THE PEW CHARITABLE TRUSTS

2005 Market Street, Suite 1700 215.575.9050 Phone
Philadelphia, PA 19103-7077 215.575.4939 Fax

1025 F Street NW, 9th Floor 202.552.2000 Phone
Washington, DC 20004-1409 202.552.2299 Fax
www.pewtrusts.org

TESTIMONY OF J. CHARLES FOX
SENIOR OFFICER, PEW ENVIRONMENT GROUP

BEFORE THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
U.S. HOUSE OF REPRESENTATIVES

ON RESTORING CHESAPEAKE BAY

JULY 30, 2008

Chairwoman Johnson and Members of the Subcommittee:

We greatly appreciate your invitation to appear before the Subcommittee to share our views on restoring the Chesapeake Bay. My name is J. Charles Fox and I serve as a Senior Officer with the Pew Environment Group, the conservation arm of the Pew Charitable Trusts. We are dedicated to advancing strong environmental policies that are informed and guided by sound science on climate change, wilderness protection and marine conservation. Before joining Pew, I served as the Secretary of Natural Resources in Maryland and as the Assistant Administrator for Water at the U.S. Environmental Protection Agency. I also served with the Chesapeake Bay Foundation and have been involved with the Chesapeake Bay Program (CBP) in various other capacities since 1983.

This afternoon we would like to briefly discuss some of the CBP's greatest strengths and challenges. We will identify what we believe are workable options for the Subcommittee to consider to improve the performance of the CBP. It is our firm belief that affordable, science-based solutions are readily available to meet the goals we all share for the Chesapeake Bay.

At the outset, we would like to thank the Chair, Members of the Subcommittee, and Members from the Chesapeake region for their leadership on the Bay. The Chesapeake cleanup program was created more than two and one-half decades ago because of the leadership of a single Member of Congress. It is a great comfort to know that this Subcommittee and so many Members remain focused on the Bay's health, which is integral to the economy and quality of life of communities and people in our region.

Background

In the 1970s, Maryland Senator Charles Mathias worked with his colleagues to authorize a unique and comprehensive study of the Chesapeake Bay. Its conclusions sparked the

establishment of the CBP and the 1983 Chesapeake Bay Agreement, a document signed by the Governors of Maryland, Pennsylvania and Virginia, the Mayor of the District of Columbia and the Administrator of the U.S. Environmental Protection Agency (EPA). That Agreement, while only several paragraphs long, launched what remains widely viewed as the most sophisticated and well-funded ecosystem management program in the world.

The CBP excels in ecological research, monitoring, modeling, and goal-setting. It is managed by EPA, in a formal partnership with the States and the District of Columbia. The CBP is guided by its "Executive Council," a body which meets once a year and includes the EPA Administrator, Governors, the Mayor of the District, and a state legislative representative. The CBP's history includes three major agreements, the most recent of which was adopted in 2000. It has produced a remarkably precise body of scientific knowledge that defines the Bay's problems and, importantly, identifies workable solutions to improve the Bay's health.

The CBP is a voluntary partnership which operates within a suite of mandatory federal and state laws and regulations. The most notable is the federal Clean Water Act (CWA), which is implemented in the Chesapeake region by the states through delegation agreements with the EPA. Fundamentally, the CWA requires permits for major sources of pollution which must be sufficiently stringent to protect the Chesapeake.

The Chesapeake's ecological integrity is a small fraction of what it once was. Like most coastal waters, it suffers from the combined effects of pollution, habitat loss and the extraction of natural resources. These impacts have been exacerbated in the region by sprawling growth and development patterns. The Chesapeake's problems are generally worse than other coastal waters because it is shallow and poorly flushed, and its expansive watershed occupies a large portion of the mid-Atlantic region.

CBP's Successes and Shortcomings

The Subcommittee has assembled an impressive list of witnesses this afternoon who will likely describe in detail the successes and shortcomings the CBP's performance over the past two decades. Amid the likely focus on shortcomings, we believe it important to recognize some of the substantial successes of the CBP and Bay-area governments. Indeed, the relative ease with which the EPA Inspector General, the Government Accountability Office, and the public at large can understand and evaluate the progress of the Chesapeake cleanup should be viewed as a significant success. Fundamentally, the CBP is an extraordinarily transparent and collaborative institution. Indeed, these attributes and its related participatory structures have been replicated throughout the United States and the world.

The region's leadership to restore and protect striped bass populations is also an internationally-recognized success story in conservation. The CBP's related focus on opening anadromous fish spawning areas is also widely viewed as a significant success. In our view, Bay-area governments also deserve substantial praise for: (1) constraining permitted wetland losses; (2) restoring Canada geese populations; and (3) installing forested buffers.

Bay-area governments have been less successful in controlling pollution and managing sprawling development patterns which, in turn, exacerbate pollution and habitat loss. The former is arguably the most fundamental challenge facing the Chesapeake. Nitrogen, phosphorus and sediment pollution: (1) stimulate the growth of undesirable algae, including widespread "brown" and "green" tides; (2) constrain the growth of underwater grasses; (3) decrease water clarity; and, (4) cause the Bay's massive "dead zone," an area with little to no dissolved oxygen or marine life. In addition, bacteriological pollution from improperly treated sewage is a significant local problem in many portions of the Bay.

Chesapeake pollution emanates from many sources. However, agricultural sources are the most significant in the watershed. Runoff pollution from urban and suburban areas, including construction sites, golf courses and lawns, is also a significant and growing source of pollution to the Chesapeake. Other significant sources include municipal and industrial wastewater, electric generating facilities, automobiles, and septic systems. It is important to note that what is generally called "agricultural" pollution includes both animal and cropping activities, the latter of which is further subdivided to include pollution from both commercial and manure fertilizers.

Over the past two decades, the extent and severity of the Bay's "dead zone" has not changed appreciably. Monitoring data suggest that overall pollution loads to the Bay also have not changed significantly or sufficiently. Optimistically, one could argue that the CBP's success in preventing water quality from worsening is significant given the region's population growth. However, this accomplishment is not consistent with the public's expectations or the goals of the CBP.

In the Chesapeake 2000 Agreement, Bay-area governments pledged specifically to meet water quality standards in the Chesapeake and its tributaries by 2010. Unfortunately, the signatories will not come close to meeting this goal.

Is Success Possible?

The experiences of the past two decades *could* suggest that success is impossible. We respectfully reject this conclusion. In our view, the experiences suggest that the water quality goals of the CBP are still achievable, albeit perhaps more difficult, time consuming and expensive than previously thought.

The rationale to protect and restore Chesapeake Bay is just as strong today. Put simply, the Chesapeake defines our region and its value is immense. A University of Maryland study conducted more than 15 years ago estimated the economic value of the Bay at $678 billion. In today's dollars, it would be worth over a trillion. For some people, it is why they live or work here. For some communities and businesses, it is their lifeblood. For all of us citizens of the watershed, its demise would be devastating.

Unfortunately, there is not a single successful example of a large-scale restoration of nutrient-impaired coastal waters in a growing region like Chesapeake Bay. Fortunately, there are many examples of successful pollution control programs in the United States over the past thirty years, all of which offer lessons for the Chesapeake.

For example, our nation's air quality has improved significantly since 1980, despite dramatic growth in population and energy consumption. According to EPA, over the past 26 years, the aggregate emissions of the six principal air pollutants has declined by 49 percent, despite a 121 percent increase in Gross Domestic Product and a 101 percent increase in vehicle miles traveled.

These statistics contrast sharply with water pollution trends over the same period in the Chesapeake. Why?

Our nation's air pollution control programs establish emissions standards for virtually all sources, both large and small, including even household appliances and products in some regions. Cumulative air pollution loads are monitored and modeled with significant precision at national, regional, and local levels. Perhaps most importantly, the various control regimes are modified in clear and consistent ways based upon ambient monitoring data. If, for example, a region is failing to meet health-based standards, more stringent accountability mechanisms are applied.

This air pollution example is not unique. Over the past 30 years, our nation's pollution control programs have produced cleaner drinking water, reduced threats from toxic wastes, improved management of landfills and underground storage tanks, and even increased recycling rates. There are other, more discrete examples of successful pollution control programs, such as eliminating lead in gasoline or banning DDT in pesticides.

Traditional pollution control programs typically impart enforceable obligations on private interests for the purpose of serving a broader public good. In general, the costs of these controls are not borne by government. Instead, they are internalized by specific pollution sources and ultimately passed on to the people who use, purchase, and enjoy the goods and services. A 2003 report by the Office of Management and Budget estimated the 10-year cost of federal environmental regulations at $36 to $42 billion annually. However, it also estimated total benefits at 3 to 5 times greater than total costs.

Water pollution control programs in the Chesapeake possess some, but not all, of the attributes of traditional pollution control programs. In the Chesapeake, for example, we have developed sophisticated monitoring, modeling and goal-setting programs that could form the basis of fair, efficient and scientifically-driven pollution control programs. However, we have not yet developed an accountability system that ensures controls on all major sources of pollution, especially significant portions of the municipal and agricultural sectors. We will discuss some ideas about this more thoroughly later in our testimony.

Pollution Control Actions Already Defined

The CBP has defined in great detail the pollution control actions necessary to achieve the specific Chesapeake water quality standards for dissolved oxygen, water clarity and chlorophyll (a surrogate for algae). These management actions will reduce nitrogen, phosphorus and sediment pollution from all major sources, consistent with numeric targets that have been established for each of the nine major tributary areas. Achieving these numeric targets, in turn,

is expected to substantially reduce the Bay's "dead zone," encourage the growth of underwater grasses, and limit the extent of undesirable algae blooms.

In the agricultural sector, for example, the CBP has defined over two dozen specific practices, on a tributary-by-tributary basis, which will have to be implemented to achieve the water quality objectives for the Chesapeake. Three of these practices are particularly important and will have to be adopted widely throughout the watershed: (1) planting cover crops; (2) implementing enhanced nutrient management plans; and, (3) establishing riparian buffers.

Over a dozen similar practices have been defined as necessary to control pollution from developed lands. These practices include septic system upgrades, erosion control, and stormwater infiltration devices. In general, the pollution loads from developed lands are increasing throughout the watershed, a particularly problematic trend which contrasts sharply with patterns of other sources.

Costs of Pollution Control Actions

The CBP also has developed relatively precise cost estimates for implementing the tributary strategies. In general, the subject of financing the Bay cleanup has received substantial attention in the past eight years, and there is a large body of information and recommendations about ways to address various capital and operating costs.

Some pollution control costs are inherently "public," many of which already have sufficient financing mechanisms. For example, municipal sewage treatment plant upgrades are financed largely through existing residential and commercial water and sewer fees. When necessary, these fees can be supplemented with a number of existing federal and state grant and loan programs, some of which are designed to assist particularly needy communities.

Other pollution control costs are traditionally "private," many of which also have sufficient financing mechanisms. For example, the stormwater control costs of private residential or commercial developments are, in theory, incorporated into the capital and operating costs of that development. Similar mechanisms exist for discharges of industrial wastewater or air emissions from power plants.

However, there are a number of potential new costs which do not have existing financing mechanisms, some of which may not easily be defined as either inherently "public" or "private." As such, there remain significant outstanding questions about whether such costs should be borne by government or, as has traditionally been the case with pollution control, by the private sector. These issues are particularly acute now because of the relatively difficult financial positions of federal, state and local governments. For example, is urban stormwater runoff pollution caused by historical development patterns a "public" or "private" cost? The answer to this question may ultimately involve the obligation of hundreds of millions of dollars to retrofit older communities to improve water quality.

Resolving questions about the costs and associated responsibilities of pollution control from agricultural lands may be the most important issue, given its disproportionate impact on water

quality. One could argue that this sector is comprised of small, medium and large businesses and, therefore, should be responsible for internalizing its pollution control costs like other private enterprises. However, one can also argue that agricultural land uses are far more preferable than urban/suburban ones, and that government has an obligation to protect farmland and provide financial assistance to control pollution. Moreover, agricultural pollution control practices are among the most cost-effective, by far. Presently, there are numerous cost-share programs for agricultural pollution control. However, they are not yet sufficient to meet current demand, much less assure full implementation of the practices necessary to meet the Bay's water quality objectives.

The CBP's 2004 estimate of the total capital costs of implementing the tributary strategies for agriculture is $2.3 billion, which was annualized at $255 million over the life of each practice. In addition, the CBP estimated the total annual operating and maintenance costs (O&M) at $303 million. "Operating" costs in this context includes land rental payments for buffer strips along agricultural streams. In theory, this estimate of an annual "need" of about $550 million could be compared to an estimate of current funds available to approximate the funding "gap." Unfortunately, it is very difficult to do this for a variety of reasons relating to variability in eligibility factors, cost-share rates, and assumptions about funding availability, and we are not aware of any such analysis.

These cost estimates have important limitations. However, it is abundantly clear that the relative cost of controlling agricultural pollution is ultimately not that significant when compared to the societal value of a healthy Chesapeake Bay. Moreover, the recent Farm Bill amendments, secured by Congressman Chris Van Hollen and others, have significantly closed the funding "gap" for agriculture. By way of comparison, the cost of the Woodrow Wilson Bridge replacement over the Potomac River is about $2.5 billion, and similar, multi-billion-dollar public investments are presently being made at all of our region's airports.

Possible Ways Forward

We are in an exceptionally enviable position compared to other large-scale ecosystem restoration efforts around the nation and the world. We have a very clear sense as to what actions are necessary to meet our water quality objectives. We know what it will cost. We have delivery mechanisms already in place at federal, state and local governmental levels. And, perhaps most importantly, we continue to maintain widespread public support for bold action to protect the Chesapeake.

At the same time, there are inescapable conclusions that we draw from the experiences of the past, including: (1) current strategies and policies are not performing adequately; (2) accountability mechanisms are not adequate for significant sources of pollution, particularly runoff pollution from municipal and agricultural sources; and, (3) new financing mechanisms will need to be considered for some sources of pollution, particularly significant portions of the agricultural sector.

We would respectfully suggest that the Subcommittee and Bay-area governments consider three key ideas, which are not necessarily mutually exclusive:

1. **Enforce current law** -- The federal Clean Water Act and related state laws and regulations provide vast authority to control water pollution from all sources in the watershed. In fact, the Act specifically requires permits for all man-made sources of pollution that are sufficiently stringent to protect water quality. As a practical matter, EPA and the states could begin issuing permits to virtually all sources consistent with the precise practices that are described in the CBP's tributary strategies. This approach likely would require additional federal or state rulemaking, and it would likely rely heavily on the issuance of so-called "general" permits (which simplify administrative burdens by establishing standards for entire classes of sources such as car washes, small development projects, or certain types of agriculture). EPA could accomplish this through a regional rulemaking, through its delegation agreements with the states, or by other means. The states, of course, will maintain primary responsibilities for issuing and enforcing the permits and would need to be an equal partner in any such approach.

2. **Reauthorize the CBP with explicit new accountability mechanisms** – This Subcommittee has not reauthorized Section 117 in several years, and it could consider a range of new provisions designed to improve performance of the CBP. One scenario, for example, could involve the establishment of watershed general permits that are consistent with the tributary-specific numerical targets of the CBP. Under this approach, the states would have the flexibility to define their own cost-effective strategies for achieving water quality standards, including enforceable mechanisms for all significant sources of pollution. Other approaches could be considered as well. The State of California, for example, is implementing what is considered by many to be a successful strategy to control runoff pollution from agricultural sources. In the final analysis, any reauthorization must provide a high degree of certainty for success within a relatively short period of time, ideally including explicit consequences if success is not achieved. Such an approach has proved quite helpful in triggering actions from nonattainment areas under the Clean Air Act.

3. **Establish a regional financing authority** – In recent years, the states have significantly increased funding for a number of Chesapeake priorities, particularly municipal wastewater treatment controls. The new Farm Bill provides substantial new federal funding for agricultural priorities. Collectively, however, existing financing mechanisms are not adequate to control major sources of pollution, particularly runoff pollution from agricultural and urban/suburban areas. A regional financing authority could be structured in many different ways, depending upon its specific goals and objectives. If, for example, it was to be focused on addressing agricultural priorities, it would need significant capabilities to provide annual O&M funding, as opposed to capital funding. If, alternatively (or in addition), it was to be focused on enhancing the efficiency of current federal and state expenditures, it would need the capability of influencing the decisions of existing funding sources. In general, there remains significant interest among Bay-area governments in advancing this idea, although the policy challenges continue to be significant, particularly the subject of defining new revenue sources.

Conclusion

The Chesapeake Bay benefits from tremendous support of the public and elected officials. It likely has received more public funding than any large-scale ecosystem restoration project in the world. These investments have produced many significant results. However, they have not yet produced a significant or sufficient improvement in water quality. And, until that happens, the Chesapeake Bay will likely continue to deteriorate. The ongoing and largely predictable impacts of population growth and climate change will continue to compound our challenges.

The path ahead will not be easy, cheap or without political controversy. However, we have an obligation to our children to begin this journey in earnest. Thank you very much for this opportunity.