TESTIMONY OF
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Madam Chair and Members of the Subcommittee, I am Benjamin H. Grumbles, Assistant Administrator for Water at the U.S. Environmental Protection Agency (EPA) and I am accompanied by Jeffrey Lape, Director of the Chesapeake Bay Program.

Thank you for the opportunity to discuss EPA's important work with our partners to restore and protect the Chesapeake Bay and its watershed and describe future directions and priorities. I would also like to thank the Subcommittee for holding this important hearing on America's great waters and estuaries and the need for a watershed approach to managing and sustaining these natural assets.

The Chesapeake Bay Program is the flagship of watershed programs and a shining example of "cooperative conservation," the hallmark of this Administration's approach to environmental progress through partnerships. It has seen innumerable successes and progress, yet, needs to continue to adapt and change to reflect the fact that the health of the Chesapeake Bay is far short of the ambitious goals established in the *Chesapeake 2000* agreement

(http://www.chesapeakebay.net/content/publications/cbp_12081.pdf). My testimony summarizes examples of the changes and emphasis of the Program as we continue to improve the condition of the Bay and its watershed.

I. The Chesapeake Bay – An Ecological, Cultural and Economic Treasure

The Chesapeake Bay estuary is ecologically, economically and culturally critical to the region and the country and, as North America's largest and most biologically diverse estuary, is home to more than 3,600 species of fish, plants and animals. For more than 300 years, the Bay and its tributaries have sustained the region's economy and defined its traditions and culture. The economic value of the Bay is estimated at more than $1 trillion[1] and two of the five largest Atlantic ports (Baltimore and Norfolk) are located in the Bay.

The Chesapeake Bay watershed encompasses a diverse landscape and solutions must be tailored to address each unique issue. The land mass of the Bay watershed is sixteen times the size of the Bay, a ratio higher than any other estuary in the world. Nearly 17 million people live in the 64,000 square miles of watershed in portions of six States and the District of Columbia. We know what we do on the land affects our local streams, rivers and, ultimately the Bay.

II. Chesapeake Bay Program – 25 Years of Partnership and Progress

The Chesapeake Bay Program was established 25 years ago, and Congress formally authorized the Program in the Water Quality Act of 1987. The Program has

[1] *Saving a National Treasure: Financing the Cleanup of the Chesapeake Bay*, A Report to the Chesapeake Bay Executive Council, Chesapeake Bay Blue Ribbon Finance Panel, October 27, 2004

developed into one of the most advanced restoration partnerships in the nation, perhaps in the world. The core mission of the Program is to restore and protect the Bay and its watershed. I also acknowledge the unique responsibility of the Chesapeake Bay Program to demonstrate effective approaches to watershed implementation management, partnerships, collaboration and ecosystem improvement for the benefit of other watershed efforts.

World Class Science – The Chesapeake Bay Program established the Bay's first quantifiable, science-based restoration goals in 1987, and was the model for the National Estuary Program. The Bay Program's monitoring data, modeling and cutting edge science was used in 2003 to establish new water quality standards for the Bay and its tidal tributaries. These standards incorporate innovative features such as habitat zoning and area-specific submerged aquatic vegetation targets. The Bay Program's wealth of science and research, contributed to by many partners, has led to a comprehensive understanding of the complexities of the Chesapeake ecosystem including its stressors and condition.

Agreement on Goals and Outcomes – Derived from the world class science and an understanding of the complex ecosystem, the Bay Program partners have reached agreement on clear and ambitious goals and desired outcomes for the Bay. The *Chesapeake 2000* agreement identifies goals for fisheries, vital aquatic habitats, water quality, health of sub-watersheds, and encourages stewardship and community engagement. Agreement on goals is an essential foundation for any watershed effort.

Committed Leaders and Partners – The Chesapeake Bay Program coordinates the restoration of the Bay by bringing together Federal, State, and local governments, non profit organizations, businesses, academics and watershed residents in a collaborative partnership. Today, the partners demonstrate a shared commitment to accelerating on-the-ground implementation efforts. Several Federal partners (*e.g.,* USGS, USFWS, NOAA, NPS, and USDA-FS) are co-located at the Chesapeake Bay Program Office in Annapolis, Maryland which fosters substantially enhanced coordination of Federal programs and activities.

Understanding the Sources of Pollution – We know the principal sources of the three key pollutants causing water quality problems in the Bay - nitrogen, phosphorus and sediments. For example, sources of nitrogen to the Bay include:

- Agricultural lands (87,000 farms), contributing about 42% of the total load;
- Wastewater treatment facilities, contributing about 20% of the total load;
- Developed and developing lands, contributing 16% of the total load; and
- Air emissions, contributing the remaining 22% of the total load.

Substantial Program and Environmental Accomplishments – The Chesapeake Bay Program has been the coordinating forum and catalyst for substantial watershed-wide accomplishments, including:

- Adoption of nutrient and sediment allocations for all parts of the watershed;
- Detailed tributary-specific pollution reduction and habitat restoration plans;
- Coordinated NPDES permitting approach (2004) for the 483 significant wastewater treatment facilities in the bay watershed. The States and EPA

are making considerable progress in the issuance of these permits with discharge limits for nitrogen and phosphorus. The States and EPA anticipate this permitting effort and other efforts by local governments to make significant investments in wastewater treatment plant upgrades will achieve our 2010 nutrient goals for point sources. We recognize there are active permit appeals challenging this permitting approach in Pennsylvania and West Virginia. EPA is providing support to the affected States.

- Adopted a set of fundamental principles and guidelines for nutrient trading in the watershed in March 2001, which led to Pennsylvania and Virginia creating innovative nutrient trading programs for their point source facilities. EPA supports water quality trading as an innovative approach to foster water quality improvement among various sources of pollution.
- Pioneered biological nutrient removal at wastewater treatment facilities and implemented a phosphate detergent ban. In spite of a 24% increase in watershed population since 1985, these efforts have resulted in a 39% reduction of nitrogen pollution from wastewater and 58% for phosphorus over the same period.
- Planted nearly 6,000 miles of streamside forests, restored nearly 13,000 acres of wetlands; and preserved nearly 1 million acres of forests, wetlands, farmland and other resource lands;
- Removed blockages to over 2,000 miles of historic spawning grounds for shad and other migratory fish; and implemented significant harvest restrictions to restore a previously collapsed striped bass fishery.

Innovative Partner Actions – EPA's charge is to coordinate and facilitate the Chesapeake Bay Program. While EPA's programs and tools are among the many critical drivers for restoration and protection, numerous other partners contribute substantial actions and resources to the restoration effort. Pennsylvania's Resource Enhancement and Protection Tax Credit Program (REAP) provides $10 million per year for conservation practices via tax credits to farmers and businesses, and its Growing Greener fund provides $100 million per year for a variety of restoration and protection activities. Maryland's Bay Restoration Fund ("Flush Fee") generates $70 million per year for wastewater treatment plant and on-site system upgrades and for agricultural best management practices, and their Chesapeake Bay 2010 Trust Fund provides $25 million per year for restoration. Virginia's Water Quality Improvement Fund provides $400 million per year for wastewater treatment upgrades.

Independent Feedback and Advice – The Chesapeake Bay Program is supported by three independent Advisory Committees (citizens, local government and science). In the past five years, there have been as many as 23-third party or scientific peer review assessments and reports on the Program by the Government Accountability Office, EPA's Inspector General, National Academy of Sciences, National Academy of Public Administration and others. These reports have provided valuable feedback and recommendations for enhancing the effectiveness of the Bay Program.

Comprehensive Assessment and Reporting of Bay Health and Restoration Progress

Each year, the Chesapeake Bay Program partners issue a report to the citizens of the Bay region. The *Chesapeake Bay 2007 Health and Restoration Assessment* (http://www.chesapeakebay.net/content/publications/cbp_26038.pdf) provides a

comprehensive summary of ecosystem health; factors impacting the Bay and its watershed; restoration progress; and the health of freshwater streams and rivers.

The Bay Program tracks 13 ecosystem health indicators of water quality (*e.g.,* dissolved oxygen, mid-channel water clarity), habitats (*e.g.,* bay grasses) and fisheries (*e.g.,* oysters, blue crab, American shad and striped bass) and twenty indicators of restoration progress (*e.g.,* reduction of nutrients and sediments, fish passage restored, lands preserved). Detailed information about each indicator are accessible on the web (www.chesapeakebay.net/indicatorshome.aspx.).

Some key indicators of the health of the Chesapeake Bay include:

- Low dissolved oxygen levels are found throughout much of the Bay during the summer and tidal rivers suffer from algal blooms and severely reduced water clarity.
- Underwater grasses remain at a third of the desired acreage.
- Most stocks of fish and shellfish are still well below historic levels. (This year, Maryland and Virginia cut the crab harvest in an attempt to save the fishery.)
- Hundreds of miles of streams and rivers throughout the watershed are impaired due to local water quality problems.

III. Future Directions and Emphasis

To build on its 25 year legacy and ensure a more sustainable future, the Chesapeake Bay Program and its partners must aggressively adapt, innovate, and accelerate implementation efforts to restore and protect the Bay and its watershed.

We have benefited from recommendations of our reviewing agencies. The health and restoration assessment, for example, is now divided into separate parts to distinguish actual conditions in the Bay from efforts by Bay partners to improve water quality, as recommended by the U.S. Government Accountability Office. EPA and other Bay Program partners are taking more explicit steps to address the impacts of stormwater on the Bay and its watershed, as recommended by an EPA Inspector General report.

Working collaboratively with all the Chesapeake Bay Program partners, EPA is committed to help lead with our partners. Some examples of how the Bay Program partners are incorporating the need to change, adapt and innovate are outlined below.

Promoting "Champions" to Pursue Different Strategies and Approaches

In December 2007, Administrator Johnson, Governors O'Malley, Kaine and Rendell, Mayor Fenty and other Bay Program leaders met for a day to take on "champion" roles to accelerate implementation progress. Each of the leaders agreed to take on a specific interest area and to promote new and innovative approaches that would focus and accelerate implementation efforts, with particular emphasis on reducing nutrients and sediments.

Chesapeake Action Plan: Enhancing Coordination, Management and Accountability

On July 14, 2008, EPA submitted a Report to Congress titled, *Strengthening the Management, Coordination, and Accountability of the Chesapeake Bay Program* (http://cap.chesapeakebay.net/docs/EPA_Chesapeake_Bay_CAP.pdf) on behalf of

the Program partners. The Report summarizes how the Chesapeake Bay Program has responded to the recommendations of the 2005 GAO Report (*Chesapeake Bay Program: Improved Strategies are Needed to Better Assess, Report and Manage Restoration Progress*) (http://www.gao.gov/new.items/d0696.pdf). In addition, the Report summarizes and describes the Chesapeake Action Plan (CAP) called for in the Explanatory Statement accompanying the Consolidated Appropriations Act of 2008 (P.L. 110-161). The development of the Report and the CAP is a collaborative effort with all of the State partners and the key Federal partners in the Bay restoration. The CAP includes four primary components:

- a strategic framework that unifies CBP's existing planning documents and clarifies how CBP partners will pursue the restoration and protection goals for the Bay and its watershed;
- an activity integration plan that catalogues CBP partners' implementation actions and the corresponding resources;
- dashboards, which are high-level summaries of key information that allow readers to understand the status of progress on key program areas; and
- an adaptive management process that promotes the integration of information and analysis with partners' actions and future priorities.

The CAP is enhancing coordination among CBP partners and will encourage them to continually review and improve their progress in protecting and restoring the Bay as well as heighten the level of accountability for meeting Bay restoration goals. The CAP captures the implementation efforts of ten Federal agencies, the six States, the District of Columbia, the Chesapeake Bay Commission and two non governmental

organizations – Ducks Unlimited and the Chesapeake Bay Trust. Future versions of the CAP will be expanded to include a fuller array of partners and be tailored to meet unique partner needs.

Understanding the Impact of Climate Change on the Bay

The Chesapeake Bay Program and partners recognized the potential impacts from climate change in its *Chesapeake 2000* agreement, committing to "evaluate the potential impact of climate change on the Chesapeake Bay watershed, particularly with respect to its wetlands, and consider potential management options." In May 2008, the Bay Program's Scientific and Technical Advisory Committee (STAC) released its report, titled *Climate Change and the Chesapeake Bay: State-of-the-Science Review and Recommendations* (http://www.chesapeake.org/stac/Pubs/climatechangefinaldraft.pdf).

The EPA National Water Program recently proposed a national *Climate Change Strategy* outlining actions needed to maintain the effectiveness of clean water and drinking water programs. The public comment period closed last month and we intend to finalize the *Strategy* this summer.

A key conclusion of the draft Strategy is that coastal areas are likely to be at greater risk from the consequences of climate change than inland areas. Potential climate change impacts such as sea level rise, more intense storms, increasing temperatures, and changes in ocean chemistry may all come together to make adapting to climate change a significant challenge for coastal areas such as Chesapeake Bay. These potential impacts will be compounded by existing stressors

on coastal areas (*e.g.,* land use change and development, population growth) and will require adaption to improve ecosystem resilience. EPA is developing a Climate Ready Estuaries toolkit that will be made available to all coastal managers. EPA will also work with other Federal agencies, including USGS and NOAA, to manage potential impacts of and solutions to climate change in the Bay ecosystem.

Promoting New Approaches for Development – "No Runoff Development"

In September 2007, the EPA Inspector General concluded that growth and development in the Bay watershed are outpacing progress on Bay goals. This is one of the few pollutant sources that is increasing over time. Between 1990 and 2000, the Bay watershed population increased by 8%, while the amount of impervious surface increased by 41%. Population now grows by 130,000 annually and 100 acres of watershed forest lands are lost each day. Growth projections through 2030 show continued explosive growth is many areas.

While the States and EPA are making good progress to improve the effectiveness of our Clean Water Act regulatory program to address stormwater, the Chesapeake Bay Program is working with partners to identify situations where progressive developers, builders and homeowners keep virtually all runoff on a site through a full suite of practices that capture and reuse, infiltrate and evapotranspirate all runoff. This is just one of the innovative approaches that address the Inspector General recommendations.

Targeted and Effective Implementation of New Farm Bill Resources

On May 9, 2007, EPA and USDA committed, through a Memorandum of Understanding (MOU), to work cooperatively on nutrient reduction activities in the Chesapeake Bay watershed. The new 2008 Farm Bill authorizes additional dollars to support implementation of conservation practices on agriculture lands in the watershed. The Bill's new section on the Chesapeake Bay Watershed authorizes $188 million in additional funds for conservation activities in the region over the next five years. Building on the 2007 MOU, the Chesapeake Bay Program is helping to foster dialogues with NRCS and various partners to discuss how these resources can be best utilized and targeted to achieve nutrient and sediment reductions. On July 14, EPA joined with NRCS officials in Annapolis, Maryland to hold a public "Listening Session" attended by approximately 200 people on the Bay provisions of the new Farm Bill.

Engaging Local Governments, Local Watershed Groups and Others

On July 14, 2008, the EPA Inspector General issued an Evaluation Report on the Chesapeake Bay Program titled, *EPA Needs to Better Report Chesapeake Bay Challenges*. This report summarized six previous Inspector General Reports on the Bay Program, and focused on three challenges for the Bay partners: development; agricultural conservation practices; and air emissions.

The Federal and State governments alone cannot restore and protect the Bay and its watershed. The Chesapeake Bay Program partners recognize we must engage many more partners, and ultimately the 17 million residents of the watershed. Consistent with the IG's recommendations, we are developing a strategy to engage both local governments and local watershed groups, building on past efforts and

coordinating with our Local Government Advisory Committee. This new emphasis will help to bring local resources, tools, authorities and programs to the task of restoring the Bay and its watershed.

Continued Understanding of Stressors on the Bay and Watershed

The Chesapeake Bay Program will continue to rely on its world class science and partners to gain an improved understanding of some of the other issues and stressors in the Chesapeake watershed, including for example:

- The contribution of nutrient and pathogen pollution from onsite wastewater systems and septic tanks;
- The contribution and threat of nutrients and legacy sediments from historic dams (*i.e.,* Conowingo Dam);
- Continued investigation of the source(s) of intersex fish and fish kills in the Shenandoah and Potomac and the role of endocrine disruptors and pharmaceuticals; and
- Increased corn production in response to commodity prices and demands for ethanol and the associated increases in nutrient loads and water quality impacts http://www.chesbay.state.va.us/Publications/BiofuelsAndTheBay1.pdf.

Clean Air Interstate Rule (CAIR)

EPA is very concerned that a recent judicial decision under the Clean Air Act will have serious and adverse impacts to the health of the Bay. On July 11, 2008, the DC Circuit Court of Appeals vacated EPA's CAIR rule, which would have required

significant reductions of sulfur dioxide and nitrogen oxides (NOx) from power plants that affect east coast states – and the Chesapeake Bay. The Bay jurisdictions were relying on the CAIR rule to significantly reduce nitrogen emissions by 2010. The 8 million pounds of nitrogen entering the Bay that CAIR would have reduced annually would have improved water quality in the Bay watershed.

Development of a Total Maximum Daily Load (TMDL)

In 2003, the Chesapeake Bay partners established comprehensive nutrient reduction goals for the Bay's major tributaries. This effort has led to major investments in municipal wastewater treatment plant upgrades and reductions in nutrient loadings throughout the watershed. Consistent with this overall approach, EPA and the States have begun to lay the groundwork for development of a TMDL for nutrients and sediments, under the authority of the Clean Water Act. The TMDL for the Bay has a legal deadline of May 2011, but is expected to be completed by the end of 2010. The nutrient and sediment allocations need to be fully developed, as well as a commitment by the partners for adequate public outreach for what will be one of the largest and most complex TMDL undertakings in the Nation.

Conclusion

Thank you again to the Subcommittee for your emphasis on the importance of estuaries and watersheds and ways that we can collectively improve the delivery of existing and new tools, programs, authorities and resources to address the challenges that affect the Chesapeake Bay and other watersheds throughout the Country. EPA will continue to be an advocate for the Chesapeake Bay Program, to

build on its past success, and to adapt, innovate and implement new strategies and approaches that will accelerate restoration and protection of the Chesapeake Bay and its watershed.