TESTIMONY OF

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Good morning Chairman Gibbs, Ranking Member Bishop, and Members of the Subcommittee. I am pleased to appear before you today to discuss EPA's mission to protect public health and the environment in the context of the water quality challenges from what is known as "nutrient pollution." This pollution, which comes from excess nitrogen and phosphorus, threatens the environmental and economic viability of our nation's waters. The urgent problem before us is how we can most effectively collaborate at federal, state, and local government levels to address the growing public health risks and economic impacts of widespread nitrogen and phosphorous pollution on the prosperity and quality of life of communities across the country. EPA believes that states and local governments are best suited to address nutrient pollution and have a long history of working collaboratively.

We all recognize the value of clean water. Clean water is not simply a resource and asset to be passed on to our children, but is an essential part of life. Clean water contributes to our public health, our drinking water supplies, and to the welfare of our families and communities, whether in large cities, small towns, or rural America. The health and growth of our small and large businesses and the jobs they create rely upon a high-quality and sustainable source of water. The range of businesses that we depend on – and who, in turn, depend on a reliable and plentiful

supply of clean water – include tourism, farming, fishing, beverage production, manufacturing, transportation, and energy generation, just to mention a few.

Nitrogen and phosphorous pollution is a major threat to these uses. This has been extensively documented in the scientific literature and confirmed by monitoring data collected by federal and state agencies and by the public. EPA's most recent National Aquatic Resource Surveys of aquatic health found that 67% of our streams are in poor or fair biological condition, and that of the stressors assessed, nitrogen and phosphorus are the most pervasive in the nation's wadeable streams and lakes. Approximately 50% of streams and more than 40% of lake acres have high or medium levels of nutrients. States have identified more than 15,000 waters nationwide that have been degraded by excess levels of nutrients to the point that they do not meet state water quality standards. Cleaning up these already degraded waters will require significant effort.

A particularly persistent result of excessive nutrient pollution is the proliferation of harmful algal blooms – a situation in which once-clear waters are choked with algae and green with slime. Because of the increased incidence of these and other risks, many states actively monitor their waters for harmful algal blooms to protect swimmers, assure safe recreational uses, and protect consumers of shellfish. Some states, for example Kansas, Ohio, and New York, have public websites to post advisories warning citizens about the dangers of public waters that are impacted by harmful algal blooms.

Contamination of America's waters by nutrient pollution is a widespread and growing problem. For example, a recent analysis of 647 U.S. coastal and estuarine ecosystems indicates that the

percentage of systems with hypoxia (a common result of high nutrient levels) has increased dramatically since the 1960s and has become measurably worse even since the 1980s. The first national assessment of oxygen conditions in U.S. waters, conducted in the 1980s, found 38% of systems to have hypoxia. Updating the information from all these sources using today's data finds that 307 of 647 ecosystems, or 47%, experience hypoxic conditions.

Let me provide one example of how nutrient pollution can affect our communities. Grand Lake St. Marys, a large drinking water supply and a historically popular recreational area in Ohio, has suffered over the past several years from harmful algal blooms during the summer months caused by increasing nitrogen and phosphorus loading from farm runoff, failing septic systems, and fertilizer applied to lawns. The lake has experienced massive blooms of toxic algae, which have led to the death of fish, birds, and dogs, and illnesses of at least seven people. This lake, used by generations for drinking water supply, summer recreation, and local community business development and jobs, has degraded to the point that small businesses like marinas and restaurants are closing. According to the Columbus Dispatch, the algae at Grand Lake St. Marys have "torpedoed" the local tourism economy. Expensive efforts to clean up the source of nutrients affecting the lake have to date failed. As the summer recreation season begins, pollution again threatens the health of the Lake's visitors and economy: the Ohio Department of Health issued a warning advisory on May 19th to community residents and visitors to not use the lake because of harmful algal blooms known to produce dangerous toxins.

Nutrient pollution can also affect the water that we drink. Levels of nitrate (a compound of nitrogen) in drinking water above the federal drinking water standard of 10 milligrams per liter

have been linked to serious illness in infants, as well as other potential human health effects. Reported drinking water violations for nitrate have doubled in the last eight years, with more than 1,000 violations in 2010. Other public water systems may have had to install treatment in order to remain in compliance. For example, in Lancaster County, Pennsylvania, more than 140 surface and groundwater systems have had to invest in new technology such as ion exchange treatment in order to address nitrate contamination. Nitrate can also be a risk to the 15% of Americans that use private wells that are not regulated under the Safe Drinking Water Act. The United States Geological Survey (USGS) published a report just this past year that found nitrate levels in groundwater to exceed the federal drinking water standard of 10 mg/L in more than 20% of the shallow (less than 100 feet below the water table) private water wells in the agricultural areas that it tested. USGS warns that states should now be concerned about the public health of the rural Americans who rely on shallow wells for their water supply because of the potential for nitrate contamination. Although most public water systems that use groundwater sources get their water from deeper wells, USGS advises that nitrate may be a continued public health concern even for these systems, as surface pollution infiltrates and could contaminate deeper municipal drinking water supply aquifers.

In addition to the well-documented relationship between high nitrate levels and increased risk of serious illness in infants, nutrients can contribute to drinking water contamination in other ways. As noted earlier in the Grand Lake St. Mary's example, increased nutrients can spur harmful algal blooms that release toxins that pose a risk to drinking water as well as impacting the ecology. Detecting these toxins can be challenging and costly, and significant uncertainty exists about the effectiveness of existing treatment in removing these toxins. If not properly treated,

the ingestion of water contaminated with toxins produced by harmful algal blooms can have health impacts on the liver, kidney, or nervous system. Additionally, higher levels of algae in drinking water sources can increase the formation of disinfection byproducts during drinking water treatment. This requires water utilities to take further action to prevent exposure that could impact the health of their customers, when the best way to address these byproducts is to prevent their formation in the first place.

Actions to Address the Nutrient Problem

EPA recognizes the nation's significant nutrient pollution challenges and is committed to finding collaborative solutions that protect and restore our waters and the health of the communities that depend on them. The growing and costly impacts of nutrient pollution on human health, recreation, tourism, business growth and expansion, and aquatic ecosystems demand a coordinated framework of action to better address the sources of nutrient pollution.

EPA believes that states are the best suited to address nutrient pollution, and while the Agency has an obligation to Act under the Clean Water Act if state efforts are not sufficient, EPA works closely with our state and local partners on a technical basis to aid their efforts.

EPA has worked with 25 states across the country to develop and approve numeric nutrient criteria for at least some of their waters. For example, EPA worked closely with the state of Wisconsin over the past several years to develop and adopt final water quality standards for phosphorus to protect lakes, reservoirs, streams, rivers, and the Great Lakes. EPA participated in numerous Wisconsin Department of Natural Resources stakeholder meetings, provided advice on

implementation issues, and reviewed draft and proposed standards. After the adoption of nutrient standards by the state of Wisconsin, EPA quickly reviewed and approved these standards to enhance the nutrient protections provided to Wisconsin's waters.

Building upon this collaborative approach, on March 16, I sent a memo to EPA's Regional Administrators entitled, *Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions.*[1] This memo further strengthens our commitment to build partnerships with states and collaboration with stakeholders on this issue. The Agency will use this memorandum as the basis for discussions with interested and willing states about how to move forward on tackling this issue, recognizing that there is no one-size-fits-all solution. As I said, the Agency strongly believes that states should lead the effort to reduce phosphorus and nitrogen pollution through standards they develop and we support these critical state efforts. For example, the State-EPA Nutrient Innovations Task Group provided EPA with solid recommendations, endorsed by states and EPA, to start addressing some of the problems associated with nutrients. EPA recognizes that states need flexibility to develop creative and cost-effective solutions.

As an example of our commitment to collaboration, EPA is working hard to focus on water quality goals in the Mississippi and Atchafalaya River Basin. EPA is working with USDA, USGS, and states to provide monitoring support in a subset of USDA's Mississippi River Basin Initiative watersheds. To complement the efforts of USDA and other partners, we are focusing on broader efforts to use funding under Section 319 of the Clean Water Act for watershed

[1] This memo is available at http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/upload/memo_nitrogen_framework.pdf.

planning and stakeholder involvement to enhance USDA programs by engaging creatively in work with communities and watersheds to achieve improvements in water quality.

Additionally, EPA has engaged states and stakeholders to partner in addressing nitrogen and phosphorus pollution on numerous fronts. In 2009, EPA helped to lead the nationally focused State-EPA Nutrient Innovations Task Group to evaluate the science, sources, and economic impacts behind the ongoing problem of nutrient pollution and to develop recommendations for controlling the impacts to our nation's drinking water supplies and waterways. The Task Group issued *An Urgent Call to Action*, which provides specific recommendations to the EPA Administrator and the public for joint state and federal actions to control nitrogen and phosphorus pollution. EPA, other federal agencies and the states are also collaborating on the Gulf Hypoxia Task Force, the Gulf Restoration Initiative, and several joint committees with the Association of State and Interstate Water Pollution Control Administrators, the Association of State Drinking Water Administrators, and the National Association of Clean Water Agencies.

Given the fact that water is a national resource that flows through and between states, and recognizing the need for a coordinated effort to address nutrient pollution, EPA is renewing its commitment to work with states and other stakeholders to achieve forward progress. EPA is targeting its resources to help reduce nutrient pollution where it poses the greatest threats, including working with states whose waters flow to the Chesapeake Bay, Long Island Sound, Lake Champlain and the Gulf of Mexico.

Conclusion

The threat posed by nutrients in our nation's waters is perhaps the most serious water pollution problem faced by EPA, the states, and local communities. EPA is committed to working with states, other federal agencies, the agriculture community, and other stakeholders to identify ways to tackle the nutrient problem in a way that protects our nation's waters, sustains our economy, and safeguards the well-being of all Americans who depend upon clean and safe water.

Thank you for the opportunity to testify before the subcommittee today. I look forward to answering any questions you may have.