CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Statement of Roy A. Hoagland
Vice President, Environmental Protection and Restoration
Chesapeake Bay Foundation
Before the Subcommittee on Water Resources and Environment
House Committee on Transportation and Infrastructure
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Madame Chair and members of the subcommittee, thank you for the invitation to be here today. My name is Roy Hoagland. I serve as Vice President for Environmental Protection and Restoration at the Chesapeake Bay Foundation, a nonprofit organization that has been working through education, restoration, and advocacy to Save the Bay since the mid-1960s. I am here today on behalf of our Board of Trustees and our more than 200,000 members.

No specific questions were posed in the subcommittee's invitation letter, but it is my understanding that the subcommittee wants to try to better understand the challenges involved in bringing the Bay back to an acceptable water quality and living resource level and the adequacy of the current federal response.

It is appropriate to begin with a brief snapshot of the Bay's condition today. Since 1998, the Chesapeake Bay Foundation has been publishing a "report card" on the health of the Bay, based on a scale of 1-100. The overall numeric score that the Bay receives each year is a composite of 12 scores on indicators such as water pollution, abundance of natural buffers such as wetlands and forests, and the health of critical species such as the oyster and blue crab. Our 2007 report gave the Bay a 28 – the same score it received in 2000.

In other words, it is our judgment that during the past several years we have neither made significant progress with Bay water quality, nor have we lost a great deal. We have, however, lost a great deal in both water quality and biological productivity over the past several generations.

The Chesapeake Bay ecosystem was once among the most biologically productive estuarine ecosystems on earth. Baltimore writer H.L. Mencken perhaps captured the idea most succinctly when he wrote that in his youth, the Bay was "an immense protein factory." However, over the last hundred years, population growth, inadequate sewage treatment, air pollution, construction runoff, overuse of both commercial and natural fertilizers, and poorly designed urban and suburban stormwater management systems have contributed to a decline in the Bay's water quality, while overfishing, stream blockages and disease have contributed to a dramatic reduction in the numbers of oysters, crabs, menhaden, shad, and other fish species in the Bay and its watershed.

The fundamental systemic challenge to the Chesapeake Bay is poor water quality caused primarily by an excess of the nutrients nitrogen and phosphorus as well as sediment in the Bay. In the world of water quality, geography is closely related to destiny. The Chesapeake Bay is a relatively shallow estuary with a large watershed that includes parts of six states as well as the District of Columbia. It receives its fresh water from a great network of streams that, together, drain more than 64,000 square miles, from north of Cooperstown, New York to west of the Blue Ridge Mountains to the Southern counties of Virginia. Virtually all the pollution that runs off the land and finds its way to a stream in that 64,000 square mile area ends up in the Chesapeake Bay. More than 17 million people live in the Bay watershed, and the population continues to grow. We generate a great deal of pollution with our millions of vehicles, thousands of farms, hundreds of villages, towns, and cities, hundreds of sewage treatment plants, tens of thousands of septic systems, and untold numbers of other pollution sources. To make matters worse, nitrogen pollution from air sources from as far away as Michigan contribute to the degradation of the Bay. As the population grows, our pollution grows proportionately.

When considered in this way, holding the line over the past several years is an accomplishment in itself.

Because of the excessive levels of nitrogen and phosphorus pollution, each year there develop large areas in the Chesapeake Bay and its tidal tributaries where there simply isn't enough dissolved oxygen in the water to allow fish and shellfish to live. The common and descriptive name for these areas is "dead zones". They are a result of the process of eutrophication - when the water is overloaded with too many nutrients, predominantly nitrogen and phosphorus. Too many nutrients, combined with warm water temperatures, cause phytoplankton in the water to multiply rapidly. Untold billions of phytoplankton then die, sink to the bottom, and are consumed by bacteria, causing a depletion of dissolved oxygen in the water. Sometimes, in parts of the Bay's waters, we see consequential fish kills and "crab jubilees" due to the lack of dissolved oxygen.

The problem of eutrophication in the Bay is very serious, and seems to be getting worse. For example, a report released earlier this year by the Chesapeake Bay Program tells us that only 12 percent of the Chesapeake Bay and its tidal tributaries met water quality standards for dissolved oxygen during the 2005 to 2007 monitoring period. This is sharply down from the 28 percent of waters that met the same standards during the 2004-2006 period. Some of this particular decline can be attributed to annual variations in temperature and rainfall, which washes pollutants off the land. However, even accounting for weather variations, the problem remains that there are excessive levels of pollution degrading the Bay and the rivers and streams that feed it.

It is important to pause here to note that the problem of nitrogen pollution flowing into coastal waters and depleting the availability of dissolved oxygen is not by any means confined to the Chesapeake Bay. According to the EPA, 44 estuaries along the nation's coasts are highly eutrophic, and an additional 40 estuaries have moderate levels of eutrophic conditions. This year, the dead zone in the Gulf of Mexico is estimated to be the size of New Jersey. Worldwide surveys compiled by the World Resources Institute

have identified 415 coastal bays and estuaries experiencing some form of eutrophication. Analysis of the WRI surveys shows that an incredible 78% of assessed continental US coastal area and 65% of Europe Atlantic coast are experiencing symptoms of eutrophication. There are scientists who believe that eutrophication in estuaries and other coastal areas are a human-induced global environmental phenomenon that rivals global warming in its impact on ecosystems.

Moreover, the inevitability of warming air and water temperatures will make the challenge of eutrophication in the Chesapeake, the Gulf, and other coastal bays and estuaries worse. In the Chesapeake Bay region, it is clear that rising water temperatures and water levels will continue to adversely impact the Bay for many years, exacerbating the dead zone problem, and inundating coastal marshes and other natural buffers that serve as critical filters of pollutants heading for Bay waters.

A brief summary of the federal response to the Bay's challenges

Given the magnitude of the Chesapeake's challenges, it is not surprising that a good deal of effort has been put by the affected states and the federal government into understanding what needs to be done for the Bay and beginning the hard work of pollution reduction and ecosystem restoration. Federal interest in the Bay developed rapidly in the late 1960s and early 1970s, led, at first, by the US Army Corps of Engineers. Following on a late 1960s study of the state of the Bay and projections of future conditions, Maryland Senator Charles "Mac" Mathias was able to secure in the late 1970s a five year EPA study that, among other things, recommended enhanced federal-state cooperation in protecting and restoring the Bay. The resulting Chesapeake Bay Program partnership was created by a 1983 Agreement between the federal government, with EPA as the lead agency, the District of Columbia, the state of Maryland, and the Commonwealths of Pennsylvania and Virginia. Several other federal agencies became Program partners in 1984. Dedicated funding for the activities of the Chesapeake Bay Program was secured for the first time in fiscal year 1985, and the EPA Chesapeake Bay Program Office was authorized by section 117 of the Clean Water Act in the 1987 amendments.

Section 117 was reauthorized most recently in 2000. Funding for the Chesapeake Bay Program Office and several other Chesapeake-related activities continues to be provided through the annual appropriations process and through mandatory funding associated with the Farm Bill. While exact appropriations and mandatory spending levels for programs that assist in the protection and restoration of the Bay and its resources are subject to definition and are therefore somewhat difficult to determine, it can be confidently said that all federal assistance devoted to protection and restoration of the Bay exceeds $250 million each year.

Focusing on the Clean Water Act

Although the Chesapeake Bay Program is the centerpiece of federal-state cooperation in Chesapeake Bay matters, the statutory foundation for pollution reduction activities in the Bay watershed is the federal Clean Water Act. The Clean Water Act begins with the ringing objective of restoring the "chemical, biological, and physical integrity of the Nation's waters" and the goal of completely eliminating the discharge of pollutants into the Nation's waters.

Certainly the Clean Water Act can be counted among this Committee's proudest accomplishments. However, its relative weakness in controlling non-point pollution, which constitutes a high percentage of the Bay's pollution problems, makes it a less than adequate tool for what needs to be done. In plain words, the foundation on which Bay water quality efforts are built needs to be somewhat improved.

In the late 1990s, the Chesapeake Bay and several of its tidal tributaries were formally listed by several states and the EPA on the Clean Water Act Section 303(d) "impaired waters" list due to excessive nitrogen, phosphorus and sediment pollution levels from both point sources and nonpoint sources. A subsequent lawsuit, settled in a 1999 consent decree, and further agreements made by the District of Columbia and the State of Maryland required the development of a state or EPA-developed Total Maximum Daily Load (TMDL) to address the impairments by no later than May, 2011.

A TMDL is a pollution budget specifying the steps necessary to reduce pollution and achieve restored water quality. The intent is that a TMDL will serve to clean up polluted waters. A TMDL is the last line of defense for restored water quality under the Clean Water Act – the need for a TMDL arises only after Clean Water Act permits and other pollution abatement programs have failed to protect water quality.

In June of 2000, the EPA, the Chesapeake Bay Commission, the District of Columbia, and the states of Maryland, Virginia, and Pennsylvania signed the *Chesapeake 2000 Agreement*, in which the most important commitment was to preempt the required TMDL by "correct[ing] the nutrient- and sediment-related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act" by 2010. Subsequently, the EPA, the District of Columbia, Maryland, Virginia, and Pennsylvania, with cooperation from the Bay "headwater states" (New York, Delaware, and West Virginia) determined that the Bay could tolerate no more than 175 million pounds of nitrogen pollution on an annual basis. Reaching the 175 million pound goal necessitated a system-wide reduction of 110 million pounds of nitrogen pollution each year from the estimated levels the Bay was receiving in 2000. The state partners, the District, and the EPA allocated this 110 million pound reduction among themselves and developed plans and identified changes necessary to achieve the 110 million pound nitrogen pollution reduction by 2010. These commitments to achieve the requisite nitrogen and phosphorus reductions delayed the development of a Bay-wide TMDL to address these impairments for more than 10 years.

Despite its good intentions, it is now clear that this voluntary approach to meeting the requirements of the consent decree and other agreements has not been successful. Although the signatory states have each made some significant commitments toward that end, we will finish 2010 far from the achievement of the agreed-upon nitrogen pollution reduction goals. Thus we will revert to what the Clean Water Act requires: development and implementation of a Bay-wide Total Maximum Daily Load for excess nutrients and

sediment, followed by thousands of individual state and local decisions that must provide the required "reasonable assurance" that the TMDL allocations will be achieved.

This is, of course, problematic, when many of the non-point sources of nitrogen that create the impairment currently lie outside the reach of existing local, state or federal law and regulation. This includes, for example, many aspects of agricultural operations or homeowner practices. Other sources, while regulated, require such substantial cost for managing the pollution that local or state units of government ignore them absent strong demand from the state or federal regulators, respectively.

So we come to this: the future state of the Chesapeake Bay, as well as the ultimate success of the untold millions in federal investments that have been made towards its protection and restoration, depends to a high degree on the creation and implementation of an effective Bay-wide TMDL, which in turn depends on EPA's definition of "reasonable assurance" that the limits established in the TMDL will be met. With the current state of the Clean Water Act, "reasonable assurance" is the sole tool that the EPA has available to drive hundreds of state and local non-point source decisions.

The Chesapeake Bay Foundation believes that this is the bottom line: if the Chesapeake Bay TMDL is developed and approved but its pollution limits are not fully and timely implemented by federal, state and local governments, we will simply not be able to restore the Bay. Ongoing increases in pollution, globally warming waters and changing weather patterns in the watershed will ensure that to be the case.

Congress, through this Subcommittee, should have a very strong interest in helping EPA to clarify exactly what "reasonable assurance" means in the context of Bay restoration and long-term protection. The upcoming Bay TMDL is the largest, most complex TMDL that will likely ever have been developed. Its success or failure will say a great deal not only about the future health of the Bay, but about the ultimate value of the Clean Water Act in cleaning up thousands of waterbodies across the United States. TMDLs, to date, have, according to an EPA Office of the Inspector General Report, failed

to drive water quality improvement. This is because, to date, EPA has paid lip service to the requirement of "reasonable assurance," allowing a TMDL to be a paper exercise with little likelihood of implementation or achievement of its goals.

The Chesapeake Bay-wide TMDL offers us the opportunity to establish a new national model for success, not failure.

In 1984, President Ronald Reagan visited Maryland's Tilghman Island, and during his remarks about the importance of the Chesapeake Bay, he asserted that "clearly the time for action is now". Modest new federal programs and budgets then followed the President's remarks, ramping up the federal government's involvement in the restoration and protection of the Bay. However useful those actions have been, 24 years later they have not done the job.

Now, after a nearly ten year delay, we face potentially the most important federal action yet for the long-term health of the Chesapeake Bay. The Chesapeake Bay Foundation believes that Congress should seek to ensure, through force of law, that the development of the Bay-wide nutrient TMDL is not just a paper exercise, but has some teeth. We urge you to strongly consider how section 117 of the Clean Water Act can be rewritten to define precisely what constitutes a "reasonable assurance" that the necessary state and local regulations and budgets will be put in place across the Chesapeake Bay watershed to achieve the required pollution reductions.

I have concentrated almost exclusively today on the notion of ensuring full implementation of the upcoming Bay-wide TMDL. There are, of course, other good ideas for revising section 117 – creating cross-cutting agency budgets, seeking to involve local governments more effectively, separately authorizing grant programs, working with the Ways and Means Committee to create a dedicated source of restoration funding, and so on. We would certainly be pleased to work with you and your staff as you consider these and other good ideas for section 117. I am grateful for your time today and would be happy to answer any questions that you might have.