CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

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Before the Subcommittee on Insular Affairs, Oceans and Wildlife,
Committee on Natural Resources, U.S. House of Representatives

Regarding H.R.3644, the Bay-Watershed Education and Training (B-WET) Regional Program and National Environmental Literacy Grant Program Act

October 15, 2009

Chairwoman Bordallo, Congressman Brown, and members of the subcommittee, thank you for providing me with the opportunity to share Chesapeake Bay Foundation's thoughts on environmental education and the NOAA Bay-Watershed Education and Training and Environmental Literacy Grant programs.

The Chesapeake Bay Foundation is the only nonprofit conservation organization existing solely to restore the Chesapeake Bay. Founded 42 years ago, today we have more than 215,000 members across the United States. CBF's two principal goals for accomplishing our mission are to work to improve the degraded state of the Bay through hands-on restoration activities and policy advocacy, and to educate Bay constituents to accept a personal role in the restoration and protection of our natural resources.

Since 1973, CBF's commitment to environmental education has been a cornerstone of our mission to *Save the Bay*. Our award-winning, multi-faceted education program is the largest of its kind in the country, serving as a national model for effective environmental instruction. It is a comprehensive program offering structured field investigations that are integrated into classroom curricula,

accredited professional development, hands-on community-based projects, curriculum materials, volunteer resources, and leadership development programs. Throughout the years, CBF's environmental education program has trained one million students and teachers throughout the watershed, in the field and in the classroom, inspiring the next generation of active stewards for the Chesapeake Bay.

CBF is also a founding member of No Child Left Inside Coalition. The NCLI Coalition is comprised of nearly 1500 organizations nationwide, representing more than 47 million Americans. The goal of the NCLI Coalition is to ensure that all students graduate from high school with a basic understanding of the environment and prepared for the green jobs of the 21st century. We would especially like to thank Chairwoman Bordallo and several members of the Subcommittee including Congressman Pallone, Congressman Wittman, Congresswoman DeGette, Congressman Kind, Congresswoman Capps, Congresswoman Shea-Porter, and Congressman Kratovil, for co-sponsoring the No Child Left Inside Act introduced by your colleague on the Committee, Congressman John Sarbanes.

The Chesapeake Bay Foundation's environmental education programs directly address action mandated by a region-wide commitment to the Chesapeake Bay and its streams and rivers called the *Chesapeake 2000 Agreement.* In June 2000, the Governors of Virginia, Maryland, and Pennsylvania, the Mayor of the District of Columbia, and the Administrator of the EPA established the goal of providing every single student in our region a meaningful Bay or stream outdoor experience before high school graduation.

Environmental education providers throughout the watershed have accepted the challenge to connect students to the Chesapeake Bay and its streams and rivers through meaningful watershed educational experiences (MWEEs). CBF is justifiably proud of its work to assist school systems in meeting this goal by delivering high quality MWEEs, engaging students in hands-on, authentic investigations, projects, and assessments that are connected to classroom instruction and required standards of learning.

Created in the fiscal year 2002 Commerce, Justice, Science Appropriations bill to help address the need to dramatically expand environmental education in the Chesapeake region, the NOAA Chesapeake Bay Watershed Education and Training Program was the first in the nation. Chesapeake B-WET has been an essential part of implementing the Chesapeake 2000 Agreement's commitment to ensuring that all students living in the watershed participated in a meaningful watershed educational experience.

The Chesapeake Bay Foundation has been a participant in program since its inception. Using B-WET funds, CBF has trained 1,500 teachers in the past six years and have directly served over 13,000 students with meaningful educational experiences. During those six years, we have attracted matching funding to reach approximately 240,000 total students and teachers. We conservatively estimate that the teachers trained through Chesapeake Classrooms have indirectly reached at least another 75,000 students.

B-WET funds have served as the vital underpinning for our programs, allowing us to develop partnerships with school systems, attract matching funding, provide continuing support for teachers, expand our programming to reach underserved schools, and engage in innovative projects.

I want to offer some observations, based on our experience, on the factors that have made the B-WET program so successful here in the Bay region, and how the implementation of the Chesapeake B-WET program can continue to serve as a model for other programs around the country.

We believe that the efficacy and impact of the Chesapeake B-WET program are based on several significant factors:

(1) **Political Support**: The Governors of the Chesapeake Bay watershed states and the Mayor of the District of Columbia committed to implementing the MWEE for every student as part of the Chesapeake 2000 Agreement. That commitment has been upheld and in some cases augmented by antecedent governors who have recognized the importance of educating the citizenry so that they can make choices that will help preserve the health of our watershed. Equally important is the strong support that the Chesapeake B-WET program has garnered

from the Congressional delegation from the Bay region. This was affirmed recently by this committee when it passed the Chesapeake Bay Science, Education and Ecosystem Enhancement Act of 2009 sponsored by Representative Sarbanes.

(2) **Support from the Formal Education Stakeholders**: The commitment of the Governors led to the direct involvement and support of the State Education Agencies and local school districts. State departments of education wrote the MWEE into their school program and curriculum planning documents. Local school districts were tasked with tracking their students participation in MWEEs and encouraging their implementation. Without the active engagement of the formal education community, there would be no way to achieve a systemic outcome that would impact all students.

(3) **Support from the Informal Education Community**: The Chesapeake region is home to a large number of community organizations, non-profits, institutions of higher education, and scientific organizations who fill an important role in making Chesapeake B-WET a success. These key stakeholders (including CBF and NOAA) provide expertise, build partnerships with the formal education systems, and create innovative programs and resources that help achieve B-WET goals.

(4) **An Active and Engaged Donor Community**: The Chesapeake region enjoys a well developed and highly engaged donor base that is committed to education of the public as an important strategy for protecting our natural resources. This donor base provides the matching funding for all B-WET initiatives that allows the program to greatly magnify its impact and effectively leverage the commitment of federal funds.

(5) **Program Structure and Implementation**: The Chesapeake B-WET program has been able to achieve an outsized impact because of the way that it was designed and carried out. The targeted and consistent funding to a discrete watershed has allowed model programs, like those carried out by CBF, to grow and be replicated. It has allowed partnerships between school districts and stakeholder organizations to flourish. It has created a community that can create complimentary programming, identify and reach underserved populations, share best

practices, and create innovative educational tools. These synergistic effects would not be achievable if funding were not geographically concentrated, or were awarded as a one time grant.

The education programs run by CBF serve as a case study to illustrate the impact of the Chesapeake B-WET program. CBF's student field programs are comprehensive MWEEs that put students directly into contact with the Bay or the watershed, while helping them master academic standards defined by their school districts. They introduce students to NOAA science in an engaging way that leads students not only to greater stewardship, but greater academic achievement. CBF compliments its student offerings with highly effective teacher professional development which combines a meaningful field based experience for the teachers themselves with training on how to create and deliver MWEEs to their students. Chesapeake B-WET funding has catalyzed the partnerships with school districts necessary to shape and target CBF's programming in and effective manner. It has allowed CBF to share its work and learn from other organizations who are dedicated to providing MWEEs. B-WET funding has encouraged CBF to identify and direct its programs towards communities and districts that may not otherwise receive MWEEs. Furthermore, B-WET funding has allowed CBF to create new and innovative programs and resources like the FieldScope project, an online water quality mapping tool developed in partnership with NOAA and National Geographic that bring NOAA science to students in an interactive and understandable way.

While the Chesapeake B-WET is a model worthy of replication, the fact remains that it is still an underfunded program. In order to meet the regional-wide commitment to clean up the Bay watershed, it is absolutely essential that every citizen in the watershed understands how his or her actions impact the health of their local waterways and the Chesapeake Bay. The critical strategy to accomplishing this is to ensure that every student be afforded the opportunity to participate in watershed education, specifically a meaningful watershed educational experience, at least once in their K-12 schooling. Many would argue that for these lessons to last and result in real understanding that students must have these experiences more than once, and in fact some jurisdictions have committed themselves to that goal. However, at current funding levels, even taking into account the considerable matching funds generated by this program, we are still far from providing these experiences to all of our students. Teacher training to implement MWEEs presents an even greater need, as there are currently

fewer organizations focused on or capable of delivering this kind of programming. Teacher professional development has become even more critical, as it has become more difficult to engage in field based education with the overwhelming emphasis on test preparation in our schools today.

As our nation faces the environmental challenges of global climate change, over-nitrification of many of our interior and coastal waters, and a host of others, it is essential that as many students as possible are able to take advantage of the kinds of environmental education experiences that B-WET offers. It probably does not overstate the case to say that an educated population is the critical foundation of our defense against the regional and global environmental changes that could cause serious havoc with our lives. H.R. 3644 would go a long ways towards creating that foundation.

Allow me to end on a personal note. I am the father of a 14 year old son and an 11 year old daughter. Over the past several years, their public school teachers have often extended me invitations to speak to classes. I am continually amazed by fourth or fifth graders who know more about aquatic biology and ecological processes than I do. Ten year olds can not only accurately spell eutrophication, they can authoritatively discuss the effect of too much nitrogen or phosphorus on phytoplankton, the resulting impacts on dissolved oxygen in the lower water column, and the decline in aquatic life that occurs as a consequence. That knowledge comes from the kind of programs that we are discussing today. Those are the students that we all need to be the next generation of our nation's leaders.

Madam Chairwoman, we are grateful for this opportunity to speak to you today about a program which has become a pillar in our efforts to educate the public and Save the Bay. We urge you to continue and expand your support of NOAA's B-WET program.