

**TESTIMONY OF Dr. EILEEN M^cLELLAN, CHESTER
RIVERKEEPER¹**

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Conservation, Wildlife and Oceans
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INTRODUCTION

Thank you for the opportunity to share my perceptions of the successes and challenges of restoration of the Chesapeake Bay. As Chester Riverkeeper I work with a non-profit community-based organization, the Chester River Association, to remedy water quality problems and habitat loss in a 400 square mile watershed. Although the Chester River is, like any river, unique, I believe our experience with Bay restoration efforts has much in common with other community-based watershed groups throughout the Bay watershed.

The Chester River, located on Maryland's rural Eastern Shore, is a particularly good example of the need for and challenges of Bay restoration. Some portions of the watershed are undergoing rapid growth with the attendant potential for impact to streams and the Bay; in rural areas, farmers face economic pressures to sell their land for development with attendant loss of forest and wetland. The Chester River itself is a microcosm of the Bay: each segment of the river and its tributaries is listed as water quality impaired, with some segments impaired for multiple pollutants. In addition, the State ranks the Chester as one of the most impacted rivers in measures of degraded habitat and reduced biodiversity. The community is attempting to respond to these problems through better land use planning, conservation and restoration projects, and citizen commitment is high. However, the reality is that these good intentions will fall short because the Bay restoration effort, to date, has not recognized the important role local communities will need to play.

When we think of the Chesapeake Bay the images called to mind are of skipjacks and watermen on the mainstem of the Bay. Certainly these images reflect the Bay's cultural resources and its contributions to the national economy, but they are divorced from most people's daily experiences of the Bay. In our efforts to "Save the Bay" we have often forgotten that the health of the Bay depends upon the health of myriad smaller watersheds often hundreds of miles upstream from the mainstem of the Bay. The land use issues which are such an important determinant of Bay health are decided by local governments in places far remote from the mainstem of the bay. If we are to be successful in saving

¹ Dr. Eileen McLellan, Chester Riverkeeper, Chester River Association, 100 N. Cross St., Chestertown, MD. 21620.

the Bay then science, politics and sociology all agree that we must focus our energies on “the backyard Bay”, the streams and rivers which people connect with on a daily basis and which ultimately dictate the health of the Bay. And we must find a way to make sure that local communities, through their governments and community organizations, are able to make the choices which will lead to healthy local rivers and ultimately a restored Bay. The next phase of Bay restoration must focus on providing the needed financial and technical resources to local communities to help them do their part in bringing back the Bay.

STATUS OF RESTORATION

The past 20 years have built much of the institutional capacity needed for effective Bay restoration, but those institutions have yet to deliver on-the-ground and in-the-water success. Partly this lack of success is due to environmental factors: long lag times to clean up polluted waters, the pressures of a growing population and increasing resource use. However, I believe it is also due to a several financial and institutional obstacles:

- Overall lack of funding – a funding gap of \$ 12.8 billion between anticipated income and projected costs of restoration;
- A mismatch between existing funding programs and real funding needs – the bulk of the expenditures are incurred as part of local government programs for which there is no Federal support;
- A disconnect between available funding, stakeholder needs and environmental outcomes – there is no overall funding strategy to target scarce resources to projects which will have the greatest environmental impact; and
- A lack of technical expertise available to local communities – particularly in rural areas, there are too few people to conduct outreach and provide technical support.

OBSTACLES TO RESTORATION

Obstacle 1: Overall lack of funding.

The Chesapeake Bay Commission estimated the costs of Bay restoration at \$18.7 billion², and identified a funding gap (projected costs minus anticipated income) of \$12.8 billion. Clearly the costs of Bay restoration should be shared among all its beneficiaries – States, local communities, individual citizens. However, the value of the Bay extends well beyond its watershed – it is estimated that by 2010 it will contribute \$1.1 trillion annually to the national economy. This, plus its unique natural and cultural resources, justify it being considered a national treasure. Despite this national interest in restoring the Bay, Federal funding for Bay restoration remains at relatively low levels, currently 18% of

² For comparison, the cost of Everglades restoration is estimated at \$15 billion and the cost of restoring the Louisiana coast is considered to be \$14 billion; the area of each of these ecosystems is approximately 29% that of the Chesapeake Bay).

annual costs³. While every one of us who lives, works and plays in the Bay watershed must step up and pay our share, I believe there is an argument for increasing the level of Federal investment in Bay restoration.

At the local level, the costs of restoration can seem overwhelming. Chester River Association recently participated in developing a Watershed Restoration Action Strategy for the Corsica River, a 40 square mile sub-watershed of the Chester. The Watershed Action Strategy, or WRAS, developed in partnership with the State Department of Natural Resources, local government and other nonprofits, is both a scientific assessment of pollution sources and degraded habitat in the watershed and a community-based plan to address those problems. The Corsica WRAS identifies 13 strategies to address pollution and habitat loss, for a total price tag of \$4.5 million. This price tag is well beyond the capacity of the 2000 residents of the Corsica watershed residents to fund. Seeking Federal help, Chester River Association formed a public-private watershed partnership to apply for \$1.6 million in funding through EPA's Targeted Watershed Initiative. Sadly, we were unsuccessful, a symptom of too many watershed projects chasing too few restoration dollars. Indeed, only one watershed in the Chesapeake Bay received funding under this initiative.

We were more successful in our application to National Fish and Wildlife Foundation, to which we applied for funds to implement a WRAS developed for Radcliffe Creek in the heart of our watershed. Again, however, we saw the effect of too many good projects chasing too few resources, in that we received less than half of the funding needed for the project. Indeed we calculate that if we attempted to fund restoration of the 12 square mile Radcliffe Creek watershed solely through NFWF, it would take us 100 years to garner the funding.

In both of these cases, an existing investment in collecting scientific information and using it to identify high-priority remedies, will languish due to a lack of funding to implement the WRAS recommendations.

Obstacle 2: Mismatch between funding opportunities and funding needs

The Chesapeake 2000 Agreement, signed by the Chesapeake Bay Commission, the States of MD., PA., VA., the District of Columbia and the EPA, identifies 110 strategies needed to restore the Bay. Existing Federal programs, particularly conservation programs authorized under the Farm Bill, can be used to meet some of these needs (though larger authorizations and appropriations are needed for these programs). However, there are no Federal programs to support the 55 of these strategies that can only be accomplished through the actions of local governments and community groups. It is estimated that local governments face a funding gap (expenditures minus income) of \$27.2 million for habitat protection and restoration, \$5 billion for infrastructure improvements needed to remedy nutrient and sediment problems, \$9 million to address toxic contaminants, \$13 million for land conservation and \$7 million for education and outreach. Bay-wide, it is estimated that local communities will pay 30% of the costs to fund agriculture strategies,

³ For comparison, the Federal government anticipates funding 50% of the cost of Everglades restoration.

90% of the costs to upgrade wastewater plants and 98% of the costs to address stormwater and other problems associated with urban lands.

In the Chester River watershed, responsible local governments are seeking to meet their obligations under Chesapeake 2000 by improving wastewater treatment and stormwater management. Yet, because our municipalities are small, we rank low on the priority list for Federal funding under the Clean Water SRF program. Trying to be good stewards while also attempting to manage the pressures of development which are bearing down on the rural Eastern Shore, municipalities are turning to developer impact fees to pay for needed infrastructure. The Town of Queenstown, eager to upgrade a wastewater plant which discharges 18 ppm nitrogen into a shellfish harvesting area, is attempting to make a deal with developers to build a new treatment plant with less environmental impact; the consequence will be expansion of the Town from 200 houses to 3000 houses and the loss of 200 acres of farmland and forest.

Obstacle 3: Disconnect between funding programs, stakeholder needs and environmental outcomes

Too often it seems that existing programs are under-utilized or not well-suited to deliver environmental results.

In the Chester River watershed, a farmer desiring to enhance stewardship on his land must sort through a maze of Federal and State programs, some of which were designed for commodity rather than conservation purposes, filling out separate applications for each, meeting separate cost-share requirements, and attempting to integrate each program's requirements on his acreage of land. The end result, if the farmer has the patience to pursue funding through this bureaucratic maze, is a suite of projects tailored to meet program requirements rather than environmental needs. From an environmental perspective, we end up paying farmers to fill out forms rather than reduce pollution as effectively as possible in a way that also meets their needs.

Discussions with area farmers indicate two further disincentives for participation in these programs: lack of flexibility and an over-emphasis on programs which retire land from production, further stressing an already fragile economy. Perhaps these observations explain why the two showcase farms⁴ in the Chester River watershed, which are managed with environmental sustainability as a high priority and feature innovative projects to protect water quality and restore habitat, are supported largely through the investments of the individual landowners rather than Federal programs. Clearly, if agriculture is to meet its nutrient reduction goals⁵, conservation programs must be made more user-friendly.

In some cases, entirely new funding programs are needed. Two growth industries in the Chester watershed, horse pastures and nurseries, are not well served by existing programs.

⁴ (Chesapeake Farms under the ownership of DuPont and Bluestem Farms in private ownership)

⁵ In the State of Maryland, agriculture is expected to produce 54% of the nitrogen reductions needed under the Chesapeake Agreement, 61% of the phosphorus reductions and 83% of the sediment reductions

Perhaps the greatest challenge to progress in the agricultural arena is that commodity programs and conservation programs often work at cross-purposes. Commodity programs reward farmers for high yield, which encourages the over-application of fertilizer. It is estimated that subsequent runoff of this fertilizer into fields represents a direct economic loss of \$25 million per year across the watershed, with additional costs resulting from damages to local ecosystems. Reducing excess fertilizer use by 75% could reduce Bay-wide nitrogen loads by up to 25%⁶. It would undoubtedly be both cost-effective and environmentally friendly to compensate farmers who agree to reduce fertilizer use through a yield insurance program, yet such a program is not available in the watershed.

Obstacle 4: Lack of technical expertise at the local level

I have observed with sadness that local communities' ability to afford Departments of Environmental Protection and other sources of technical expertise usually come only after development has swept across the landscape, contributing to pollution and habitat loss which local governments then desperately seek to mitigate.

On the Chester River, development pressures are growing but local governments lack the staff and resources to effectively plan to manage growth and its impacts. For example, the Town of Queenstown, attempting to be proactive about managing impending development, is working on a new stormwater ordinance that goes well beyond State requirements and includes innovative proposals to encourage low-impact development. However, once the ordinance is passed the Town will find itself needing to provide technical review of stormwater plans, which it currently lacks staff to do.

Likewise, Kent County's Comprehensive Plan sets out a bold vision that includes mapping green infrastructure (stream buffers, forest patches and other natural areas) in order to design a preservation strategy, yet the Planning and Zoning Department has a staff of only three who must spend most of their time reacting to development proposals. Further, the County has recognized the importance of assessing carrying capacity and identifying threshold values for protecting habitat to protect species, and this is encapsulated in a proposal to develop a Biological Resources Management Plan. However this same proposal has lain dormant in the Comprehensive Plan for the past decade with no staff time available to work on it. The County is further handicapped in these efforts by the fact that the one staff person familiar with GIS and other techniques needed to develop these plans is self-taught and this work is not even part of her job description. Clearly this local government intends to do the right thing, but needs technical assistance to do it. Some of this assistance can come from the private sector – indeed both Chester River Association and Washington College are developing GIS capacity to provide this assistance – but many of the needed resources already exist within Federal and State agencies. What is needed is a mechanism to share these resources with local communities.

⁶ Environmental Finance Center, University of Maryland report

As a further example of the need for new kinds of technical assistance, it is clear on the Chester that there are huge potential environmental gains to be made by working one-on-one with landowners to educate them on Best Management Practices and help them find their way through the maze of funding opportunities. However, the local Natural Resources Conservation Service, which can provide this kind of guidance and even design technical projects, is not only under-staffed compared to the potential need, it is prohibited by statute from reaching out to landowners other than those who walk through its doors. This leaves a huge number of landowners who may not even know the opportunities that exist. There is a huge need for a “circuit rider” who can freely approach landowners with an offer of educational outreach and technical assistance. On the Chester River we have benefited from the technical assistance offered through U.S. Fish and Wildlife Services “Schoolyard Habitat” program in designing a wetland restoration project for a local school, and we believe this kind of model should be explored for other agencies.

RECOMMENDATIONS FOR CONGRESS

Recommendation 1: Increase Federal funding for Bay restoration

It seems clear that there is a role for increased Federal funding for Bay restoration. This funding may occur through increased appropriations to existing programs such as Farm Bill programs, EPA’s Targeted Watersheds Initiative or National Fish and Wildlife Foundation’s Small Watershed Grants Program. It may, however, be more effective to create a new funding authority that overcomes the other obstacles identified above.

Recommendation 2: Direct the majority of the funding to local communities

Increased funding alone will not necessarily lead to greater Bay restoration, unless those funds are directed to meeting the greatest needs. As noted above, local communities are responsible for meeting over half of the Chesapeake 2000 Agreement commitments and in some localities will bear 90% of the overall cost of the Agreement. Without Federal help, communities will look to finance these costs through development, creating additional pollutant loads and habitat loss in the process. I recommend that Congress explore the possibility of establishing a “Community-based Chesapeake Bay Restoration Initiative” to provide funds to local community partnerships to meet their most pressing environmental needs. These partnerships could join together local governments, academic institutions, watershed organizations and other nonprofit groups to collaborate on projects designed to meet the communities’ highest priority needs.

Recommendation 3: Focus on outcomes, not prescriptions

Existing Federal programs may not be the most effective delivery vehicle for increased funds. An overall funding strategy should be developed that is performance-based, i.e it should target resources to those areas and projects which will deliver the greatest

environmental benefit. I suggest that this funding strategy include the following components:

Require that projects be derived from science-based watershed management plans

Watershed Restoration Action Strategies and other science-based plans have already been developed for watersheds throughout the Chesapeake Bay region to identify strategies for resolving problems of pollution and habitat loss. Because these plans can only be developed with community input, their existence is an indicator for watersheds where there is a high likelihood of successful restoration if the necessary funds are provided. Funding implementation of these plans leverages the existing investment in scientific assessment, policy review and community engagement.

Prioritize funds to those projects with the highest benefit : cost ratio

Projects should be tailored to delivering measurable environmental outcomes. One way to do this by setting quantifiable goals for a watershed, such as limiting impervious cover to a certain percentage of watershed area, or reducing fertilizer application by a certain percentage. Each watershed should identify the indicator which is most appropriate for the environmental problems it seeks to address. It will then be possible to compare projects by looking at the % improvement in environmental indicator anticipated for a given expenditure.

Create block grants that allow flexibility but require accountability

Congress should explore the option of “one-stop shopping” that allows funds from several existing accounts to be combined, with a single application and reporting requirement. Not only would this make it easier for organizations and individuals to apply for funding, but it would enable funds to be used for the highest priority needs without regard to individual program restrictions. It would also allow for testing of innovative approaches, including market-based mechanisms such as nutrient trading. Accountability can be ensured by focusing on performance as measured by the environmental indicators specified in the project proposal.

Develop and support an “environmental indicators” program to track the success of restoration projects.

Congress should examine the creation of an “environmental indicators” program that will both identify environmental indicators suitable for tracking restoration success, but also help communities in tracking these indicators and reporting the results to Congress.

Recommendation 4: Promote public-private partnerships that provide technical resources to local communities

I recommend that Congress authorize all relevant Federal agencies to provide assistance to community partnerships that are developing or implementing watershed management plans. This assistance could include monitoring environmental conditions, creating maps and other tools that communities can use to compare alternative management strategies,

assisting with stakeholder outreach, providing technical design services for projects, or providing training for local government staff or community organizations.

Recommendation 5. Create a pilot program to demonstrate the value of this approach

I suggest that Congress authorize a demonstration “Community-based Chesapeake Bay Restoration Initiative”. This demonstration project would:

- Help develop protocols that can be used by local governments in their efforts to translate Chesapeake 2000 goals into local programs;
- Demonstrate the value of intergovernmental (Federal-State-local) and public-private partnerships in providing needed technical resources to local communities;
- Initiate an “environmental indicators” program to track restoration success; and
- Provide funding to a suite of demonstration watersheds to implement projects arising from locally-developed, science based watershed plans such as the Watershed Restoration Action Strategies.

Thank you for allowing me to comment on the challenges and opportunities of Chesapeake Bay restoration.