Testimony of

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Thank you, Mr. Chairman and Members of the Subcommittee, for the opportunity to address you on an issue of critical importance to the future of Chesapeake Bay: the potential introduce of non-native oysters. My name is Bill Goldsborough. I am a staff scientist and director of the fisheries program for the Chesapeake Bay Foundation (CBF). CBF is a private, non-profit conservation organization dedicated to saving the Chesapeake Bay. We have been ardent advocates for oyster restoration as a key element of Bay restoration since the mid-1980s, and I have served on several oyster management committees in both Maryland and Virginia during that time. I also serve as chairman of the Habitat Committee of the Atlantic States Marine Fisheries Commission (ASMFC), which co-sponsored a workshop on the use of Asian oysters in Chesapeake Bay in May of 2002.

As an environmental organization that supports oyster restoration, CBF is confronted with quite a dilemma with the proposed introduction of the non-native Asian oyster into Chesapeake Bay. If the Asian oyster (Crassostrea ariakensis) holds the promise that some believe it does, it could dramatically help the Bay ecosystem as well as the commercial oyster fishery. With the Bay's native oyster stocks at about 1% of their historic abundance, the Bay suffers from the lack of a dominant filter feeder and a building block for rich reef communities. The oyster fishery was the most valuable fishery in Chesapeake Bay for over 100 years and as recently as 1980 contributed half the nation's production of oysters.

However, as a non-native species, the Asian oyster also has the potential to cause ecological havoc in Chesapeake Bay and Atlantic coast waters. The introduction of exotic species into new environments is second only to habitat loss as a contributor to species depletion and extinction. It has been estimated that exotic species that become invasive cost the United States $137 billion annually… more than earthquakes, floods and fires combined.

This serious dilemma is compounded by the fact that very little is known about the Asian oyster, even in its native waters. Fundamental aspects of life history such as its reproductive ecology are very poorly understood. Given this reality, a broad consensus was reached among agencies, institutions and oyster interests in this region almost two years ago that an independent, technical assessment of the issue was needed, and the National Research Council (NRC) study was commissioned.

National Research Council Report
CBF believes that the NRC report, "Non-native Oysters in the Chesapeake Bay," released in August 2003, offers a responsible roadmap for oyster restoration. Its recommendations mirror the approach embodied in CBF's position statement on non-native oysters first released in December 2001 (updated version attached). The report clearly indicates that more needs to be known about the Asian oyster:

"It is impossible, given the present state of knowledge, to predict whether the [Asian] oyster will be a boon or an ecological disaster [if introduced to Chesapeake Bay]..."

It goes on to provide a detailed listing of priority areas of research to develop the information necessary for making responsible public policy decisions about how to utilize the Asian oyster. Addressing these

information needs through the development and implementation of a research plan is the single most important action now before us. CBF strongly recommends the Scientific and Statistical Advisory Committee (STAC) of the Chesapeake Bay Program (CBP) as the most qualified and appropriate body for developing a research plan based on the NRC recommendations. CBF has written the CBP (attached) in support of this action, and at its last meeting STAC indicated a willingness to make this a priority. Additional funding will be necessary to support this research.

Another key finding of the NRC report is that the regulatory framework applicable to this issue is a "patchwork with significant gaps." Most noteworthy are the lack of federal jurisdiction and the non-binding nature of regional review processes under some circumstances. CBF supports action to address these weaknesses by identifying and establishing the appropriate mix of increased federal and/or regional authority over marine introductions. The ASMFC should be evaluated as a possible avenue for binding deliberation among coastal states for any marine introduction that has implications for multiple states.

The NRC report also perfectly characterizes the ultimate source of political contention regarding the Asian oyster in a section entitled, "Unrealistic Expectations and Common Misconceptions." The basic message is that there are no quick fixes for either the Chesapeake or the oyster fishery embodied in either the native or the Asian oyster.

"Progress on reversing the long-term declines in oyster populations and water quality will be achieved only when unrealistic expectations for a quick fix are replaced with a long-term commitment to systematic approaches for addressing the Bay's complex, multi-dimensional problems."

It goes on to describe the "myths" that native oyster restoration will not work and that the Asian oyster will rapidly populate the Bay.

Native vs. Non-native Oysters
CBF believes that native oyster restoration continues to have promise if it is funded sufficiently for a sustained period of time. This sentiment is echoed in the NRC report:

"Although restoration efforts have made limited progress in establishing sustainable oyster populations, there remains some optimism that a more comprehensive management approach will ultimately achieve recovery of the oyster resource."

In 1999 the Chesapeake Research Consortium (CRC) convened a meeting of the Chesapeake area's top oyster scientists and charged them with developing a formula for native oyster restoration based on the best available science. Their report (CRC 1999) remains a viable, if unfulfilled, guide for oyster restoration. This consensus document played a major role in convincing Congress to expand the Federal funding for oyster restoration in 2000. And in the same year the CBP, based in part on the same scientific consensus, adopted a ten-year commitment to expand native oyster stocks tenfold. We are only in the third year of that initiative. In fact, record reproduction around sanctuary reefs in Virginia and modest disease levels in harvest reserve areas in Maryland are measures of success that suggest these strategies should be applied on a larger scale. The CRC report's basic principles of permanent reef sanctuaries combined with proper disease management continue to be supported by science, and large scale plans for applying them have been proposed (Allen, et al. 2003).

In CBF's view, the Asian oyster may, at some point in the future, be judged appropriate for use in Chesapeake Bay, but in the near term should only be used in controlled aquaculture using sterile oysters until its biology and the risks of its introduction are much better understood. This viewpoint is consistent with a key conclusion of the NRC report:

"[Contained aquaculture of sterile Asian oysters] …should be considered a short term or interim action that provides an opportunity for researchers to obtain critical biological and ecological information on the non-native oyster required for risk assessment…[and] allows for more management flexibility in the future depending on the status of the native oyster and the success of restoration efforts."

CBF supports the development of a collaborative, federally-led Environmental Impact Statement (EIS) to thoroughly assess the risks and benefits of introducing Asian oysters to the Chesapeake Bay and Atlantic Ocean. The EIS should incorporate the research plan developed by STAC (see above) and should fully evaluate the available alternatives for native oyster restoration. Authorization and funding for the Army Corps of Engineers (ACE) to take on the lead role in an EIS should be a high priority.

The information about the Asian oyster that has ignited so much interest from the oyster industry is that field trials have shown that it grows faster and survives better than the native oyster under some circumstances. This knowledge tells us that the Asian oyster could possibly be a good aquaculture animal, but it is a huge leap of faith to assume that it would also reproduce, multiply effectively, and establish substantial wild stocks in Chesapeake Bay. Beyond the questions of whether its life history would be compatible with the Bay system, no one knows how it would respond to the low dissolved oxygen conditions prevalent in Chesapeake Bay in the summer due to massive nutrient pollution. The Chesapeake "dead zone," where water commonly is completely devoid of oxygen and no fish or shellfish can live, expanded to be 150 miles long in 2003, the largest such habitat depletion on record. No attempt to rehabilitate the biota of the Bay will be fully successful until steps are taken to stem the nutrient pollution from sewage effluent, agricultural runoff and atmospheric inputs.

Congressional Action
Congress has been a key player in oyster restoration and must continue to be engaged if restoration goals are to be met. The deliberations about introducing the Asian oyster into Chesapeake Bay have highlighted several ways that Congress can assist:

1. Statutory authorization and appropriations for the ACE to conduct an EIS are needed. Language currently in the Senate version of the Energy and Water Appropriations bill should be adopted into the final version of the bill. While this language is sufficient to start the process, subsequent years' appropriations should stand alone and not be co-mingled with native oyster restoration funding.

2. Funding to support the research recommended by the NRC study and described in the proposed STAC research plan is urgently needed. Such funding could be part of the EIS appropriation for the ACE, however, the next cycle for that statutory mechanism will not provide the needed funds soon enough. CBF recommends consideration of the NOAA Chesapeake Bay Studies program as a logical funding vehicle. This program is designed to support mission-oriented fishery research.

3. On a somewhat longer timeframe, federal legislation will probably be needed to fill the gaps in oversight for marine introductions. As identified in the NRC report, two possibilities are, amending existing legislation such as the Lacey Act or the Invasive Species Act, and vesting authority in a regional body such as ASMFC or CBP.

4. Funding for native oyster restoration programs should be expanded. The potential for restoration success is embodied in larger scale application of certain approaches now showing promise. NOAA and ACE are both important partners through which federal funding for native oyster restoration is dedicated.

5. Congress should seek ways to address nutrient pollution in the Chesapeake watershed as an integral part of programs to restore the Bay's biota. The Bay's dead zone represents severe habitat loss for oysters, blue crabs and finfish. State-federal cooperation in funding sewage treatment plant upgrades should be the first priority.

Thank you for the opportunity to address the Subcommittee on this important issue.

Attachments
Chesapeake Bay Foundation Position Statement On The Use of Non-native Oysters in Chesapeake Bay, August 2003.

Letter from Theresa Pierno (CBF) to Rebecca Hanmer (CBP), September 12, 2003.

References
Chesapeake Research Consortium, 1999. "Chesapeake Bay Oyster Restoration: Consensus of a Meeting of Scientific Experts."

Allen, S.K., R. Brumbaugh, & D. Schulte, 2003. "Terraforming the Chesapeake." Virginia Marine Resource Bulletin, Volume 35, Number 1.