A CALL TO ACTION

The Need for an Integrated National Water Policy

The Clean Water America Alliance's National Dialogue Report

Clean Water America Alliance

It's Time to Look at America's Water in a Different Light.

Challenges to our nation's ability to provide clean and safe water for future generations abound. The need to consider approaches that encourage watershed planning, focus on sustainability, and embrace the concept of green cities is critical to our clean water future. Clearly, the silo thinking of the past has kept clean water, drinking water, stormwater and water reuse interests segregated – and while it has driven progress, it has not encouraged comprehensive thinking, planning and management of our waters on the transformational scale now necessary.

An integrated national water policy – that balances our commitment to social, environmental, and economic needs – is essential to guide the development of our Nation's environmental statutes and inform water-related decision-making. Both policy makers and the public must grow to understand that water is a finite resource that must be managed in a sustainable way to allow for continued and unrestricted access. Environmental sustainability must be advanced, water use must be efficient, and clean water must be available for human and ecosystem needs.

Clean Water America Alliance
www.CleanWaterAmericaAlliance.org

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Foreword

Benjamin Grumbles, Chair, National Dialogue on an Integrated Water Policy

LaJuana Wilcher, Moderator, National Dialogue on an Integrated Water Policy

Each day, more and more Americans are confronting an unsettling fact of life in the 21st Century – our supplies of clean, dependable, economical water are more fragile than at any time in our recent history. Population growth, economic development, changing weather patterns, new energy supply strategies, and the needs of endangered ecosystems are threatening to overwhelm both the physical infrastructure and management systems that have previously provided for our water needs.

In some locations, we are experiencing sustained droughts that have not been seen in hundreds of years. In other areas, record droughts one year are followed by flooding the next. Additionally, the rise in sea level is eroding many coastlines, threatening the health of human developments and ecosystems near the oceans. And in many areas, rainfall has become not a welcome event but a major worry, as uncontrolled storm runoff turns what should be a beneficial resource into a source of major pollution for nearby waterbodies. Moreover, the recent past has seen a dramatic increase in the demand for water from a growing variety of new or revitalized energy sources.

With few exceptions water has historically been viewed as an almost unlimited resource, with the natural hydrologic cycle ensuring its sustainability over the years. Perhaps as a result, management of our water supplies was mostly left to local jurisdictions, with some regional cooperation and federal financial assistance.

But the increasingly severe nature of these challenges and the dwindling ability of the current local, state and federal approaches to surmount them leads to one conclusion: We must change our current stovepiped, approach to managing water.

> The past is no longer a guide to the future.

The Clean Water America Alliance believes that the first step in achieving such a goal is to bring together experts from all relevant fields − water practitioners, public officials, environmentalists, water users, local/state/federal authorities, agriculture, land use planners, and others with a stake in the outcome − to seek common ground on the various aspects of a national water policy, to assess the obstacles to achieving it, and to outline the concrete steps that can be undertaken to attain that goal.

The *National Dialogue on an Integrated Water Policy,* which took place in Washington, D.C., September 14 - 15, 2009, brought together 27 experts and leaders from across the spectrum of the water sector, was the first step in this effort. As the following report illustrates, while we may come from different backgrounds, with different expertise, and with differing views of the most pressing problems, there was a strong, general agreement on the need for a comprehensive, national water policy. There was also much agreement on some of the steps that can be undertaken to achieve it. That being said, it is critical to note that the report is a summary of the *National Dialogue* and that not all *Dialogue* Participants agree with each conclusion, recommendation or characterization contained in the report.

Discussion also focused on whether the current approach should be replaced or supplemented with a system

that allows local, state, and federal entities, as well as key stakeholders, to work together toward an integrated national water policy, one which recognizes the demands placed on a limited resource, which acknowledges the interrelationship among drinking water, wastewater, stormwater and flood waters, and which treats water as one resource – indeed as “One Water”.

This *Dialogue* also is not the last step. Many of us have been through similar discussions in the past. And there are examples of incremental progress toward a national water policy. But we are not there yet. Nor do we have the luxury of waiting for these developments to grow slowly into a national policy. The magnitude of the problems ahead of us demands that we have a national leadership that can instill a sense of urgency, commitment and support to make a national water policy a reality.

We look forward to joining with the participants in this *Dialogue* and others concerned about the future of our water supplies and water quality in continuing this critical effort.

Introduction

Why a National Water Policy . . . Why Now . . . Why Us?

Human and economic development in this country has always been reliant on access to, and the availability of, water. Indeed, when faced with challenges to our water quantity and quality, America harnessed its technological expertise and management prowess to overcome them. Until recently, such abilities had made water a resource so abundant that it was frequently given away free – unmetered, wasted, and taken for granted.

Based on what we thought were historic patterns of precipitation, water seemed to flow endlessly from the sky and from our rivers, filling our lakes and reservoirs and, with the help of a little engineering, being distributed to virtually every area with a dry throat.

But the past is no longer prologue. Population growth and concentrations, changing weather patterns and climatic conditions have forced us to re-evaluate how we use water. Climate change is turning some dry areas even drier, while others are subject to periodic feast-or-famine water supplies. But most importantly, it is making the future unpredictable and, thus, difficult to prepare for.

Adding to the challenge posed by climate change is the huge and growing demand for water from energy production. The nature of our energy supplies is shifting. While traditional and existing sources of energy, such as coal-fired power plants and petroleum rely on a steady water supply, many of the new energy sources, such as oil shale, hydrocracking of gas shale, steam generators from solar towers, corn-based ethanol production and nuclear power, also require large amounts of water. These sources may all contribute to greater domestic energy production, but they also lead to water quality challenges and add a large, and often unforeseen, demand on limited water resources, especially in arid regions. The pressure on our water supply is similarly challenged also by a growing demand from industry more broadly as well as from the agricultural sector as the U.S. population continues to expand dramatically.

> We cannot succeed without a clear national strategy – and national leadership.

Traditionally, primary control of our water resources has been in the hands of local or regional entities. Further fragmentation has occurred, however, as state and federal agencies developed separate views (and regulations) for what is, essentially, the same resource. Today, a myriad of often disparate state approaches as well as federal laws and regulations exist, many of which treat the same resource differently, and some of which are in conflict with each other.

For example, at the federal level there are numerous single statutes addressing individual components of our water resource management efforts, such as wastewater management (the Clean Water Act), drinking water management (the Safe Drinking Water Act), aquatic habitat (the Endangered Species Act) and air pollution sources (The Clean Air Act), to name but a few. Clearly, these pieces of legislation create separate bureaucracies that have developed their own cultures with the outcome that they can create conflicts and competing interests with the result of delaying progress toward improving the quality and quantity of our waters. Similar difficulties exist at the local level where municipal authorities are many and where water resource management is not always a primary lens through which municipal planning is viewed.

It is clear that the issues that most affect the future of our water supplies − climate change, energy production, population growth and concentration – will not be successfully addressed without harmonizing the treatment of water as the one resource it truly is. We cannot succeed without a clear national strategy – and national leadership. Establishing a national water policy, one that can integrate the currently separate, stovepiped, efforts of federal, state and local governments, focus resources and support, and better coordinate water, climate change, and energy issues, is critical to meeting the challenges that confront us and ensuring our future prosperity.

To move this effort forward, the Clean Water America Alliance was formed as a 501(c)(3) education-based organization in 2008 by individuals with substantial experience in water-related fields. Its objective is to identify and address major U.S. water-related issues, including the need to overcome the current separate, fragmented, compartmentalized approach to water issues and to promote a broad, comprehensive, integrated national water policy.

Such an effort must have broad-based support and expertise. Therefore, the Alliance convened, as its first major effort, a *National Dialogue* to tap the expertise and experience of a broad array of individuals in the water and related fields to think about an ideal water policy, to discuss the challenges confronting the establishment of a national water policy, to identify the obstacles to achieving that policy, and to recommend a set of initial actions that can begin to lay the groundwork for its implementation. The participants came together not as representatives of their various organizations, but as individuals to share their know-how and understanding in a search for common ground and concrete solutions. The *Dialogue* took place in Washington, DC on September 14 and 15, 2009. Twenty-seven individuals participated (listed on page 14).

While planning efforts need to have a broader and more centralized focus, implementation should be more decentralized, allowing for participation of a wider range of individuals and organizations.

The focus of this initial *Dialogue* was water sustainability and it addressed four key elements of a national water policy: the nexus between energy and water development, water quality and water quantity issues, green infrastructure as a solution to stormwater management, and using watersheds as a basis for more effective water planning and management.

While the discussions focused on the items identified above, several common themes emerged during the sessions. The first was the view that water must be seen as part of a global commons, that is, that water is international in nature and shortages in one part of the world will affect other regions of the globe. Also inherent in this concept is that, from both a global and national perspective, many other issues, such as air quality, land use, ecosystem health, energy supplies, etc., must take water into account and vice versa since they are all interrelated. In effect, this theme is a larger application of one of the principal goals of the Alliance, namely, to break down the stovepiped thinking in the water field. Similarly, participants wanted to avoid reverting to stovepiped thinking when considering actions on water and its possible consequences for other resources.

Another common theme in the discussions was the belief that we should be exacting about the end result we desire, but also flexible about the means to achieve it. This stems largely from a wish to provide an umbrella of confidence under which certain activities may be planned and carried out, and to maximize the potential for innovative solutions. It was noted that enforcement strategies should avoid, wherever possible, stifling productive originality in attaining performance goals. This sometimes happens when federal enforcement confronts innovative approaches at the local, state or regional level.

A related theme is the need for stronger federal leadership and funding. The importance of the federal government's role in formulating a national water policy cannot be overstated. At the same time, however, participants felt that the focus of implementation should be at the state and local level, much as it is with State Implementation Plans under the Clean Air Act. While planning efforts need to have a broader and more centralized focus, implementation should be more decentralized, allowing for participation of a wider range of individuals and organizations. Existing forms of federal assistance could also be leveraged to encourage the development of integrated water plans by localities, states or regions.

Finally, it was recognized by many participants, that change on the scale that will be necessary often requires some catastrophe to initiate it. Yet, many also were informed by the experience of developing responses in the midst of a crisis, an environment not always conducive to wise policy choices. Therefore, another theme which pervaded the *Dialogue* was that the elements of a sound national water policy need to be in place before a crisis occurs.

Key Foundations for Action

The Need for a National Water Policy

Perhaps no area received such a strong endorsement as the need for a national water policy. Fragmented laws, policies and organizations, at federal, state and local levels and a stovepipe mentality are interfering with progress in achieving sustainable solutions to water issues. The nation achieved notable progress over the years by compartmentalizing various water problems to find specific solutions: Clean Water Act, Safe Drinking Water Act, Endangered Species Act, etc. But in looking at the problems piecemeal, we overlooked the whole. This lack of a holistic view of water now seriously constrains our ability to solve the emerging problems related to climate change and energy supply transitions as well as the general challenge of water sustainability, all of which are inherently inter-connected.

Water Is Valuable and Must Be Valued

There is a great need for a better understanding of and appreciation for the value of water, both in terms of its cost and its intrinsic worth to human survival and ecosystem health. As Benjamin Franklin once noted, the true worth of water is only realized when the well runs dry. In many parts of the country, that well is beginning to run dry. Valuing water is not just an issue of proper pricing and financing, it is also a finite resource on which an ethical value must be placed such that it is used more efficiently, carefully and intelligently.

We Are All in this Together

In more than one sense, we are all downstream from someone. This means not only bringing a global commons view to water management, but also a new focus on water stewardship, for us and for future generations.

Perhaps no area received such a strong endorsement as the need for a national water policy.

Cooperation Is the Key to Progress

Just as our increasing interdependence can bring a more global view to water management, so too must it bring a new degree of cooperation among all levels of government. This is not an easy path. Indeed many of the successes of the past have been based on a top-down, enforcement-oriented, adversarial approach. A cooperative route may be uncharted, or at least unfamiliar. Fortunately there are some examples within and among the states which are integrating separate legal, regulatory and organizational systems and which are working to limit the laws and agencies that are often working at cross purposes. That said, enforcement must remain a viable tool to backstop progress.

The Past is Not Prologue

As far as water planning and management is concerned, the past is no longer a guide to the future. Climate change – or perhaps more accurately, climate chaos – effectively negates historical experience as an indicator of future conditions. We are confronted by change on a scale the likes of which our water infrastructure has never experienced. Not just drier or wetter regions, but severe drought one year and record floods the next, all in the same region. Efficiency of operation may have been the goal under relatively stable circumstances, but for the uncertain future, resilience and adaptability must play a stronger role in water plans and operations. This

will also have consequences for a legal and regulatory framework in which the desire for confidence and certainty will bump up against the reality of uncertainty and unpredictability.

The Need for Leaders and Followers

As we enter an ambiguous and confusing future, we will need uncommon leaders, individuals with influence and credibility to take on the daunting challenge of water sustainability. Success also will require followers, individuals who possess both knowledge about water and a water ethic that will serve them and future generations. Climate change, for example, had a recognizable spokesperson in Al Gore, the issue of water sustainability demands the same.

Key National Issues

The *Dialogue* addressed four specific issues as they relate to the development of a national water policy – Energy/Water Nexus, Water Quality and Water Quantity, Green Infrastructure, and Watersheds. The following is a summary of the main points raised in the discussions. While there was no attempt to achieve unanimity on each point, these were clearly the major points stemming from the session.

Energy/Water Nexus

- Water will have a profound impact on the development of domestic energy sources in the 21st Century – and vice versa! The challenges of using the country's two most important physical resources, energy and water, in the context of climate change will upend many historical practices. Underlying assumptions that have governed many actions in both areas are changing and historical records provide little guidance as to future conditions. Surmounting these challenges will tax our technological, fiscal, and institutional capacity. It is important that we be as prepared as possible for the degree of change that will be needed.

- Uncertainty about future conditions will require design for resilience on the part of water systems, and adaptability will be a hallmark of successful management at all levels.

- Smaller scale systems are often more adaptable than larger scale systems, particularly if they are designed for uncertain conditions from the start.

- Realistic pricing of water, much as with the pricing of energy, can lead to behavioral changes and conservation. Much water waste occurs because of its low, even unmetered, price. In addition, subsidies send confusing signals about the real worth of a resource and distort its most economical use.

- There is too little awareness of how much water is required to produce energy. Nuclear, gas, oil shale, for example, all require enormous amounts of water, often in water poor regions. A water footprint should be calculated for energy projects, much like the carbon footprint, to better judge the benefits and costs of any particular energy project.

- There is also a need for greater awareness of how water is distributed and wastewater collected, or, more generally, how water is moved to its destination, and the major amount of energy use this process requires.

- Disparities in supplies of energy and water will demonstrate the interdependencies among regions. Furthermore, as much as our water laws often don't work well together, they hardly mesh at all with energy laws and regulations. If we want to reduce the stovepipe mentality, we must address it in the context of energy and water, too.

- A reliable, affordable, and sustainable water supply will be critical to attract and maintain alternate energy sources and ensure continued economic viability and job growth in this sector.

Water Quality and Water Quantity

- One of the toughest issues to deal with is coordinating water quality laws, regulations and organizations with their water quantity counterparts. Water quality traditionally has been guided by Federal and state laws, while water quantity has been the domain of state laws. Bridging the entrenched interests will require considerable discussion and negotiation among all those with a stake in the outcome.

- This is particularly true when it comes to water rights, where western and eastern states have markedly different approaches, some of which greatly hinder sustainable water stewardship. For instance, in many western states, rainwater harvesting from home downspouts has been illegal since the rain that falls has already been appropriated to someone other than the homeowner.

Water will have a profound impact on the development of domestic energy sources in the 21st Century.

- Compiling a comprehensive water census/inventory must be done before meaningful progress can be made in integrating water quality/quantity planning. Since water supplies are regional in nature, such planning must occur regionally, as must the discussions which precede it. Some states have successfully delegated negotiations on water quality/quantity to regional groups.

- Re-evaluating water subsidies can help assure that truer water pricing will have a beneficial effect on conservation. However, such an evaluation must take into account all intended and any unintended consequences from such actions, such as impacts on food prices or diminishing replenishment of groundwater.

- Federal efforts to establish water quality standards for direct reuse of potable water would help spur improvements in technology and begin to reassure consumers about its safety and acceptability.

- Cap and trade proposals for water use within a watershed may help the market determine the best use for any specific quantity of water.

Green Infrastructure

- Green infrastructure is much more than just stormwater management, it can be a multi-dimensional, integrating force which brings in concepts such as ecosystem services to help manage urban water. It can also serve as an entry point to the redesign of other systems, such as energy/water pricing and local bureaucracy. And it can be accomplished at even very small, local scales, such as an apartment or office building.

- Green infrastructure is often seen as a decentralized approach to stormwater management that mimics the natural system's ability to keep the water out of the sewer system and our waterways. Green roofs may be the best known example, but there are many others which help to "slow it (stormwater) down, spread it out, soak it in".

- Green infrastructure is a vital tool to meet water quality needs. For example, the use of riparian forests and best management practices on the farm in the effort to reduce nutrient and sediment pollution, enable water quality goals to be met in a much more sustainable way.

- Water utilities have been doing most of the work to establish green infrastructure, but the involvement needs to be much broader, not just among city agencies, but among businesses, homeowners, developers, and other affected groups.

- Because of its viability on a small scale, it often generates public enthusiasm, which can be directed to other, broader water stewardship issues. It can be used as a teachable moment.

- The real value of green infrastructure is in the incorporation of it into the design of buildings, roads, housing, developments, etc. from the start. This can lead to a paradigm shift by the users/occupants of these facilities and a change in their behavior toward water.

- One serious impediment to expanding the use of green infrastructure is the difficulty under current IRS regulations of using the proceeds from tax-exempt bond issues for non-structural alternatives. This would be a simple but profound change to make green infrastructure systems more available to cities.

- The concept of ecosystem services must be embodied in green infrastructure projects to help better value the benefits of natural systems in managing water sustainably.

- Federal funding of wastewater systems could encourage more green infrastructure by tying it to implementation of specific projects. It could also be tied to the adoption of a more integrated water resource plan. And green infrastructure is very amenable as a 'supplemental environmental project' in lieu of fines for environmental violations.

- Green infrastructure needs a regulatory basis so that there is some certainty for those using it. But since it involves natural systems, enforcement needs to take the inherent variability of such systems into account. Regulations need to be exacting about the end, but flexible about the means.

Watersheds

- In a sense, a watershed is as simple as "people connected by water". Watersheds exemplify our common link to water and our inherent interdependence. Thus, it is an ideal organizing regime since it gives people a stake in something tangible which directly affects their lives – water. It also provides a natural basis for taking a holistic view of water. Better science can help define a watershed's boundaries more precisely.

- One of the biggest challenges is that political boundaries and watersheds usually don't coincide. In many cases, federal involvement is the only way to make enforceable agreements among jurisdictions (for example, the Chesapeake Bay). Some local areas are doing watershed planning well, but we need to do better on a national level. Those areas that are successful usually have clearly defined the responsibilities of the various parties. It is not simply planning that will serve as the solution; we also need integrated monitoring, permitting and enforcement on a watershed basis.

- As with other issues discussed, if not more so, the involvement of all stakeholders in the watershed planning process is key to its success.

- The urban portion of a watershed can often be handled differently from the less developed portions. Urban areas are more amenable to using existing tools, whereas other areas in the watershed may need new approaches due to the more diverse nature of land use activities.

Watersheds exemplify our common ownership of water and our inherent interdependence.

- River basin commissions have been shown to be useful organizations to focus attention on watersheds and to become a forum for adaptation at the local or regional level. However, some solutions still require a top-down approach so that Federal involvement (incentives/enforcement) will remain critical.

- The continuing problems in watersheds demonstrate that current laws do not work well together on a watershed basis. It may take an overarching watershed act to achieve the required degree of cooperation and communication. A substantial amount of watershed degradation results from land use decisions, which are beyond the reach of most current water-related laws.

- Because of the inherent issues of political boundaries, watershed planning and management needs to be encouraged by strong incentives rather than regulatory edicts. Federal funding can be tied to effective implementation.

- Watersheds would benefit greatly from a water census/inventory and from better determinations of pollutant loadings and accountability from all contributing sources, including, but not limited to, agriculture runoff, municipal sewage, construction/development, air sources, etc.

POINTS OF CONSENSUS

As part of the discussion sessions, participants identified several specific actions that could be taken to set the stage for development of a national water policy. These include:

WATER INVENTORY

There is now no comprehensive inventory of all water, surface and groundwater, in the country. Any successful national water policy must be based on a foundation of sound science and data. Therefore, one of the first tasks, one that could begin immediately, is to conduct such an all inclusive survey.

WATER FOOTPRINT

There is a great need for a convenient, understandable measure of the effect of various activities on water supplies. Emphasizing the use of a "water footprint" (analogous to the 'carbon footprint' in climate change) can heighten awareness about the water consumption of various activities. This would include the activities of individuals, households, organizations, corporations, municipalities, states, and the nation as a whole.

INCLUSIVENESS

All those with a stake in water use must help to craft a national water policy to assure it meets the needs of all segments and sectors of our society. The next meeting of the *National Dialogue* must include individuals with backgrounds and expertise in agriculture, industrial water use, water rights, development, low income communities, Native Americans, and state utility commissions, among others.

Conclusion

Vital Next Steps

The ultimate conclusion from the *National Dialogue* is that there is a lot of work to be done. The failure to meet the challenges highlighted in this discussion will have serious, detrimental consequences for the Nation and its urban and rural communities. In an effort to address these challenges, the *Dialogue* concluded with a discussion on important next steps in achieving the Alliance's goal for an integrated national water policy. While the following steps are limited in scope out of necessity, they were nevertheless met with enthusiasm and embraced by the *Dialogue's* participants.

The *Dialogue's* participants made it clear that the Nation is at a turning point and there must be the right people telling the right story about water to motivate the public and our policymakers at all levels. There was almost total agreement that the Alliance is poised to fulfill this role and that now is the right time to do this work. Furthermore, the participants expressed the importance of combining innovation, which generally occurs from the bottom up, with the leadership and vision, generally a top-down effort, in order to move forward.

The final step to accomplishing the goals outlined by the *Dialogue* will be to make sure this conversation continues — and that as we talk the talk we also ensure the incremental implementation of an integrated and adaptable policy that ensures the sustainability of this planet's most vital resource — water.

In line with this, there was a general enthusiasm about reconvening the participants but with some additional representatives from key stakeholder groups (agriculture, land use planners, public health, etc.), who could help to further develop a strategy for implementation. Such a follow-up meeting would also likely feature break-out sessions into smaller, but still broadly representative, groups to explore these steps with greater specificity. It was clear that there was a desire for additional, more focused sessions on the energy-water nexus (including climate change), recycling/conservation, biodiversity and ecosystem health through a lens that views water holistically.

The passion and excitement demonstrated at the *National Dialogue* for next steps and continued discussion bodes well for the future of the Alliance's suite of programmatic efforts. Unlike other organizations, the publication of a report does not signal the conclusion of an initiative. Instead, this report marks the beginning of the Alliance's efforts toward implementing the recommendations and consensus positions from this *Dialogue* and sets the framework for future discussions regarding this Nation's growing water resource challenges.

Dialogue Participants

CHAIR:

Ben Grumbles
Director
Arizona Department of
Environmental Quality, AZ

FACILITATOR:

LaJuana Wilcher
Partner
English, Lucas, Priest, & Owsley, LLP, KY

PARTICIPANTS:

Art Baggett
Board Member
California State Water Resources
Control Board, CA

Will Baker
President and CEO
Chesapeake Bay Foundation, MD

Daniel Botkin
Professor Emeritus
Environmental Studies and
Biological Sciences
University of California
Santa Barbara, CA

Carol Collier
Executive Director
Delaware River Basin
Commission, NJ

Debra Coy
Senior Water Industry Analyst
Janney Montgomery Scott LLC, DC

Al Ettinger
Senior Staff Attorney
Environmental Law &
Policy Center, IL

Paul Freedman
Co-founder and President
Limno Tech, MI

Gordon Garner
Vice President
Water Business Group
CH2M Hill, KY

Jud Hill
Managing Partner
Summit Global
Management, Inc., DC

Tim Loftus
Planning and Programming
Chicago Metropolitan Agency for
Planning, IL

Charlie Logue
Director
Regulatory Affairs Department
Clean Water Services, OR

Mike Markus
General Manager
Orange County Water District, CA

Steve Maxwell
Managing Director
TechKNOWLEDGEy
Strategic Group, CO

Dan McCarthy
CEO
Black & Veatch Water, MO

Katie McGinty
Founding Partner
Element Partners LLC, PA

William J. Mitsch
Distinguished Professor & Director
Olentangy River Wetland
Research Park
Environment and Natural
Resources
Ohio State University, OH

Pat Mulroy
General Manager
Southern Nevada Water
Authority, NV

Valerie Nelson
Founder
Coalition for Alternative
Wastewater Treatment, MA

Howard Neukrug
Director, Office of Watersheds
Philadelphia Water Department, PA

Bill Ross
Former Secretary
North Carolina Environment &
Natural Resources Department, NC

Lynn Scarlett
Environmental Consultant
Former Deputy Secretary
Department of the Interior, VA

Paul Schwartz
National Campaigns Director
Clean Water Action, DC

Marcia St. Martin
Executive Director
Sewerage and Water Board of
New Orleans, LA

Nancy Stoner
Co-Director, Water Program
Natural Resources
Defense Council, DC

Ken Strassner
Retired Vice President for
Environment, Energy and
Sustainability
Kimberly-Clark Corporation, GA

Dov Weitman
Chief, Nonpoint Source Control
Branch
U.S. Environmental Protection
Agency, DC

Joe Zuback
President & Founder
Global Water Advisors, Inc., CA

Board of Directors

Dick Champion, Jr., Chair
Director
Independence Water Pollution Control Department, MO

Jack Baylis
U.S. Group
Executive Strategic Development
AECOM, CA

D. Randall Benn
Partner
Dewey & LeBoeuf LLP, DC

Julius Ciaccia
Executive Director
Northeast Ohio Regional Sewer District, OH

James H. Clark
Vice President
Black & Veatch Corporation, CA

Carol Collier
Executive Director
Delaware River Basin Commission, NJ

Michael B. Cook
U.S. EPA (Retired)

Mohamed Dahab
Professor & Chair –
Department of Civil Engineering
University of Nebraska – Lincoln, NE

Alexandra Dapolito Dunn
Assistant Dean of Environmental Law Programs
Pace University School of Law, NY

Richard C. Fox
Chairman & Chief Executive Officer
Camp Dresser & McKee, Inc., MA

Benjamin H. Grumbles
Director
Arizona Department of Environmental Quality, AZ

James Hall
Vice President Municipal Division North America
Siemens Water Technologies Corporation, PA

John Hattle
Vice President of Business Development
Skender Construction, IL

Patrick T. Karney
Global Director, Wastewater
Vice President, Water Business Group
CH2M HILL, FL

Dick Lanyon
Executive Director
Metropolitan Water Reclamation District – Greater Chicago, IL

Charles Logue
Director, Regulatory Affairs Department
Clean Water Services, OR

Vernon Lucy
President
Infilco Degremont, VA

Steve Mahfood
President
Mahfood Associates LLC, MO

G. Tracy Mehan, III
Principal
Cadmus Group, VA

Erik J. Meyers
Vice President for Sustainable Programs
The Conservation Fund, VA

Pat Mulroy
General Manager
Southern Nevada Water Authority, NV

Howard M. Neukrug
Director, Office of Watersheds
City of Philadelphia Water, PA

Cornelius P. O'Leary
Adjunct Professor of Law
University of Connecticut School of Law, CT

Michele Pla
Principal
MPLA - Cleanwater Consulting, CA

Andrew W. Richardson
Chief Executive Officer
Greeley and Hansen LLC, IL

Beth C. Sauerhaft
Senior Manager, Environmental Stewardship
Pepsi-Cola North America, NY

Amy Shanker
Black & Veatch Corporation (Retired)

James F. Stahl
Vice President
MWH Americas, Inc., CA

Rich Sustich
Industrial and Governmental Development Manager
University of Illinois at Urbana-Champaign, IL

Chuck Voltz
Vice President of North American Rehabilitation
Insituform, MO

Neil Weinstein
Director
Low Impact Development Center, Inc., MD

LaJuana Wilcher
Partner
English, Lucas, Priest & Owsley LLP, KY

Founders

The Clean Water America Alliance (CWAA) is dedicated to working with individuals, organizations and entities throughout the country — both public and private — to forge a new vision for a sustainable water future. The following organizations have elected to support the CWAA's efforts to achieve an integrated, holistic water policy that will sustain generations of Americans to come.

Alliance Founders as of October 19, 2009

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National Association of
Clean Water Agencies, DC

Northeast Ohio Regional Sewer District, OH

Philadelphia Water Department, PA

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Clean Water America Alliance

Shaping water policy for a sustainable future.

1816 Jefferson Place, NW
Washington, DC 20036
202.223.2299
www.CleanWaterAmericaAlliance.org