



Washington Suburban Sanitary Commission

Testimony of Jerry N. Johnson, General Manager
Washington Suburban Sanitary Commission

**Before the U.S. House of Representatives Subcommittee on Water
Resources and Environment
Honorable Eddie Bernice Johnson, Chairwoman**

Reauthorization of the Chesapeake Bay Program

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Introduction

Good afternoon Chairwoman Johnson, Ranking Member Boozman, and members of the Subcommittee. I am Jerry N. Johnson, General Manager of the Washington Suburban Sanitary Commission. I am honored today to speak to you on behalf of the WSSC and the 1.8 million residents we serve in Maryland to testify on the reauthorization of the Chesapeake Bay Program and share our recommendations to protect the national treasure we call the Chesapeake Bay. After well over 20 years of professional experience in the water and wastewater industries including Richmond, Virginia and my previous position as General Manager at DC-WASA, I believe my perspective on this issue is a unique one and I appreciate the opportunity to testify today.

By way of background for the Subcommittee, the WSSC is a public utility that has been a leader in the industry since 1918. We are the 8th largest combined water and wastewater utility in the nation with over 1,000 square miles in our sanitary district and a network of more than 5,500 miles of fresh water pipeline and nearly 5,400 miles of sewer pipeline. In addition to the 1.8 million residents served, WSSC directly serves nearly 30 federal facilities including Andrews Air Force Base, NASA Goddard Space Flight Center, the National Institutes of Health and the U.S. Food and Drug Administration. The WSSC operates 2 water filtration plants and 6 wastewater treatment plants. Our wastewater treatment plants treat approximately 198 million gallons per day (MGD), with approximately 63 MGD treated at WSSC and 132 MGD at the Blue Plains Advanced Wastewater Treatment Plant. This represents significant and measurable effluent reaching the Chesapeake Bay.

Restoring and maintaining the health of the Bay is the linchpin from which we can ensure protection of the region's waterways and ecosystem needs. The WSSC has played an important role in reducing pollutant loading to the Bay from its wastewater treatment plants, designing and deploying technologies that are at their limits. However, we can never address the multitude of challenges facing the health of the Bay without equitably sharing the burdens among all sources of water quality impairment which impact the Bay. To move forward in a meaningful way will require a comprehensive approach that allocates federal, state, local and nongovernmental resources efficiently and mandates equitably to maximize pollution reductions from all remaining sources.

It is time that Congress, the states, regulators, the Chesapeake Bay Commission, non-governmental organizations such as the Chesapeake Bay Foundation, and others work in concert to take a serious look at addressing all sources of pollution, and not just point sources. This means taking aggressive steps to address agriculture, development and stormwater run-off pollution sources in a manner that is equitable to all and enforceable. The WSSC and the wastewater industry as a whole have invested heavily in infrastructure and programs to reduce pollutant loadings. As municipal and industrial wastewater is currently only 19% of delivered nitrogen loads and 21% of delivered

phosphorus loads to the Bay, it is safe to say that we are pushing wastewater treatment technology to its limits and our successes are measurable. (Source: Chesapeake Bay Program data)

Now I believe it is time to acknowledge that the Clean Water Act must be updated to recognize the critical remaining challenges. First, we need to consider a holistic approach to address multi-jurisdictional challenges like the Bay by creating flexibility for watershed based solutions. Second, we need to restore a strong financial partnership with the federal government to replace our aging infrastructure. Third, the Clean Water Act must be renewed to ensure we target our limited federal, state, and local resources to the most important challenges. While I am appreciative that the House of Representatives has passed H.R. 1262 to renew the State Revolving Loan Fund (SRF) program at increased funding levels, I am concerned that the funding levels do not address the enormous needs required to truly solve the infrastructure and pollution problems at hand. According to the Water Infrastructure Network, the nation faces a \$500 billion gap for wastewater treatment facilities. I look forward to working with the committee to make important revisions to the Clean Water Act and the SRF funding levels that will strengthen the partnership between all stakeholders to address the remaining threats to water quality.

Publicly Owned Treatment Works Are Extensively Regulated under Existing State and Federal Authorities

A. Clean Water Act

The primary vehicle for publicly owned treatment works to meet the fishable and swimmable goals of the Clean Water Act is through the National Pollution Discharge Elimination System (NPDES) program. WSSC's six wastewater treatment facilities are closely monitored under the NPDES program, whereby federal and state authorities collaborate to produce, monitor and enforce NPDES permits and standards. Compliance with these regulations comes at a cost. WSSC's FY09 wastewater total operational treatment costs (including direct and indirect expenses) was \$96.789 million, with \$51.098 million paid to Blue Plains. Additionally, 37% of WSSC's adopted FYS 2010-2015 CIP was allocated for environmental state and federal regulations. That represents \$447.172 million in capital expenditures.

WSSC permits already incorporate nutrient load goals that reflect a 3 mg/l nitrogen and a 0.3 mg/l phosphorus limit (the Piscataway facility has a phosphorous limit of 0.18 mg/l) with a total annual nutrient load goal based on the facility design flow. As the NPDES permits are renewed, firm schedules for completion of facility upgrades to achieve Enhanced Nutrient Removal (ENR) will be incorporated in the permits and the current annual nutrient load goal will become a firm load limit when the ENR upgrades are completed. WSSC is now in the process of designing those upgrades for all of our major wastewater treatment facilities. The current cost estimate for the ENR upgrades at the five

WSSC facilities with a flow of greater than 500,000 gpd that discharge directly to Maryland waters is \$68.2 million. WSSC must also pay an additional \$401 million for our flow based proportional share of the ENR upgrade of the Blue Plains facility in the District since flow from a significant portion of our collection system is treated at that facility.

B. Chesapeake Bay Program

When Congress passed the Chesapeake Bay Program in 1985, a primary goal was to establish standards for the entire Chesapeake Bay watershed and a comprehensive approach to control all sources of pollution to the Bay. By acknowledging that one stakeholder alone cannot solve this problem, a long-term commitment and collaboration among the states (Maryland, Virginia, Delaware, Pennsylvania, New York, West Virginia, and the District of Columbia) was required to affect any meaningful improvement in water quality. This critical goal has not yet been realized.

WSSC is doing its part to address the single largest remaining impairment — nutrient loading. (Source: EPA Bay Program) Utilities, including the WSSC, are upgrading wastewater treatment facilities using the best of technologies available. We are moving to the limits of technology and we are doing the most anyone knows how to do in the scientific universe to reduce the amount of nutrients that are discharged into the Bay's tributaries. But we cannot by our own actions solve the problem. Therefore, in 2005, the seven Bay jurisdictions began implementing a new permitting process. This process limits the level of nitrogen and phosphorous that the Bay's 483 major wastewater treatment plants discharge.

Many states are using the process of Biological Nutrient Removal (BNR), which uses microorganisms to remove nitrogen and phosphorous from wastewater during treatment. In Maryland, the state's 66 major wastewater treatment plants that have permitted discharges into the Bay are in the process of implementing ENR.

I would anecdotally point out that during the severe drought of 2000 the health of the Bay realized an improvement. According to U.S. Geological Survey data, the level of nutrient loadings to the Bay decreases during times of drought resulting in a healthier Bay. Because point source discharges generally remain static, this data reinforces the belief that nonpoint source discharges are contributing a significant load to the Bay. Any approach to restore the Bay must ensure that nonpoint sources are subject to equitable control mandates.

Clearly, we need to focus on nonpoint source pollution if we want to reverse the decline of the Bay as increased runoff from storm events directly exacerbates pollution from both stormwater runoff and agricultural lands. We need to achieve a similar comprehensive approach with nonpoint sources as well. Expanded

control over stormwater through the EPA MS-4 permit program is critical to further reduce both sediment and nutrients from the land development sector and major expenditures of funding will be required to achieve those improvements. On agricultural lands, current permitting controls are limited to the now developing federal program for concentrated animal feeding operations (CAFOs) and EPA may need to establish additional performance standards beyond those now being developed. Similarly, best management land use controls on agricultural crop land to reduce nutrient and sediment runoff will be required.

C. Original Load Reductions Goal

The 1987 Chesapeake Bay Agreement by the Bay signatories established a goal of implementing a basin wide strategy that would achieve at least a 40% reduction of nitrogen and phosphorus entering the Bay by 2000 based on an agreed upon 1985 point source loads and on nonpoint sources loads in an average rainfall year. DC-WASA, with the financial commitment of WSSC as WSSC retains 160 MGD capacity at Blue Plains, was the only utility to meet that goal for both nitrogen and phosphorus reductions.

D. Consent Decree

As a result of working with a number of stakeholders to develop an agreement WSSC entered into a Consent Decree in July 2005 with the U.S. Environmental Protection Agency, the State of Maryland and four conservation groups on a 12-year action plan to significantly minimize, and eliminate where possible, sanitary sewer overflows. This includes enhancing existing nitrogen reduction efforts in colder months (October 15 to March 30) at our Western Branch Wastewater Treatment Facility. While this has a direct benefit to the Bay, it also has a real cost to the WSSC ratepayers. By the end of this 12 year commitment, the WSSC ratepayers will have invested \$350 million in operating and capital expenditures on the Consent Decree alone to enhance our wastewater collection systems.

WSSC Efforts to Save the Bay

WSSC takes its role as a steward of the environment very seriously and we have worked diligently to reduce our carbon foot print. According to the EPA, the WSSC is the #1 local government direct purchaser of wind power in the nation thanks in large part to an innovative agreement with Constellation Energy that will result in nearly a \$20 million savings to WSSC ratepayers. With the support of the Maryland Congressional Delegation, WSSC is also exploring anaerobic digestion combined with fuel cell technology at two of our wastewater treatment plants. Should this project prove feasible, we believe it will allow us to capture and utilize energy produced during the wastewater treatment process thus saving ratepayers money and lessening our impact on the environment.

Last year alone, WSSC treated approximately 63 billion gallons of wastewater and removed 20 million pounds of nitrogen and phosphorous. Over the past 15 years, WSSC has reduced nitrogen discharges by 51% while wastewater flows have increased 22%. The vast expenditures for BNR upgrades have proven successful for nutrient loads to the Bay in that even though daily flows increased to our wastewater treatment plants. We successfully reduced the effluent concentration from an average of just over 10 mg/l down to a range of 6 - 4 mg/l.

WSSC recently completed work on a \$70 million expansion of the Seneca wastewater treatment plant that includes a new 20 MGD facility that replaces the pre-existing 5 MGD plant. The new Seneca plant uses state-of-the-art biological and chemical processes that remove 64 percent more nitrogen and 77 percent more phosphorous than the original plant.

In 2004, the Chesapeake Bay Foundation recognized WSSC for significantly reducing nitrogen levels enter the Bay through the use of an innovative process at its Piscataway facility in southern Prince George's County.

Pursuant to meeting the statewide goal, WSSC is in the process of installing ENR at Western Branch, a wastewater facility on the Patuxent River with a design flow of 30 MGD. This is a critical component of reducing nutrient loads discharged to the Patuxent River, the only river watershed located entirely within the State of Maryland.

Upgrading wastewater treatment facilities is not cheap. BNR upgrades for the WSSC have totaled \$151.075 million, with \$101.887 million of that paid by WSSC ratepayers and the remainder paid by grants. The current cost estimate for all WSSC ENR upgrades is \$469.2 million, of which \$401 million is for Blue Plains. As population in the Bay watershed increases, there will be a need for additional advanced wastewater treatment to keep wastewater loadings from increasing. This necessary upgrade poses a tremendous additional cost burden on our ratepayers. I will address this point further in my list of recommendations below.

The Nonpoint Source Problem

As previously stated, a watershed approach with a truly equitable regional and interregional approach is the only path to success for the Bay. The Federal role in this effort needs to include more meaningful regulatory initiatives that address nonpoint source pollutants as robustly as regulatory mandates placed on point source dischargers. It is critical we abandon the silo approaches that have existed since the 1987 Clean Water Act amendments and move to a comprehensive approach that includes all sources to the Bay. Let's address the worst problems first.

The breakthrough of the 1972 Clean Water Act was that it moved the water pollution program from a program based "solely" on water quality standards to one based on technology-based standards for point sources *and* water quality standards -- Sec. 402 and 303 respectively. The technology-based standards were to be upgraded as time

passed and technology developed. The water quality standards were to be upgraded every three years as the primary tool to regulate nonpoint sources including agriculture, urban runoff and other pathways to the receiving waters. However, the water quality standards tools for nonpoint sources have lagged behind the point source tools leaving many contributors unregulated or under regulated. More tools and more regulatory initiatives are needed.

For example, although the Clean Water Act requires that EPA and the states to establish water quality standards and develop and implement total maximum daily loads (TMDLs) for watersheds, this goal has yet to be met for the Bay. This fact was acknowledged by the court ordered 2011 deadline for the completion of TMDLs. This is just one example of many powerful tools necessary to restore the health of the Bay.

Clearly, point source reductions have been successful in reducing impairments. However, reductions in agriculture runoff, both crops and animals feeding operations, urban runoff from impervious surfaces and, storm water are necessary as well. While nonpoint source tools such as the development of catchment basins, additional regulations of animal feeding operations (CAFO's), winter plantings that reduce nutrient runoff to groundwater and then to the Bay, have been helpful, these tools need to be aggressively deployed through enforceable mechanisms. We cannot predicate the Bay's future health solely on the basis of point source controls. Said another way, we are recognizing that increasing amounts of resources are now being spent to curtail end of pipe discharges, but a proportionate return on investment is not being seen in improved water quality.

Although I am new to the WSSC I have extensive professional industry experience and I can attest to the critical role of regional solutions. It is vital that we have regional and interregional solutions that ensure we target our resources to deliver the most effective benefits to the Bay. While the Clean Water Act clearly outlined the regulatory framework for point sources, a similar framework was not provided for nonpoint sources. Because of this historic regulatory focus on point sources, nonpoint sources are now responsible for more impaired water bodies than point sources. The Bay's health reflects this situation.

Recommendations

- Bay restoration funds are insufficient to cover the costs of ENR upgrades, which are only one component of what is required to operate wastewater treatment plants on a 24/7 basis. The state of Maryland's Bay Restoration Fund for ENR upgrades is inadequate to cover all of the projected needs. While alternative funding mechanisms are being investigated at the state level, there is a need for federal funding to supplement available state funding if the ENR upgrades are to be completed by 2014 as scheduled. Under current projections, ENR upgrades in Maryland will cost in excess of \$1 billion and the current fund can only be leveraged through a special tax that will still leave a projected shortfall of at least \$250 million in 2004 dollars for facilities that serve Maryland.

- Congress should renew the Clean Water Act's regulatory framework to address the disparity in the treatment between point and nonpoint sources based on the actual threats to water quality.
- Congress should pass a reauthorization of the Clean Water Act and provide the flexibility required for a comprehensive watershed management approach that has been lacking until now. Additionally, Congress should fully fund the investment needs through the SRF program. These efforts would represent strong steps towards renewing the federal government's role in working with states and localities to addressing vital clean water infrastructure needs. Passage of this bill will help us to return clean water to the environment to protect human health and our communities.
- In the Chesapeake Bay Program reauthorization, Congress should ensure direct grants are available for specific projects that apply to all regional partners to generate the greatest immediate reduction in nutrient or sediment loadings. Grants should not be limited to nonprofit organizations, State and local governments, colleges, universities and interstate agencies. (Section 117(d) of the CWA.)
- WSSC is concerned about the impacts of climate change on our water and wastewater systems. The combination of warmer waters and nutrient pollution will likely continue, further stimulating higher nutrient concentrations and the growth of harmful algal blooms that threaten the Bay. Therefore, as Congress continues to develop comprehensive climate change legislation, we urge the adoption of a competitive grant program that would allow water and wastewater utilities to compete for funding to help them adapt to water resources challenges posed by climate change.
- Congress should ensure a robust program of federal grants assistance to close the gap in affordability spending and the documented need for point and nonpoint sources as part of a renewed program. Such assistance is vital if we are to construct the critical infrastructure demanded by the goals and objects of the Act. The costs of such investments given their benefits to the state, region and state of the Bay cannot be borne alone by ratepayers like those of the WSSC.

Conclusion

Madam Chair, let me conclude by stating that I believe we can all agree the Chesapeake Bay is a national treasure. The Bay supports an incredibly diverse ecosystem. It is a place where people come from all across the region to swim, fish, boat and enjoy its natural beauty. For those who live in its shadow it enriches our very existence. The Chesapeake Bay touches too many lives and impacts our environment too greatly for everyone in the region not to work towards improving its health. But this will only occur with a balanced and effective program that targets today's water quality impairments — nonpoint sources. This concludes my formal testimony. I would be pleased to respond to any questions.