solutions and listen.
- M. Shapiro: We must acknowledge that all collaborations are works in progress, as work on the Chesapeake Bay is showing. Good science will help build confidence in processes and people. Team building and multiple opportunities to meet will also help all own the work. Passion for the resource (the love people have for the places they inhabit) helps to foster organizational agreements. A watershed approach is key, especially collaboration among the federal, state, and local water resources stakeholders.
- S. Stockton: We should start with a shared vision, goals, and objectives. In the Corps, we use the Home Depot motto with locals, “You can do it. We can help.”

2. Traditional agency authorities and lines of responsibility are not always well aligned with contemporary and emerging national water challenges, but inter-agency collaboration is increasingly recognized as essential. The numerous federal and state agencies with water-related responsibilities often have different authorities, processes, and cultures. What are your thoughts on promoting more effective inter-agency collaboration?

- A. Dunn: We need some new lines of authority in some cases, such as fracking – new authorities and new stakeholders. We may not be ready for the 21st century.
- A. Mills: The federal family is spending more time together for large-scale restoration, which helps. We need clarity of vision to share goals, a common language, and shared understanding of each agency’s authorities and priorities. We also need the right people around the same table. We need to allow breakaway groups that share a passion for issues (e.g., hypoxia) to work together. We need to be nimble and ensure outreach to state and local stakeholders. We need to listen more and not issue federal edicts.

- M. Shapiro: Place-based initiatives are helping to consolidate data, but our systems are not interoperable. We need to break down barriers.
- S. Stockton: Data interoperability is difficult to achieve in the Department of Defense cyber environment. We should build on the examples of the river basin commissions; they foster communications and synchronize players and issues to promote education and collaboration around specific issues. We can stand up collaborative groups, such as the Flood Risk Management Task Force, that can promote good problem solving, but go away after implementation.

3. How do we get bodies such as the river basin commissions created and funded today?

- J. Jacobs: Organizations can spring up, such as the Missouri River Recovery Implementation Committee, a basin-wide collaborative forum to bring together 70 members representing local, state, tribal, and federal interests to develop a shared vision and comprehensive plan for the restoration of the Missouri River. The current river basin commissions were created prior to the Clean Water Act and have fallen out of favor for congressional funding. We will not see the top-down Leviathan approach to address our nation's water problems.
- A. Dunn: We're not likely to see more river basin commissions because of funding constraints. Rather, we'll see informed watershed-based management structures such as Interstate Environmental Coalitions that can begin to better inform governance and management serving as informal commissions. They do not have the same gravitas, however.

4. How can we help groups include green infrastructure and new innovations in their planning and budgeting?

- M. Shapiro: We see a lot of cities moving aggressively to use green infrastructure tools (e.g., storage to handle stormwater/rainwater), with side benefits for a green landscape. EPA has a task force that is promoting green infrastructure and trying to get green tools to professional associations, private firms, and municipal stormwater agencies. We are clarifying the use of State Revolving Fund loans for green infrastructure programs. Removing barriers, enhancing communications to the public, supporting funding, and incorporating new ideas will help.

5. What is the future of international programs for water resources sustainability?

- S. Stockton: We are working with AFRICOM and other military commands to share our technical water resources expertise. We will participate in the 6th World Water Forum in March to focus on targeted solutions. We are trying to synchronize efforts for improved water security across federal agencies with foreign-based missions.
- M. Shapiro: Although EPA's role is limited; we do provide technical assistance and exchange information with other nations through USAID in their role to support security and humanitarian objectives.
- A. Mills: The USDA is limited in what we can do to support food security – a huge international issue – but we (NRCS) do support bilateral efforts to share science and technology, especially through presentations delivered at international conferences. The

flood/drought resistant crops that we develop can be used by USAID.

- A. Dunn: Border states (e.g., Texas, Michigan) work with Mexico and Canada on issues involving shared water bodies.

6. How important are regional demonstrations in shaping measurable results for sustainability?

- A. Mills: USDA's "Healthy Watersheds" project is a good example. It will give us lessons learned that can be exported to other regions and help us tell a positive story about what we're doing to stimulate a stewardship ethic and better approaches to governance at federal, state, and local levels.
- M. Shapiro: We are doing path-breaking work at EPA in large ecosystems and showing how approaches succeed through measured results. Such work is a learning laboratory to share both successes and failures.
- J. Jacobs: Interagency cooperation/coordination are increasingly important at the federal level and in their work with states and citizens; it is breaking down silos and encouraging risk-taking and experimentation for results. A life-cycle adaptive management approach also helps. We must look at science as part of an iterative process and not as an end in itself.

## **PANEL 2 – WATER ADVOCACY**

**Dr. Stephen Gasteyer, Assistant Professor of Sociology at Michigan State University**, moderated a panel to consider how water advocacy involves several sectors and "community capitals." Water advocacy dates back to the founding of our nation with attempts to leverage "financial" and "built capital" to create opportunities for wealth generation through interstate transport. Development of water infrastructure in the U.S. was infused with political advocacy, making "political," "economic," and "built capital" very important.

Regulation of water resources as a strategy has given way to notions of stewardship, reflecting a shift in thinking from appropriating water resources to building coalitions for the desired future use of water resources, with attention to adaptive management achieved through both governments and advocacy efforts. For a holistic approach, we must address water sustainability, watershed planning and management, water quality and water quantity, climate change, green cities and green infrastructure, and the energy-water nexus within a watershed context. Panel members elaborated on these themes.

**Patrick McGinnis, Water Resources Team Leader for the Great Lakes and Mississippi River Systems at The Horinko Group**, noted the power of the *big idea* for translating collaborative efforts into measurable and replicable results. This requires collaborators to not only have a collaborative spirit, but also the ability and willingness to get things done. Unfortunately, we do not actively recruit, mentor, or reward these skills. Organizations can decide to collaborate, but success is left to the people sent into the room. Collaboration is more than getting along, it's getting tangible results. One of the reasons for this may be the disconnect that exists between decision-makers and participants in discussions such as this one. Effective outreach that reveals a systems context will help to connect the dots and keep issues relevant. The for-profit business community can keep the conversation fresh and add value by revealing the case for sustainability.

The Horinko Group is supporting this dialogue by serving as an honest broker to connect thought leaders to practitioners. Free webinars, Executive Salons, annual Summits, a monthly newsletter, and an RSS feed are all vehicles that the Group utilizes to engage the water resources community in a deeper and more spirited conversation.

As advocates, The Horinko Group seeks to showcase pathfinders and highlight demonstrations that promote long-term stewardship. Specific strategies to promote sustainability through stewardship and collaboration have been outlined within the Water Division's latest White Paper released in January 2011 entitled, *Promoting the Sustainability of Our Nation's Water Resources – A Launching Device to Demonstrate Early Outcomes*.

The Group strives to foster a new ethic for relating to water that goes beyond compliance and focuses on testing old assumptions, authorities, and policies. Social learning tools are critical for keeping people informed and focused. They will serve to foster confidence about our water future.

**Ben Grumbles, President of the Clean Water America Alliance**, noted that the Alliance seeks to help stakeholders move toward a national water policy through a vision or framework of water sustainability (both water quality and water quantity, urban and agricultural). This will take changing the current water resources management paradigm. A framework that expresses key principles for a national water vision may unify the effort, such as:

- *Changing water from invisible to invaluable* – focusing on raising public awareness about the value of water economically and socially, using a national awards program to recognize a national leader who is innovating, integrating, and educating.
- *Shifting infrastructure from gray (bricks and mortar) to green (natural systems)* – through hard work, learning from failures, taking the time, and seeking a softer and more sustainable path. Green roofs, use of gray water, and permeable pavement are examples. This shift will save money and energy.
- *Changing paradigms* – i.e., how we view public wastewater and drinking water treatment works...make them recycling and reuse centers for resource recovery. Recover nitrogen and phosphorous as nutrients through scientific and technological advances. Biogases and biomasses become useful for creating energy (electricity) within this context. Embrace the philosophy of “one water.” Break down barriers and biases. We must change the way we view wastewater treatment facilities by recasting them as resource recovery centers.
- *Focusing on watersheds* – bring teams in from different cities to explain how they are changing their paradigm to take a more sustainable approach to water resources management. Never underestimate the power of a small but informed group to change the world.

**Dick Engberg, Technical Director of the American Water Resources Association**, noted that the American Water Resources Association (AWRA) was formed to be a multi-disciplinary water resources organization. Its diversified membership of 2,800 spans 60 countries today and 20 water resources disciplines. One-third of the members are practitioners, one-third are academics, and one-third work in government at all levels.

In addition to conferences and special collections and seminars, AWRA publishes a magazine (*Impact*), and a refereed journal. So far, AWRA has sponsored four Water Policy Dialogues to stimulate congressional and administration action for a revitalized water resources policy. One output of the dialogues is a recommendation for a national water resources vision and strategy for how to best use, protect, and manage our water resources. AWRA has also adopted a policy supporting integrated water resources management and adaptive management.

AWRA is a large proponent of Integrated Water Resources Management, “the coordinated planning, development, protection, and management of water, land, and related resources in a manner that fosters sustainable economic activity, improves environmental quality, ensures public health and safety, and provides for sustainable economic activity, improves or sustains environmental quality, ensures public health and safety, and provides for the sustainability of communities and ecosystems.”

**Todd Ambs, President, River Network**, noted his organization has 700 partners in 5 regions that facilitate the activities of over 1,500 water groups around the U.S. to work more collaboratively via strategic planning, advocacy, and providing tools for capacity building, especially leadership development.

River Network strives to reduce the water impacts of energy production and greenhouse gas emissions and to implement policy changes for a resilient green infrastructure. In addition to providing tools for individual action, River Network has built the case about the effects of our carbon footprint on water through case examples and research evidence. Social learning tools enhance web-based communications, peer learning, and developing local leaders and communities of practice.

National messaging is important as well. A current focus is on the energy-water nexus. Making progress on such initiatives requires government to become more innovative, to act like a business, and to conduct necessary research and development.

Unfortunately, we starve organizations of resources and continue to deal with issues that should have been resolved 50 years ago, such as the conflict between business/economic development and the environment. At this point, resolving such conflicts takes special legislative sessions that threaten to gut environmental advances because of the mistaken belief that doing so will generate jobs. Such moves are dragging us back to the 19th century.

## **PANEL 2 – QUESTION & ANSWER**

1. How does each panelist view the goals of its advocacy and how does that relate to your targets and strategies?

- **B. Grumbles:** Unite people and policy for water sustainability. Bring the right players together with unfamiliar partners through advocacy, public outreach, and outreach efforts to focus on how their organizational policies may conflict and to strive for middle-ground solutions. Produce deliverables. Go beyond random acts of conservation.
- **P. McGinnis:** Bring the right people into the room. Focus on collaboration, integrated approaches, and transparency. Think more about the strategic importance of messaging

beyond the water sector. Seek a common voice on approaches and solutions.

- T. Ambs: Look at what people are doing on the local level where there is no interest in partisan political rhetoric.
- D. Engberg: Set the example and lead by example. Participate in the communities where you hold conferences. For example, AWRA has gone out and cleaned up the New Orleans Zoo after Hurricane Katrina. We planted 800 trees and shrubs when we met in Virginia Beach, VA.

2. What can advocacy groups do to promote “informed” awareness toward adaptive management among a growing number of participants?

- All: Seek out and entrust local communities.
- P. McGinnis: Create trusted communication platforms. Work through community colleges and land grant universities to engage a national dialogue while assisting communities with green job training, promoting re-use strategies, green infrastructure, and building local communities of practice.
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- B. Grumbles: Position utilities to be leaders in community approaches to water issues.
- D. Engberg: Provide education about water resources in elementary and middle schools. Youth will help with monitoring. They’ll become tomorrow’s advocates.
- T. Ambs: Work locally and select key messengers.

3. Where do you think that everyday citizens fit into the sustainability of water resources?

- P. McGinnis: They have a prominent role, but are they prepared to join the conversation with confidence? Water sector actors have a role here to prepare and inform folks to engage in the conversation. We can do this through social learning media. Also, we need to have states and educators adopt consistent messages. We need to more effectively reach out to non-traditional stakeholders.
- B. Grumbles: Making a paradigm shift toward a sustainability paradigm requires a citizen-centered approach that appeals to decision-makers. Individuals make substantive contributions; we must seek their public acceptance of the concepts and themes we’ve discussed here.
- D. Engberg: Grassroots approaches are instrumental in making change, but change will take a great deal of additional effort on this level. The federal approach is more reactive than proactive.
- T. Ambs: Citizens need to get involved in their local river watershed group. A good example is the Great Lakes Compact, which engaged the public in an effort to answer a series of questions through hearings held across the Great Lakes Basin. Paying attention to these answers and attributing recommendations to specific individuals helped.

#### 4. What is a catalyst for action or change?

- **B. Grumbles:** Foreign invasion, it puts water bodies at risk. We have to link water security to homeland security. Fear about losing water or that our water is contaminated is a catalyst for action.
- **P. McGinnis:** A campaign approach to the next big idea. Discouraging littering and encouraging recycling are useful examples. Align national campaigns such as the “Take Pride in America” campaign of yesterday and “America’s Great Outdoors” of today with regional water awareness. They provide a process for public engagement and could give other initiatives traction.
- **D. Engberg:** Look at the Occupy Wall Street movement. What about having an “Occupy the Sewage Treatment Plant?”
- **T. Ambs:** Never waste a crisis. Use volunteers and collaborative and innovative processes. We need a regulatory floor that is enforced.

### **PANEL 3 – THE BUSINESS OF WATER**

**Tracy Mehan, Principal, The Cadmus Group**, moderated the third and final panel on the business of water, a robust sector that is characterized by a great deal of innovation in water services technology. The water and wastewater sector is a \$20 billion annual business area, \$500 billion worldwide. The government sector – municipal water – faces tremendous challenges regarding infrastructure, governance, and combined sewer overflows. Facing rate hikes, this sector must move toward a more business-like approach. Panelists provided views on how the business sector may do this.

**Brent Fewell, VP of Environmental Compliance, United Water**, cited that in Europe, where water is privately owned and operated, about 25% of water in the U.S. is provided by the private sector, the balance by government. United Water operates 400 water and wastewater systems serving 7 million people in 25 states. It is moving toward public-private partnerships for long-term maintenance of water and wastewater assets, an arrangement that seems to be highly satisfying for the parties involved.

There is a failure of political leadership at all levels to address infrastructure improvements; local leaders are especially hamstrung in making the hard decisions or to set priorities. There is no political will to raise rates. Private companies can help recapitalize water infrastructure in communities where an investment of \$4-8 trillion will be needed over the next 20 years.

Given the highly distressed condition of water systems and the loss in the tax base from population shifts and other cutbacks, United Water is working with regulators on infrastructure and personnel problems to improve operational efficiencies. Small- and mid-sized communities, which lack resources and evidence highly fragmented systems, are especially challenged. Helping them will require a regional approach. We need more innovation and private investment to address the water needs of our communities.

**Tommy Holmes, Legislative Director, American Water Works Association**, noted that communities are best served by self-sustaining water systems supported by water rates (charges). There have been many studies about water resources infrastructure needs; they

conclude that we are overdue for treatment plants, especially given the effect of new regulations. The more complicated drinking water regulations imply the need for new and sobering expenditures.

What is needed is a toolbox for utilities that include a myriad of tools including rates for monthly use, bonds (e.g., commercial bonds, private activity bonds with annual volume caps removed), State Revolving Funds, and a water infrastructure finance and innovation authority (new loans for large projects).

He cited AWWA's joint White Paper entitled, *A Cost Effective Approach to Increasing Investment in Water Infrastructure – The Water Infrastructure Finance and Innovation Authority (WIFIA)*, as such a mechanism that could lower the cost of capital for water utilities while having little of no long-term effect on the federal budget. WIFIA would access funds from the U.S. Treasury at long-term Treasury rates and use those funds to provide loans or other credit support for water projects. Funds would flow from the Treasury, through WIFIA, to larger water projects or to State Revolving Funds wishing to borrow to enlarge their pool of capital. Loan repayments – with interest – would flow back to WIFIA and thence into the Treasury – again, with interest.

**Jon Freedman, Global Leader for Government Relations, General Electric Power & Water** showed a video produced by GE entitled, *It's a Thirsty Planet*, highlighting GE's role in treating every type of water.

One area of emphasis for GE is technology for water reuse to treat wastewater; this is a dramatic growth area (4% of the market today with a goal of 30% by 2025). GE has 50,000 industrial customers around the world and is working internationally with governments to develop reuse technology, influencing leaders through thought papers. However, a growing challenge is that people would rather transport water from elsewhere than reuse it, because it can be less expensive to do so. Business and government need to work effectively work together to promote re-use.

GE is hosting a series of summits on reuse and working to set targets to address water scarcity. It is also working with Goldman Sachs to set rate areas through the Water Resources Institute. Leading by example, GE is working to set and achieve targeted goals to reduce its own water consumption.

**George Hawkins, General Manager, DC Water** highlighted that “DC Water is life.” The American Society of Civil Engineers graded the wastewater and water treatment infrastructure in the U.S. very poorly (D or D- rating). Water pipes are breaking down all over Washington, D.C. The District has 42,000 water valves alone, some of which need to be shut off to deal with a water main break. So, many other things are affected when water distribution systems break down.

The District has to be able to deliver water every single minute of every single day. People become extremely upset when they cannot receive or use their water. Addressing water needs is a major business opportunity. But, because the work is crisis-oriented and free time is so short, there is an instinct not to innovate; yet, if we don't innovate, we are dead. This makes the public relations role of government all the more important. DC Water has 11 fulltime employees dedicated to external affairs to educate the public. They use social media (e.g., Facebook, Twitter, U-Tube), give speeches, place advertisements on trucks and buses, and constantly tell the story about water.

Technology has helped improve operations. Examples include – citizens can now sign up online to see their water use and are alerted if they go over their normal usage pattern. We track customer service to improve customer service.

Innovations in treatment technology present a compelling research opportunity. Greater advocacy for source protection by water providers is critical. Making headway requires some regulatory flexibility. We need to celebrate our blue-collar workers and work with the unions to innovate; they are tremendous problem solvers and appreciate the importance of our role. We need to spend our public funds more wisely.

Investment demands greater certainty. New markets, concepts like nutrient trading, require greater flexibility in consent decrees. Performance and happy customers are crucial to gaining support from rate commissions for rate increases. Communications is everything!

### **PANEL 3 – QUESTION & ANSWER**

1. What is your opinion about the relative merits of increasing federal investments or obtaining greater contributions from ratepayers?

- B. Fewell: We have a responsibility to practice better asset management. In terms of investments, AWWA's WIFIA concept is more attractive than State Revolving Funds because Congress can allocate loans for less. We should try to keep federal involvement (investment) low.
- G. Hawkins: We have had rate increases occur in a short amount of time; people are not used to this. Costs are being imposed on both public and private wastewater treatments plans in urban areas that are already struggling to counter urban flight. I favor federal funding, but not unfunded mandates. The federal government should have some skin in the game; I do not favor a complete separation between the federal government and municipalities. We need to gear up to deal with Congress in the same way that the agriculture sector does for the Farm Bill.

2. Will technology save us? Will technology transform the way we manage and use water/wastewater over the next 20 years? If so, how? What will be the drivers?

- J. Freedman: Technology will help us reduce energy consumption. We are concentrating on energy recovery devices such as desalination and reuse technologies. We believe that we can reduce capital costs 25-30% through technological advances.
- G. Hawkins: We are facing a crisis of high costs at the margin, but foresee little new revenue. We learn from others and through public-private partnerships. For example, regarding how to turn bio-solids into fuel and fertilizer through thermohydrolysis research for products that can be sold at Home Depot. The private sector and non-governmental organizations can help us conduct such research.
- B. Fewell: We should look at ongoing university-based research.

3. How realistic is it for public and private water providers to incorporate source protection (green infrastructure) into costs?

- T. Curtis: New York City has tried to manage things at the source via zoning. They also had a choice between building new reservoirs or working on the water source in the Catskills. Washington, D.C. has a project to build gigantic underground tunnels to take overflow that would have been sewage and wastewater vs. doing green roofs and porous pavements, i.e., transforming the landscape at the surface to transform the rainwater. The problem is that it is difficult under current rules to take the green approach; it involves asking EPA for a waiver. Another problem is that water quality standards are based on low-flow conditions; we lack exceptions at high-flow levels where the costs are so high.
- T. Mehan: We can work with land trusts to get into the watershed in a cost-effective way to protect the resource. Should we price this alternative into our rates?
- G. Hawkins: Maybe we need to look at nutrient trading but there is no avenue at in my situation to do this; it would impose higher costs. We need a market system that provides credits for making enhancements to our treatment plants. New York City provided money as an incentive for landowners to address the source-point issues on their farms.
- T. Curtis: Congress should strengthen partnerships with farmers.

4. If water is under priced, how does the private sector make the effort?

- B. Fewell: We have to invest in the infrastructure in order to satisfy our customers. If they are dissatisfied, they will not pay for the investments. Managing performance is the way to keep customers happy.
- G. Hawkins: We have reduced our meter-reading staff. The private sector is better at doing financial analysis of payback. We could be more efficient through an emphasis on best practices. The private sector is good at building efficiency into their operations.

5. Who is the Steve Jobs of the water sector?

- G. Hawkins: Most of the technical experts come from the engineering field; they do not concentrate on public outreach or making arguments on Capital Hill. We may need a new breed of employee, or to organize ourselves like a private company.
- B. Fewell: We need people like George Hawkins who speak the truth to decision-makers. Kevin Schaeffer in Milwaukee comes to mind. Our leaders will be found at the local level. I am encouraged to see the paradigm changing. Dialogues such as this one help. But, we have to think differently and work smarter and more cooperatively.
- J. Freedman: GE has scientists working everyday all around the world. We also have advanced technology leaders who scout for the next Steve Jobs, and for those with new ideas, but not the resources to bring their ideas/products to market.

## LUNCHEON KEYNOTE ADDRESS

**Steven Hoffmann, Founder of WaterTech Capital Corporation and Author, *Planet Water: Investing in the World's Most Valuable Resource***, presented a proposal for a new institutional environment in which to address sustainability as both a process and a goal. An “Ecological Economic” model is needed because of several factors:

- Acceleration of drivers once seen to be slow-moving;
- Convergence of social and private returns on fiscal investments;
- Increased reliance on market forces for meaningful results;
- Institutional arrangements that have become increasingly pluralistic;
- Increased emphasis on measurable performance results;
- Availability and effectiveness of conflict resolution mechanisms; and,
- Enhanced policy-making capabilities.

This suggests that water stewardship should rely on both market systems and new water institutions for sustainable results in terms of environmental protection, economic development, and social equity (sustainability). A shift from thinking about water resources as public goods to viewing them as private goods can easily devolve to a market model based on expecting a satisfactory return on investment for something produced (i.e., a water source that is cleaned up or a product that has some measurable benefit).

The shift involves moving from a concept of “Environmental Economics” to one of “Ecological Economics.” For instance –

- Environmental Economics seeks an optimal allocation of the resource, whereas Ecological Economics looks to the ecosystem to set an optimal scale;
- Environmental Economics seeks to optimize the resources based on deterministic models, whereas Ecological Economics seeks to set priorities for sustainability.
- Environmental Economics views the resource for its utilitarian and functional uses, whereas Ecological Economics is driven by an environmental ethic.
- Assumptions and analyses used by Environmental Economics strive to maximize utility or profit based on rational approaches, whereas Ecological Economics focuses on bounded individual rationality.
- Environmental Economics uses equilibrium models within a mono-disciplinary context to satisfy water supply/demand imbalances, whereas Ecological Economics engages cause-and-effect models for rich descriptions and multidisciplinary/multivariate integration.
- Environmental Economics results are indicated by monetary measures, whereas Ecological Economics produces results in the form of physical and biological indicators.

In practice and theory, there are many ways to price water: flat pricing (unmetered), declining or increasing block pricing, average cost pricing, conservation pricing, water-budget rates, real-time peak load pricing, marginal cost pricing, and biocentric value pricing.

Market variables that drive water pricing include population growth, agricultural practices, degradation of water supplies, the condition of water infrastructure, technology development, and movements within the water industry to rationalize methodologies, regulation, climate change, and institutional developments. However, there are market disconnects that “flavor” how water is approached as a commodity (private good) or as a public good.

What is becoming clearer is that neo-classical economics (Environmental Economics) is ill equipped to deal with water resource sustainability. Where Wall Street seeks to expand water business through private equity, hedge fund, and venture capital IPOs, changing the paradigm from one of Environmental Economics to one of Ecological Economics can better answer the call for water stewardship for water resources sustainability in integrative, collaborative, and cost-effective ways.

## **LUNCHEON – QUESTION & ANSWER**

1. How does the classical economic model affect things?

- S. Hoffmann: It affects the time horizon. Wall Street is interested in short-term gains, not a 25-50 year time horizon. An Ecological Economics model can better consider the long-term effects by bringing them into the equation.

2. What is the best way to build a business case for this?

- S. Hoffmann: Economists can begin to bring an Ecological Economics model to the table to mainstream this new approach.

3. How does this concept play internationally?

- S. Hoffmann: An emphasis on future impacts on future generations sells the notion of sustainability. We can see the future in water conflicts of developing nations.

## **THE PATH FORWARD**

**Brendan McGinnis, Founding Partner of The Horinko Group**, thanked all for the dialogue and noted that it will help advance the tough work ahead.

Gross deficits and ever-shrinking budgets are contributing to a growing urgency for sensible, cost-effective solutions to address our most pressing water and energy challenges. Better leveraging of resources and broader engagement can be realized through more effective collaboration and creating an inclusive platform to educate and engage all stakeholders.

Collaboration and interdependence have become crucial. And, at the heart of it all, each of us must take an active role in securing our common water future.

Each of our efforts and commitment are testament that perhaps we are arriving at a tipping point where some collective resolve for innovation and a convergence of effort can drive real traction and measurable results. Perhaps these complex water problems are not beyond our collective reach to address.

## ATTACHMENT I: FINAL ATTENDEE LIST

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**ATTACHMENT II: SUMMIT AGENDA**

**Sustaining Our Nation's Water Resources**  
*Answering the Call for Stewardship*  
**October 25, 2011**  
**University of Maryland, College Park**

**Registration** **8:00 – 9:00am**

**Welcome and Introductions** **9:00 – 9:30am**

*Brendan McGinnis*  
Director, Water Division, The Horinko Group

**Panel One: Water Governance** **9:30 – 11:45am**

*Jeff Jacobs* (Moderator)  
Scholar, Water Science and Technology Board, National Research Council

*Alexandra Dunn*  
Executive Director, Association of Clean Water Administrators

*Ann Mills*  
Deputy Under Secretary, Natural Resources & Environment, U.S. Department of Agriculture

*Mike Shapiro*  
Deputy Assistant Administrator, U.S. EPA's Office of Water

*Steve Stockton*  
Director, Civil Works, U.S. Army Corps of Engineers

**Luncheon and Keynote Address** **11:45am – 1:30pm**

*Steve Hoffmann*  
Founder, WaterTech Capital Corporation and acclaimed author of *Planet Water: Investing in Our World's Most Valuable Resource*

**Panel Two: Water Advocacy**

**1:30 – 3:00pm**

*Dr. Stephen Gasteyer* (Moderator)  
Assistant Professor of Sociology, Michigan State University

*Patrick McGinnis*  
Water Resources Team Leader, The Horinko Group

*Ben Grumbles*  
President, Clean Water America Alliance

*Dick Engberg*  
Technical Director, Water Policy Dialogue, American Water Resources Association

*Todd Ambs*  
President, River Network

**Break**

**3:00 – 3:15pm**

**Panel Three: The Business of Water**

**3:15 – 4:45pm**

*Tracy Mehan* (Moderator)  
Principal, The Cadmus Group

*Brent Fewell*  
Vice President of Environmental Compliance, United Water

*Tommy Holmes*  
Legislative Director, American Water Works Association

*Jon Freedman*  
Global Leader, Government Relations, General Electric Power & Water

*George Hawkins*  
General Manager, DC Water

**Path Forward**

**4:45 – 5:00pm**

**Networking Reception**

**5:00 – 7:00pm**

### **ATTACHMENT III: SUMMIT RESOURCE LINKS**

Note: All of the following resources can also be found on our summit website at [2011summit.thehorinkogroup.org](http://2011summit.thehorinkogroup.org).

1) Final 2011 Summit Program –

[http://www.thehorinkogroup.org/pubs/summit\\_web.pdf](http://www.thehorinkogroup.org/pubs/summit_web.pdf)

2) Summit Partner Slideshow –

<http://www.thehorinkogroup.org/pubs/THGSummit2011.pdf>

3) Governance Panel PowerPoints –

<http://www.thehorinkogroup.org/pubs/Governance.zip>

4) Advocacy Panel PowerPoints –

<http://www.thehorinkogroup.org/pubs/Advocacy.zip>

5) Business of Water Panel PowerPoints –

<http://www.thehorinkogroup.org/pubs/Business.zip>

6) Luncheon Keynote PowerPoint –

<http://www.thehorinkogroup.org/pubs/Luncheon.zip>

7) 2011 Summit Photo Gallery –

<http://2011summit.thehorinkogroup.org>