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On Behalf of The National Water Quality Trading Alliance

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Subcommittee on Water Resources and Environment

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“The Role of Trading in Achieving Water Quality Objectives”

Chairman Gibbs, Ranking Member Bishop, and Members of the Subcommittee, thank you for the opportunity to testify today on this topic. My name is Brent Fewell and I am a partner with the law firm of Troutman Sanders. I have been integrally involved with water quality trading for the better part of two decades, both as a former EPA water official and as a lawyer advising market participants on these emerging markets.

I am honored to be here today representing the newly formed National Water Quality Trading Alliance (“Alliance”), a national consortium of leaders from the business, governmental, non-profit, regulated, private capital and entrepreneurial community focused on enhancing and expanding market-based opportunities for improving water quality. The Alliance is working to support comprehensive and coherent government rules and policies as well as the development of new and existing state and regional trading markets, supporting both point and nonpoint uses, while serving as a platform to advance the science and ecological effectiveness of water quality trading. Our membership includes American Farmland Trust, Association of Clean Water Administrators, Chesapeake Bay Nutrient Land Trust, Ecosystem Insurance Associates, LLC, Ecosystems Services Exchange, Electric Power Research Institute, Environmental Banc & Exchange, Keiser & Associates, National Association of Clean Water Agencies, Restoration Systems, The Freshwater Trust, World Resources Institute, Willamette Partnership, and the U.S. Water Alliance.

Traditional Tools and Approaches Alone are Not Sufficient

The U.S.EPA estimates that nearly 50 percent of the Nation's waters remain impaired due to pollution from, among other sources, excess nutrients, sediments, and temperature. According to a 2010 National Lakes Assessment, EPA found that nearly 20 percent of the 50,000 lakes surveyed were impacted by nitrogen and phosphorus pollution. Similarly, in the 2006 Wadeable Stream Assessment, the EPA concluded that 30 percent of streams were impacted. The most notable great water bodies that remain impaired are the Gulf of Mexico and the Chesapeake Bay. The hypoxic zone in the Gulf of Mexico alone measures almost 6,000 square miles, an area the size of the State of Connecticut, and continues to impact commercial and recreational marine resources in the Gulf worth hundreds of millions of dollars. For over four decades, the U.S. EPA and the Chesapeake Bay partners have strived to restore the Bay by reducing the levels of pollution impacting the natural resources, initially, through voluntary measures and, now, with the use of a Total Maximum Daily Load (TMDL). Yet that goal remains elusive and, thus far, beyond reach.

These hypoxic conditions are caused by excess nutrient runoff from agriculture, waste water treatment plants, stormwater, and growth in transportation and infrastructure and other human activities in the watershed. Water pollution caused by stormwater runoff and a myriad of diffuse, unregulated sources in any given watershed remains an intractable problem. As the Academy of Public Administrators noted in a 2010 report titled *Taking Environmental Protection to the Next Level*:

When we fertilize our lawns, drive our cars, wash our dishes, or go about our daily routines, we contribute to making our streams, rivers, bays and oceans unswimmable and toxic to marine life. The same potential arises as farmers grow the food we eat, when businesses dispose of the byproducts of their work, and when builders create new communities. In short, the necessities of life and pollution of our environment are inextricably linked.

While EPA and states have many tools in their regulatory toolbox to address water quality impairments, we cannot expect 20th Century tools and approaches, alone, able to tackle

the challenges that face us. Nonpoint source pollution will continue to grow in scope and scale as earth's human population grows toward 9 billion. And if we are to fix this growing environmental problem, we have to acknowledge its unique attributes that are immune from 20th Century solutions. We must use science to understand and define the assimilative capacities of our environment – i.e., the daily insults which Mother Nature can withstand and yet still thrive – and promote new ways and tools for the myriad of actors, inputs and sources to work within these ecological constraints. Government alone and traditional regulations are not enough to fix the problem, and must work in concert with market forces that offer sustainable solutions and a higher quality of life.

We Must Accelerate the Pace of Restoration with a Mix of Old and New Tools

Since the 1980s, water quality trading has been a concept that has taken hold in some states and regions through legislation and policies that strive to improve water quality and make ecological improvements. Building upon the success of the Acid Rain Program – a sulfur dioxide cap and trade program that cost-effectively reduced harmful acid rain – President Clinton, in 1996, made market-based approaches a hallmark of his Administration's initiative, Reinventing Environmental Regulation. Since the U.S. EPA's 1996 draft framework and the subsequent 2003 final trading policy, EPA has worked diligently with states, watershed groups, and other stakeholders, including private entrepreneurs and investors, to promote trading as an innovative, market-based approach that provides greater flexibility with the potential to achieve water quality and environmental benefits greater than would otherwise be achieved through traditional regulatory approaches. While it has taken time for markets and opportunities to develop, some state and local governments, non-profits and private entrepreneurs have succeeded in creating effective water quality trading programs and markets. I would like provide several examples of projects that have resulted in water quality trades, water quality and other environmental benefits, and cost savings with great potential to lead water quality trading to the next level.

The Rogue River, an important salmon stream in Oregon, is impaired by water that is too warm. To restore this stream to water quality standards imposed under the Clean Water Act,

regulatory agencies imposed new limits on the City of Medford's wastewater treatment plant. The City was faced with installing chillers to reduce the temperature of its treated effluent by about 1 degree Celsius at a cost of \$16M, not including the significant consumption of electricity to operate large refrigerators (and the increased carbon footprint).

The community of Medford began to second-guess whether purchasing a large refrigerator for \$16M was the best use of tax-payer money and whether it was the most environmentally friendly option. Lo and behold with the support of EPA and the state, and groups like the Willamette Partnership and The Freshwater Trust (TFT), Medford determined that a much better option existed. As it turns out, by planting tens of thousands of native trees – rehabilitating degraded streamside habitat (the largest factor influencing thermal conditions in the basin) – Mother Nature does a pretty good job of creating the temperature conditions salmon need to thrive once again.

Instead of reducing the temperature of its effluent by roughly 300 million kcals with chillers at a cost of \$16M, Medford, using a 2-1 credit ratio, is reducing 600 million kcals of thermal loading (through a contract with TFT) to restore streamside vegetation and convert those actions into thermal load reduction credits at a cost of about \$8M. After completing miles and miles of riparian re-vegetation over the next ten years, TFT will then monitor and maintain those sites for a total of 20 years to ensure their continued benefit to the watershed. These 600 million kcals per day of credits allow Medford to meet the load limits associated with the City's 20-year projected growth. And not only is there environmental benefit to salmon from cooler water, but a net uplift across the watershed through benefits to other wildlife species from the restored habitat and vegetated buffer strips that reduce nitrogen and other pollutants, further improving water quality. Over time this will provide more than twice the benefit for half the price of traditional tools.

In addition, the \$8M left over can be used for other important things in the community of Medford, like paying police and fixing roads. The landowners and community love it and, for watershed efforts like this, people are forced to actually talk and work together for the common good – many people who might not ever have any need to speak or engage. People feel good

about their effort and they take pride in their community and the environment that supports it – and guess what, the critters benefit too.

Another project worthy of mention is the Ohio River Basin (ORB) Trading Project, lead by the Jessica Fox and the Electric Power Research Institute. The ORB Project and its partners have embarked on establishing a three-state program aimed at reducing nutrients impacting the Ohio River Basin and more broadly the Gulf of Mexico. Officials last year from the states of Ohio, Kentucky, and Indiana, and ORSANCO, signed an agreement to work together to establish such a trading program. Just a few weeks ago, during a ceremony to celebrate the ORB’s first credit trade, Bob Perciasepe, Deputy Administrator for EPA referred to the Project as “historic,” as it developed a credit transaction framework that could readily serve as a national model. The sound science and framework upon which the ORB interstate trading has been developed presents a unique and exciting opportunity to address the entire Mississippi River Basin.

Also worth mentioning are the state and regional trading programs that have emerged in states like Virginia, Maryland, North Carolina, thanks to innovative policies and the efforts of private environmental entrepreneurs like the Chesapeake Bay Nutrient Land Trust, Restoration Systems and the Environmental Banc and Exchange. The trading markets in these states, although different in scope and nature, affirm the potential of this unique approach to reduce nutrients and protect water quality. Trading also has great potential for helping reduce stormwater pollution, which remains one of the Nation’s leading sources of impairment. These markets are real, robust, and generating credits that are being used by the regulated community, localities and state agencies. For example, in Virginia, the Virginia Department of Transportation is a significant purchaser of private market nutrient credits to address stormwater needs while saving tax payer dollars. Nutrient credit use is also widespread with stormwater compliance currently being addressed for projects in 22 different localities in Virginia. Water quality is being improved and protected at significantly reduced costs, allowing for sustainable growth based on private investment directed towards meaningful watershed protection and restoration. In this case, the environmental benefits created by these markets and private entrepreneurs are being achieved without the use of state or federal tax payer dollars. There is a growing list of other states with similar water quality trading success stories, such as Pennsylvania, Connecticut, Minnesota, and Ohio. Private actors, such as Alliance member,

Kieser & Associates, have also been instrumental in helping to shape and support these state programs.

I would be remiss if I didn't recognize the continued leadership of my former EPA boss, Ben Grumbles, and the U.S. Water Alliance, on whose board I serve. In addition to hosting a water quality trading summit last year in Cincinnati, Ohio, the U.S. Water Alliance convened several meetings of the Mississippi River Nutrients Dialogue, composed of leaders from agriculture, industry, and academia. From this process, the Alliance will soon release its report with recommendations in four areas, (1) research and monitoring, (2) watershed governance, (3) market mechanisms (such as trading), and (4) the futuristic "Environmental Utility" (a proposed statewide initiative to collect fees and sustain ecosystem services). Other key stakeholders instrumental in the Dialogue's success include the National Great Rivers Research and Education Center, the Environmental Defense Fund, NACWA, and The Johnson Foundation.

And although some critics of market-based approaches may view trading as a way to kick the can down the road and forestall progress, such criticism could not be farther from the truth. Trading programs are not intended to shuffle the chairs on the deck nor allow EPA and states to take their foot off the regulatory accelerator; rather, these programs offer a more flexible and cost effective way to manage the significant costs of resolving these big problems, and have the potential to accelerate the current pace of restoration.

Today's Water Quality Trading Programs are Getting Smarter and Better

Our investment in these markets over the last thirty years is paying off, but there is still more to accomplish to ensure these markets accomplish their ultimate goal, which is to clean up the water faster and cheaper. The projects mentioned above demonstrate that trading can work, and work effectively. We must learn from these experiences and continue to build trading programs based on sound science and ensure the inclusion of transactional transparency and verified credits to grow confidence in these market-based approaches.

Toward this end, the recently formed National Trading Network, spearheaded by the World Resources Institute and the Willamette Partnership, is working with USDA, EPA, the states, and members of the National Water Quality Trading Alliance, among others, to develop

best practices and provide greater certainty and consistency in the manner in which trading is conducted. The Network and Alliance, who are working together, are separate entities with slightly different missions. To clarify, the Network will continue to focus on the science and standards that can be adopted and applied uniformly as trading programs continue to develop. The Alliance, many of whose members participate in the Network, is a national consortium of leaders and organizations who are working to support rules and policies (including third party certification) on trading and develop new and existing state and regional trading markets, while helping to advance standards and practices being developed by the Network.

For the last 200 years, we have altered and re-plumbed the hydrology and topography of our watersheds through development and to maximize agriculture production. Over 50 million acres of crop fields in the Midwest rely upon agricultural tile drainage, to manage subsurface water. Tile drainage, while critical to maximizing crop production, remains a significant challenge to reducing excess nutrients discharging to waterways. New technologies that now exist can effectively address agriculture runoff, in particular, and portend great promise from managing agricultural drainage and reduce excess nutrients and sediments impacting waterways while also generating tradable nutrient credits. For example, Ecosystem Services Exchange, an Alliance member, is working with landowners and producers to deploy the use of bioreactors, conservation drainage, constructed wetlands, riparian and saturated buffers. And while these efforts are beginning to yield dividends, they need to be significantly scaled-up to more rapidly restore the health of the Gulf and Chesapeake Bay. As noted earlier, privately funded market-based programs now exist to address stormwater nutrient impacts from development. While we must continue to maximize agricultural production to meet the needs and demands of a growing world population and accommodate development that is critical to our economy and way of life, we can and must do so in a more thoughtful and less harmful environmental manner. Toward this end, we must consider the overall environmental and financial benefits of allowing developers, wastewater treatment plants, power plants, and other entities regulated under the Clean Water Act and related state programs to utilize trading programs to achieve our collective water quality goals.

In closing, we cannot solve 21st Century problems with 20th Century tools. If we are to achieve the lofty goals of the Clean Water Act, we must resolve to embrace new and innovative market-based approaches such as water quality trading.

Thank you for this opportunity.