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EXAMINING THE STRATEGY FOR ACHIEVING THE GOALS OF THE NEW VOLUNTARY CHESAPEAKE BAY WATERSHED AGREEMENT

FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON WATER AND WILDLIFE

OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

SECOND SESSION

SEPTEMBER 8, 2014

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EXAMINING THE STRATEGY FOR ACHIEVING THE GOALS OF THE NEW VOLUNTARY CHESAPEAKE BAY WATERSHED AGREEMENT

MONDAY, SEPTEMBER 8, 2014

U.S. SENATE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON WATER AND WILDLIFE
Washington, DC.

The subcommittee met, pursuant to notice, at 1 p.m., in the Joint Committee Hearing Room of the Legislative Services Building, Hon. Benjamin L. Cardin, chairman of the subcommittee, presiding.

Present: Senator Cardin (presiding).

OPENING STATEMENT OF HON. BENJAMIN L. CARDIN, U.S. SENATOR FROM THE STATE OF MARYLAND

Senator CARDIN: Well, let me welcome you all to the hearing of the Subcommittee on Water and Wildlife of the Environment and Public Works Committee.

I want to thank Senator Boxer and Senator Vitter, the chairman and ranking Republican member of the Environment and Public Works Committee, for authorizing this hearing in Annapolis of the subcommittee. And I thank Senator Boozman, my ranking Republic member on the Water and Wildlife Subcommittee, for the cooperation in allowing this hearing to take place.

Very important subject. And that, of course, is the Chesapeake Bay Agreement. This is an issue that we have been working on together for a long, long time.

And it's great to be here in this particular hearing room. As I think most of you know, I'm a former Speaker of the State Legislature, so I have very fond memories of Annapolis and my time in Annapolis.

But, I think top on that list would be working with then Governor Harry Hughes in the late 1970's, early 1980's, when we really started the Chesapeake Bay program. With our friends from Virginia and Pennsylvania, we initiated efforts, studies were had. And Senator Mac Mathias, of course, played a critical role in getting Federal funds for the initial study that led to the first Chesapeake Bay agreements. And I remember working very closely with Governor Hughes, and was amazed at the formula that was used back then for the Chesapeake Bay program, which basically was: let's get all stakeholders—all stakeholders together, let's listen to every-

one, let science be our guide, and let's include not just our partners at the governmental level, which was the Federal, State, and local, but also the private sector. And, of course, over that period of time, with the help of the Chesapeake Bay Commission and other groups, we have made tremendous progress on the Chesapeake Bay.

So, I start by saying that, but for that work, we would be in much worse shape today than we are. We've made a lot of progress. And when we look, the look of the Chesapeake Bay, the whole atmosphere around the Bay has paid off great dividends for landowners and those who use the Bay for commerce, and certainly for tourism and the way of life here in our State.

So, we come to this hearing recognizing that we have made a lot of progress, but also recognizing there are significant challenges ahead of us and that we need to look forward and modernize what needs to be done on the Chesapeake Bay Agreement. That's why I'm particularly pleased that we have the panel that we have before us today.

So, today the Water and Wildlife Subcommittee is convening a field hearing to examine the newly signed Chesapeake Bay Watershed Agreement, signed by the Chesapeake Bay Watershed partners on June 16th of this year. This new agreement represents the next chapter in the longstanding effort of the Chesapeake Bay States and the District of Columbia, local communities across our region, Federal Government, and dozens of stakeholder organizations that are all working together to improve the health and resiliency of the Chesapeake Bay.

It started with Senator Mac Mathias, one of my predecessors in the U.S. Senate, who sponsored the congressionally funded $27 million, 5-year study to analyze the Bay's rapid loss of wildlife and aquatic life. The study, which was published in the early 1980's, identified excess nutrient pollution as the main source of the Bay's degradation. These initial research findings led to the formation of the Chesapeake Bay program as the means to restore the Bay.

A lot has changed since Mac Mathias commissioned that study. What remains true today is that the Bay's watershed spans 64,000 square miles across six States and the District of Columbia, and it's comprised of 150 major rivers and almost 12,000 miles of shoreline. The Chesapeake Bay region continues to represent one of the most biologically diverse ecosystems in the country, and, sadly, the Bay continues to face enormous pollution challenges, due in large part to the change that we've seen in the last 40 years.

The main change that we've seen in the last 40 years is population growth. More people live in the Chesapeake Bay Watershed. We've doubled the population in the last 40 years to 17 million people. The economic value of the Chesapeake Bay has grown and is linked to the nearly $1 trillion to our economy. The Bay is still, and will always be, an intangible cultural symbol for Maryland and the region as a whole. Generations of families across Maryland, Delaware, Virginia, and Pennsylvania have grown to identify their lifestyle and build livelihoods around the bounty of the Chesapeake Bay.

Chesapeake Bay is the largest estuary in the northern hemisphere. The largest. There was a time not too long ago that the Bay

was the most productive estuary in the world, but physical changes in the region's landscape resulted from population growth and economic progress has changed the hydrological composition of the Bay and its tributaries. A balance can and must be found. Part and parcel to achieving this balance of economic and population growth with a sustainable and healthy Bay is the plan put forward in the Chesapeake Bay Agreement.

The development of sound policies to restore the Chesapeake Bay has been a top priority of mine over the course of my career in the U.S. Congress. I've been fortunate to have great partners in Congress representing the base States. And I want to underscore that. We are very blessed, in all of the States that are in the Chesapeake Bay Watershed, to have partners in both the House and Senate who have made a priority of the Chesapeake Bay and have initiated a lot of programs and opportunities along the way to supplement the Chesapeake Bay program. Whether it's in the water resources bill or whether it's in the farm bill, we have found ways to buildupon the tools available to help in the Chesapeake Bay.

President Obama's May 2009 Chesapeake Bay Executive Order recognized the national interest in restoring the Chesapeake Bay and improving coordination and restoration efforts because of the wide-ranging involvement of different departments and agencies of the Federal Government. The coordination of the seven jurisdictions, hundreds of local communities, seven Cabinet-level Federal departments, the Chesapeake Bay Commission and stakeholders of all stripes have necessitated the development of the Chesapeake Bay Watershed Agreement to affirm the conservation goals of everyone involved in this effort.

I want to stress the importance of the broad involvement of all stakeholders. The key to this is that all stakeholders need to be involved. We have to have a transparent process. And we have to be balanced in the way that we go about dealing with the problems. There is no one answer to the health of the Chesapeake Bay.

Nutrient pollution and sediment and agriculture activities in the rural parts of our region need to be better controlled. As well as storm runoff from lawns and roads, nutrients and treated wastewater and the general loss of impervious surfaces in urban areas also need to be better controlled. In other words, there's not one single source. We need to have a coordinated program.

The Bay Agreement outlines a comprehensive approach to continuing the efforts to restore the Bay. The Agreement is an outline of goals and outcomes that complement and establish regulatory requirements and will help all responsible parties meet their obligations. The Chesapeake Bay Program Partnership was formed in 1983, when the Governors of Maryland, Pennsylvania, and Virginia, and the mayor of the District of Columbia, the chair of the Chesapeake Bay Commission, and the EPA signed the first Chesapeake Bay Agreement. For more than 30 years, these entities have remained committed to the goal of restoring the Chesapeake Bay. As the science has determined and the interest in the Bay's stewardship has broadened, this partnership has expanded to a basinwide effort, where all six States of the Basin are now parties to the Agreement. Working together to achieve the various goals of

the agreement is what will help ensure the Chesapeake Bay we'll leave for our children is healthier tomorrow than it is today.

The Agreement does not—does acknowledge that the Partnership cannot address every goal in the Agreement immediately. Certainly, some of these goals will take longer to realize, but all goals are achievable. The Agreement wisely suggests that action be taken in a strategic, inclusive, and cost-effective manner. That's very important. The principles laid out in the Agreement, I want to acknowledge the Partnership's commitment to transparency and consensus-building. The goals of the agreement deal with issues like natural land preservation, blue crab management, nutrient pollution reductions, and others. These aren't easy subjects, but we have to use transparency, and we have to try to develop consensus. Stakeholders must be involved in achieving these goals, need to feel the process and the weight of actions are being prescribed in a fair and open manner.

Restoring the iconic Maryland blue crab is important, for so many reasons. Unfortunately, this year's crop population is stunningly low. The Agreement sets the goal of maintaining a population of 215 million female adult crabs through 2025. Blue crabs are a vital part of the food chain throughout the Bay's ecosystem, and they are at the heart of the Mid-Atlantic multibillion-dollar seafood industry.

Wetland restoration is also critically important for flood protection and water quality improvements. And I'm glad to see that the Agreement has several specific aspects in regards to wetland conservation. Reauthorizing the North American Wetlands Conservation Act would also help, which recently received a unanimous support in the Environment and Public Works Committee.

And programs like the Corp's Chesapeake Bay Ecosystem Restoration Programs, the farm bill's Regional Conservation Partnership Programs all help in the effort.

The Agreement is—aims to open up an additional 1,000 stream miles for fish passage. That's also an important thing. There are many, many other provisions in the Agreement that's pretty specific. There are some areas that are not as specific, and I'm going to have a chance, I hope, to question as to why are we specific here, but not specific there? Again, fairness and balance is important in order to get the type of universal support that we need to move this agreement forward.

There are many other important components. And again, we'll touch on them during the hearing. But, last, I want to express my appreciation for the final Agreement's inclusion of two separate sets of goals and outcomes related to toxic contaminants and climate change. Reducing the presence of—or improving the secure storage of toxic chemicals that are in use around the watershed is a growing problem. Now, I know that the problem in West Virginia, Charleston, was not in the Chesapeake Bay Watershed, but it did highlight the danger that we have in watersheds due to chemical storage. And I was glad to see that the Agreement did include the toxic issues.

Adapting to the effect of climate change needs to be a priority in our region. Rising sea level poses a threat to the hundreds of

Chesapeake Bay communities and millions of people that live on the shores of the Bay.

So, all these issues are critically important. We must adapt our water infrastructure to handle the effects of more intense weather. We know that's a reality. And, quite frankly, there seems to be more bipartisan agreement in Congress on adaptation, and that's an area where I hope we can make some progress.

The Agreement is an important step forward in restoring the Chesapeake Bay. Billions has been spent and progress has been made, but a resource as large and fragile that faces unprecedented pressure is going to continue to take increased resources and attention to restore and protect for future generations.

My commitment to the Bay has never been stronger and will continue to work for the people of my State to protect this incredibly important resource for Maryland.

We are really pleased to have a distinguished panel with us who can, I hope, help us better understand the new agreement and how we can all work together to improve the Bay.

First, there is a statement from Senator Vitter, the ranking Republican on the Environment and Public Works Committee. And, without objection, since there's no one else here to object, that will be made part of our record.

[The information referred to follows:]

STATEMENT OF HON. DAVID VITTER, U.S. SENATOR
FROM THE STATE OF LOUISIANA

Mr. Chairman, I would like to thank you for calling today's hearing. I would also like to thank our witnesses for testifying before the Subcommittee on Water and Wildlife.

Standing alone, the June 16, 2014 Chesapeake Bay Watershed Agreement (Agreement) appears worthy of celebration. The Agreement establishes several laudable principles that are intended to serve as a framework for the continued work on the Chesapeake Bay Program. These principles include collaboration, transparency, science-based decisionmaking, and a pledge to work closely with local governments in pursuing Chesapeake Bay restoration efforts. Given these commitments, it may be difficult to imagine anyone having reservations about the Agreement, especially when one also considers that the Agreement is apparently a voluntary accord between the Chesapeake region states and the Federal Government.

However, the Agreement before the Subcommittee today cannot be examined in a vacuum. If we are to understand helpful ideas or potential hurdles to achieving the goals of the 2014 Agreement, we should be mindful of the history associated with past Chesapeake Bay agreements. In my opinion, and in light of the regulatory developments which occurred after the Chesapeake 2000 Agreement, any strategy regarding the 2014 Agreement deserves caution and careful deliberation.

The Chesapeake 2000 Agreement was similar to the 2014 Agreement before the Committee today. Like the 2014 Agreement, the Chesapeake 2000 Agreement contained voluntary commitments and goals for the protection and restoration of the Chesapeake Bay. Following this agreement, EPA in 2003 developed regional criteria guidance for water quality standards for the Chesapeake Bay. These criteria led several Chesapeake Bay states to adopt new water quality criteria, and between 2004 and 2006 the seven Chesapeake watershed jurisdictions committed to "Tributary Strategies" so that the Chesapeake Bay could meet water quality goals. Thanks to these cooperative efforts, which were supported by environmental groups, local governments, agricultural organizations, and other stakeholders, the Chesapeake Bay was well on its way to achieving the goals that had been established in the Chesapeake 2000 Agreement. In fact, as we know from U.S. Geological Survey research on the time lag between taking conservation measures and seeing water quality changes, the improvements we are seeing today are as a result of those voluntary efforts taken years ago.

But this collaborative progress was interrupted in 2009, when the Chesapeake Bay Foundation and other plaintiffs sued EPA, claiming that progress was too slow

and the voluntary goals in the Chesapeake 2000 Agreement were in fact mandatory duties under the Clean Water Act. In other words, rather than a mutual commitment to work together on Chesapeake Bay restoration issues, the lawsuit painted the Chesapeake 2000 Agreement as containing inflexible standards which bound the Chesapeake states to a nonnegotiable mandate.

Unfortunately, even though the scientific evidence undercut the claims of lack of progress, the Obama administration acquiesced to this counterproductive approach. In a highly questionable 2010 "sue and settle" agreement that ended the CBF litigation, EPA agreed to establish a Total Maximum Daily Load (Bay TMDL) for nitrogen, phosphorous, and sediment flow into the Chesapeake Bay. But when EPA finalized the Bay TMDL later in 2010, the final product was an unprecedented Federal regulation that could not have been envisioned when the Chesapeake 2000 Agreement was signed. EPA's TMDL is a costly command and control mechanism that deprives State and local governments of their traditional land use decisionmaking authority. EPA has purported to dictate not only the total amount of nitrogen, phosphorous, and sediment that can flow into the Chesapeake Bay, but, by allocating those loads in excruciating detail and crediting only the load reduction actions that are included in its Chesapeake Bay Watershed Model, EPA also dictated the manner in which individual companies and sectors within the economy must comply with the total load limitations.

EPA's Bay TMDL has enormous repercussions for private landowners, small businesses, and local governments throughout the Chesapeake Bay region. According to the University of Maryland's School of Public Policy, implementation of the Bay TMDL could cost as much as $50 billion between 2010 and 2025. Left unchecked, the TMDL could represent a national precedent that would force State and local officials across the country to cede their land use authority to EPA. These concerns led me to sign on to an amicus brief with several other Members of Congress urging the Third Circuit Court of Appeals to invalidate this intrusive regulation.

The lesson of the Chesapeake 2000 Agreement and Bay TMDL is that certain groups and organizations are all too willing to turn a cooperative agreement into a Federal mandate, by whatever means necessary. As Peyton Robertson, the Director of the National Ocean and Atmospheric Administration's Chesapeake Bay Office who is here as a witness today, once said, the Bay TMDL "fundamentally altered the nature" of the Chesapeake Bay Program, noting that "[y]ou can't reasonably argue that it is a voluntary approach anymore."

Thus, although the June 16, 2014 Chesapeake Bay Watershed Agreement is nominally voluntary, certain questions must be asked with the understanding that history tends to repeat itself. For example, by establishing the Agreement, have the states inadvertently laid the groundwork for a future lawsuit against EPA? Would EPA settle such a future lawsuit by forcing State and local officials to devote more of their limited resources toward unfunded Federal mandates? To what extent does this Agreement impede current voluntary efforts toward Chesapeake Bay restoration?

I am glad there will be a robust discussion of these issues, and I appreciate Senator Cardin holding this hearing today. I also would like to thank Maryland State Senator Stephen Hershey for serving as a minority witness. Senator Hershey understands firsthand how Federal regulation can affect the land use decisionmaking authority of State and local officials. I look forward to the testimony of Senator Hershey and our other witnesses.

[The prepared statement of Senator Cardin follows:]

STATEMENT OF HON. BENJAMIN L. CARDIN, U.S. SENATOR
FROM THE STATE OF MARYLAND

Today the Water and Wildlife Subcommittee is convening a field hearing to examine the newly signed Chesapeake Bay Watershed Agreement signed by the Chesapeake Bay Watershed Partners on June 16, 2014. This new agreement represents the next chapter in the longstanding effort of Chesapeake Bay States, and the District of Columbia, local communities across our region, the Federal Government, and dozens of stakeholder organizations that are all working together to improve the health and resiliency of the Chesapeake Bay.

In the late 1970's, U.S. Senator Charles "Mac" Mathias (R-MD), sponsored a congressionally funded $27 million, 5-year study to analyze the Bay's rapid loss of wildlife and aquatic life. The study, which was published in the early 1980's, identified excess nutrient pollution as the main source of the Bay's degradation. These initial research findings led to the formation of the Chesapeake Bay Program as the means to restore the Bay.

A lot has changed since Sen. Mathias commissioned the study and yet still a great deal remains the same.

What remains true today is that the Bay's watershed spans 64,000 square miles across six states and the District of Columbia and is comprised of 150 major rivers and 11,684 miles of shoreline. The Chesapeake Bay region continues to represent one of the most biological diverse ecosystems in the country. And sadly, the Bay continues to face enormous pollution challenges, due in large part to what's changed in the last 40 years.

While we have made great strides to improve pollution reduction from point sources of pollution, non-point sources of pollution remain a major challenge. That stems in large part from the fact that the population in the region has more than doubled over the last 40 years and is now home to 17 million people.

The economic value of Chesapeake Bay has grown and is linked to nearly $1 trillion for the Mid-Atlantic region.

The Bay is still and will always be an intangible cultural symbol for Maryland and the region as a whole. Generations of families across Maryland, Delaware, Virginia and Pennsylvania have grown to identify their lifestyle and built livelihoods around the bounty the Chesapeake Bay has to offer.

The Chesapeake Bay is the largest estuary in the Northern Hemisphere. There was a time, not too long ago, that the Bay was the most productive estuary in the world, but physical changes to the region's landscape resulting from population growth and economic progress has changed the hydrological composition of the Bay and its tributaries. A balance can and must be found. Part and parcel to achieving this balance of economic and population growth with a sustainable and healthy Bay is the plan put forward in the Chesapeake Bay Agreement.

The development of sound policies to restore the Chesapeake Bay has been a top priority of mine over the course of my career in Congress. I have been fortunate to have great partners in Congress representing the Bay states. Together we have worked to develop effective conservation and ecosystem restoration programs in the Farm Bill, WRDA, the Clean Water Act and elsewhere in law supporting a variety of conservation and ecosystem restoration approaches across multiple sectors.

The Army Corps, USDA, and EPA are not the only Federal agencies doing important Chesapeake Bay restoration work. NOAA, USGS, The US Fish and Wildlife Service, and the National Park Service are also important Federal partners in the broader effort to restore the Bay.

President Obama's May 2009 Chesapeake Bay Executive Order recognized the national interest in restoring the Chesapeake Bay and improving coordination of restoration efforts because of wide ranging involvement of different departments and agencies of the Federal Government.

The coordination of seven jurisdictions, hundreds of local communities, seven cabinet level Federal departments, the Chesapeake Bay Commission and stakeholders of all stripes has necessitated the development of the Chesapeake Bay Watershed Agreement to affirm the conservation goals of everyone involved in this effort.

I want to stress the importance of broad involvement of all stakeholders in the effort to restore the Chesapeake Bay. The populations living and working in the Bay watershed must realize that we are all in this together whether we like it or not.

Nutrient pollution and sediment from agricultural activities in the rural parts of the region need to be better controlled, just the same as stormwater runoff from lawns and roads, nutrients in treated wastewater, and the general loss of pervious surfaces in urban areas also need to be better controlled. In other words no one source or single sector bears all the blame for degraded water quality in the Bay. If we all do our part we will see progress.

The Bay Agreement outlines a comprehensive approach to continuing the efforts to restore the Bay. The agreement is an outline of goals and outcomes that compliments established regulatory requirements and will help all responsible parties meet their obligations.

The Chesapeake Bay Program partnership was formed in 1983 when the Governors of Maryland, Pennsylvania and Virginia, the mayor of DC, the Chair of the Chesapeake Bay Commission and the EPA signed the first Chesapeake Bay Agreement. For more than thirty years these entities have remained committed to the goal of restoring the Chesapeake Bay. As the science has determined, and the interest in Bay stewardship has broadened, this partnership has expanded to a basin wide effort where all six states of the basin are now party to the agreement.

This watershed approach is incredibly important, because as I mentioned before, there is no single source, no single state, no single sector that bears sole responsibility for restoring the Bay. Working together to achieve the various goals of the agreement is what will help ensure that the Chesapeake Bay we leave for our children is healthier tomorrow than it is today.

The Agreement does acknowledge that the partnership cannot address every goal in the Agreement instantly. Certainly some goals may take longer to realize than others. All the goals are achievable.

The agreement wisely suggests that action be taken in a strategic, inclusive and cost effective manner.

Of the principles laid out in the Agreement I want to acknowledge the partnership's commitment to transparency, and consensus building. The goals of the agreement deal with very sensitive issues like natural land preservation, blue crab management, nutrient pollution reduction and others.

Stakeholders must be involved in achieving these goals need to feel the process and weight of the actions being prescribed is fair and open.

Restoring the iconic Maryland Blue Crab is important for so many reasons. Unfortunately, this year's crab population is stunningly low. The Agreement sets the goal of maintaining a population of 215 million female adult crabs through 2025. Blue Crabs are a vital part of the food chain throughout the Bay's estuarine ecosystem and they are at the heart of the Mid-Atlantic's multi-billion dollar seafood industry.

Wetlands restoration is critical to flood protection and water quality improvement as well as providing important duck habitat and fish spawning habitat. Reauthorizing the North American Wetland Conservation Act, that I am a cosponsor of and was happy to see the Senate Environment and Public Works Committee reported with unanimous support, will provide additional financial and technical assistance to help achieve improved wetlands conservation in the Chesapeake Bay watershed.

Programs like NAWC, the Corps' Chesapeake Bay Ecosystem Restoration Program, and the Farm Bill's Regional Conservation Partnership Program along with numerous State efforts to restore hundreds of thousands of wetland habitat acres across the region.

The Agreement aims to open up an additional 1,000 stream miles to fish passage. The revisions to the Continuing Authorities Program in WRDA will help fund critical dam removal projects around the watershed that will improve fish passage. If the decisions to remove dams and other barriers to fish passage are strategically made this goal could be far exceeded.

The Agreement sets the goal of restoring 900 miles of riparian forest per year and expand the urban tree canopy by 2,400 acres by 2025. I think we should strive to exceed this goal. To put it in perspective, the MS4 area of Washington, DC is about 12,000 acres, and there is a requirement in its MS4 permit for an average of 4,150 trees to be planted annually in that area. That means that in DC's MS4 area alone, about 755 acres of tree coverage will be accomplished per year. Increasing the number of trees in urban areas help improves the quality of life and character of urban communities and trees' are so important to reducing stormwater runoff in urban areas.

The agreement sets the goal of protecting an additional two million acres of lands throughout the watershed. This is critically important to stem poor land-use planning and sprawl while also establishing lands that serve as critical water quality improvement mechanisms.

There are many other important components to the Agreement that we will touch on during this hearing, but Last I want to express my appreciation for the final Agreement's inclusion of two separate sets of goals and outcomes relating to toxic contaminants and climate change.

Reducing the presence or improving the secure storage of toxic chemicals that are in use around the watershed is a growing problem. While the January chemical spill in West Virginia was not in the Chesapeake Bay watershed, the incident shone a spotlight on the risk facilities like the one that failed in Charleston pose to our great water bodies. In the Chesapeake Bay watershed there are dozens of chemical storage facilities, and industrial activities that use toxic chemicals on a regular basis. I am so glad that improving the security and reducing the contamination risks from these facilities are parts of the agreement.

Adapting to the effects of climate change needs to be a priority for our region. Rising sea levels pose threats to the hundreds of Chesapeake Bay communities and millions of people that live on the shores of the Bay.

Aquatic acidification poses a long term threat to all aquatic species including Blue Crabs, Oysters, Rockfish, Sturgeon, Menhaden and other hallmark species of the Bay. If the fish and shellfish go so does a way of life for many thousands of families.

And we must adapt our water infrastructure to handle the effects of more intense weather events in the Bay region to reduce the water quality impacts of these events and to protect individuals' property.

The agreement is an important step toward to restoring the Chesapeake Bay. Billions have been spent and progress has been made, but a resource a large and frag-

ile that faces unprecedented pressures is going to continue to take increased resources to restore and protect for future generations.

My commitment to the Bay has never been stronger and will continue to work for the people of my State to protect this incredibly important resource.

Senator CARDIN: We are pleased—and let me just introduce you in the order that I would ask that you would make some opening statements. Your entire statements will be made part of our record. You may proceed in the manner in which you wish. And we will leave time for questions in regards to matters from the Chair.

We have Mr. Nick DiPasquale, the director of the Chesapeake Bay Program at the Environment and Public—in the EPA, Environmental Protection Agency.

Nick, thank you very much for being here.

Mr. Peyton Robertson, the director of the NOAA Chesapeake Bay Office, a frequent visitor to us in Annapolis.

And we appreciate very much having you here.

The Honorable Mary Ward, the Secretary of Natural Resources of the State of Virginia. And we very much appreciate Virginia's participation in the Chesapeake Bay Agreement.

The Honorable Ronald Miller, a Representative from the Commonwealth of Pennsylvania, the House of Representatives in Pennsylvania.

It's wonderful to have you here.

And the current chair of the Chesapeake Bay Commission, I know Ann Swanson is also here, the executive director of the Chesapeake Bay Commission.

The Honorable Mary Ann Lisanti, councilwoman from Harford County. I know very well the former chair of the local government advisory committee, and hopefully will give us the view from local government.

It's a real pleasure to have our local host here, The Honorable Steve Hershey, a Maryland Senator in the Maryland State Senate representing the Upper Shore, his district.

But, thank you for your hospitality in allowing us to use your facilities today.

We'll start with Nick DiPasquale, the director of the Chesapeake Bay Program at the Environmental Protection Agency.

STATEMENT OF NICK DiPASQUALE, DIRECTOR, CHESAPEAKE BAY PROGRAM, ENVIRONMENTAL PROTECTION AGENCY

Mr. DIPASQUALE: Good afternoon, Senator. And I appreciate the opportunity to talk before the subcommittee today.

My name is Nick DiPasquale, and I'm director of the EPA Chesapeake Bay Program Office here in Annapolis.

The—Section 117 of the Clean Water Act actually created—was created by Congress in the Chesapeake Bay Program. It is a comprehensive, cooperative effort by Federal, State, local governments, nongovernmental organizations, academics, and other entities that share the mission of restoring and protecting the Chesapeake Bay and the Watershed.

And I was struck by your comments with regard to Senator Mathias and the tenets that were set out: being inclusive, having all partners at the table, using science. Those are the same principles that guide us today in the restoration effort, so they live on 30 years later.

The partnership includes original signatories to the Chesapeake Bay Agreements: Maryland, Pennsylvania, Virginia, the District of Columbia, the Chesapeake Bay Commission, a triState legislative assembly representing Maryland, Virginia, and Pennsylvania, and the EPA on behalf of the Federal Government. With the signing of the new Chesapeake Bay Watershed Agreement in June, I'm pleased to say it now includes the headwater States of Delaware, New York, and West Virginia as full partners in the Agreement.

In 2011, both the Chesapeake Executive Council and the Federal Leadership Committee acknowledged the need to integrate the goals, outcomes, and actions of the Chesapeake Bay Program, as detailed in Chesapeake 2000, the previous agreement, with those set forth in the Federal 2010 Chesapeake Bay Executive Order Strategy, which was the outgrowth of the President's Executive Order 13508. The partners also recognized a new agreement was needed to reflect improvements in our scientific knowledge, changes in laws, regulations, and policies over the past decade and a half, and the evolutions that have taken place within the partnership, including the Chesapeake Bay total maximum daily load and the watershed implementation plans, the development of those plans.

Beginning in 2012, the partners set the course for a new watershed agreement that would be developed through an open, cooperative, and collaborative effort. The partnership goal implementation teams and workgroups comprised of State, Federal, and local representatives from all jurisdictions in the Watershed began developing draft goals and measurable outcomes for the partnership. Each goal and outcome was developed using the best data and science available, including past and current performance.

Simultaneously, internal workgroups and the partnership's principal staff committee developed a core of—a core set of principles by which the program will operate and be accountable for its work and its progress. Justification documents that explain the importance of each outcome, how it was developed, how baselines were determined, and who was involved in the development of the outcome are available on our Website and are really there to inform the public on how we came to the outcomes that we developed.

To ensure transparency and receive valuable input from citizens of the Watershed, the partners held public meetings and published two draft documents. One was a framework document that laid out the basic structure for the agreement. And then, the second public document was a full written text document, both of which were put out for public review and comment. And the comments that we received from the public had a direct impact on the final outcome of the agreement.

The new Chesapeake Bay Watershed Agreement was signed on June 16th. It's the most comprehensive, inclusive, collaborative, and goal-oriented agreement the Chesapeake Bay Watershed has ever had. And witnessing the process myself, it was heartening to see that people came to the table informed and ready to have discussions and ready to come to compromise on issues that were difficult to achieve.

It identifies the Partnership's collective commitments for restoring and protecting the Watershed through a set of 10 overarching

goals and 29 specific outcomes. The goals articulate the high-level aspects of the partners' vision, while the outcomes express specific time-bound, measurable targets that directly contribute to achieving each of those goals. These goals and outcomes are clearer and better defined than in previous agreements and allow for greater flexibility through the adoption of an adaptive management decisionmaking process, one that's based on the application of scientific process and continual analysis of monitoring data.

The goals and outcomes address the partners' continuing efforts to improve water quality as well as to promote sustainable fisheries, vital habitats, healthy watersheds, stewardship, land use and conservation, as well as public access. In addition, the goals also deal with a variety of other issues, such as environmental literacy, toxic contaminants, and climate resiliency for the Bay ecosystem as they buildupon the strength of our diverse citizenry and support of local governments, a call to action to nearly 18 million people in the Watershed that they call home.

The partners agreed to develop and finalize management strategies for each of the outcomes within 1 year. The strategies, to be developed by the goal teams, will articulate the overarching and specific actions necessary to achieve the goals and outcomes by 2025. That happens to coincide with the deadlines that are contained in the Total Maximum Daily Load. They will also summarize the means for accomplishing each outcome, as well as the methods for monitoring, assessing, reporting and coordinating actions among the partners and stakeholders.

Each management strategy is expected to include key elements or sections that provide details on outcomes and baselines, factors influencing the ability to meet the goal, current efforts and gaps, management approaches, plans for local engagement, programs for monitoring and assessing progress, and a plan for managing restoration efforts adaptively. Each strategy will include a 2-year work-plan section that succinctly summarizes for each partner and select stakeholder the specific commitments, actions, and resources to reach the 2-year target for that particular outcome. Together, these elements comprise the adaptive management system that the partnership will use to ensure implementation, measure progress, make adjustments when and where they are necessary and appropriate.

The goal teams are expected to submit draft strategies to the management board in early 2015. To help ensure progress remains on track, the goal teams are expected to reevaluate every 2 years and update strategies, as necessary, with attention to changing environmental and economic conditions. Partners may identify the policy changes to address these conditions and minimize obstacles to achieve the outcomes.

The public will be able to hold partners accountable for their actions due to a high level of transparency that hasn't been seen in previous agreements. The signatory partners agree to identify their intent to participate in the development of each management strategy within 90 days of the Agreement signing. On September 16th, the partnership will publish a table that identifies the signatory partners who have committed to the development of the 29 man-

agement strategies. We will also provide information on how the public and interested parties can participate in the process.

To ensure broad public input and support, the partners agree to conduct outreach to stakeholders, to engage them in the development process, and to make information about the management strategy development available online and through public meetings, including stakeholder input periods for the final adoption of each of the management strategies. This information, likewise, will be posted on the Websites, and we're providing a process where folks can sign up to receive information on each of those outcomes.

In closing, EPA and the Chesapeake Bay program partners remain committed to working collaboratively with all stakeholders as we begin to implement the new agreement and develop the management strategies. The new agreement really represents a next-generation agreement that builds upon previous agreements and moves our restoration efforts aggressively ahead.

I want to thank you for the opportunity to testify today, and I welcome any questions you may have.

[The prepared statement of Mr. DiPasquale follows:]

TESTIMONY OF

NICHOLAS A. DIPASQUALE, DIRECTOR
CHESAPEAKE BAY PROGRAM OFFICE
REGION III
U.S. ENVIRONMENTAL PROTECTION AGENCY

BEFORE THE
SUBCOMMITEE ON WATER AND WILDLIFE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

Annapolis, MD
September 8, 2014

Good morning Chairman Cardin and members of the Subcommittee. I am Nick DiPasquale, Director of the Environmental Protection Agency's Chesapeake Bay Program (CBP) Office. Thank you for the opportunity to testify about the work the Program is doing—in collaboration with our state and local partners and other federal agencies—to restore the Chesapeake Bay watershed.

About the Bay Program

Created by Congress through Section 117 of the Clean Water Act, the Chesapeake Bay Program is a comprehensive cooperative effort by federal, state, and local governments, non-governmental organizations, academics, and other entities that share the mission of restoring and protecting the Chesapeake Bay and its watershed.

The CBP has a long history of partnerships focusing on science and action that work on the restoration of the Chesapeake Bay watershed. The CBP brings together the intellectual and financial resources of various state, federal, academic and local watershed organizations to

build and adopt policies that support a unified plan for Chesapeake Bay watershed restoration.

The Partnership includes the original signatories to the Chesapeake Bay Agreements--Maryland, Pennsylvania, Virginia, the District of Columbia, the Chesapeake Bay Commission (a tri-state legislative assembly representing Maryland, Virginia and Pennsylvania), and the EPA on behalf of the federal government (including the U.S. Departments of Agriculture, Commerce, Defense, Homeland Security, Interior and Transportation). With the signing of the new Chesapeake Bay Watershed Agreement in June, I'm pleased to say it also now includes Delaware, New York and West Virginia as full partners of the program.

Economic and Ecological Significance of Chesapeake Bay

As the largest estuary in North America, the Chesapeake is ecologically, economically and culturally critical to the region and the country. For more than 300 years, the Bay and its tributaries have sustained the region's economy and defined its traditions and culture. The Bay has accounted for over 500 million pounds on average of seafood harvested annually since 2000. There are nearly 18,000 local governments in the Bay watershed, including towns, cities, counties and townships. Approximately 84,000 farms are located in the Chesapeake Bay watershed and form a vital part of the watershed's economy and way of

life.[1] The total economic value of the Bay has been estimated at more than $1 trillion[2] and two of the five largest Atlantic ports (Baltimore and Norfolk) are located in the Bay.

During the last 30 years, actions taken by the CBP Partners, at the federal, state and local levels have made a significant and positive impact; however, increased impervious cover, growing stormwater and wastewater challenges, changing environmental conditions, and other stressors linked to the growing population have adversely impacted the pace of restoration. Although the overall health of the Bay ecosystem generally remains in poor condition, improvements have been documented in a number of areas and we are beginning to see signs of hope as a result of our continuing efforts and new initiatives.

History of Bay Agreements

Since the start of the Chesapeake Bay Program in 1983, its partners have used written agreements to guide the restoration of the Chesapeake Bay. The original 1983 Chesapeake Bay Agreement was a simple, one-page pledge that shaped the voluntary, cooperative approach we strive for in addressing the Bay's pollution problems. A second Agreement in 1987 set the first numeric goals to reduce nitrogen and phosphorus pollution by 40 percent by 2000 and broadened the program's scope to restore the Bay ecosystem. Amendments in 1992 expanded the Program's pollution reduction efforts to include upstream sources. And, Chesapeake 2000 was the first comprehensive agreement that set goals for reducing

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[1]2007 Census of Agriculture reported 83,775 farms in the Chesapeake Bay region.

[2]*Saving a National Treasure: Financing the Cleanup of the Chesapeake Bay*, A Report to the Chesapeake Bay Executive Council, Chesapeake Bay Blue Ribbon Finance Panel, October 27, 2004

pollution, restoring habitats, protecting living resources, promoting sound land use practices and engaging the public in Bay restoration. It was also the first Bay agreement to emphasize ecosystem-based fisheries management.

By 2009, it was clear that Bay Program Partners needed to dramatically accelerate the pace of Bay restoration and began to work in earnest on a Chesapeake Bay Total Maximum Daily Load (TMDL). That same year, President Obama issued Executive Order 13508 on Chesapeake Bay Protection and Restoration. The Executive Order established a new Federal Leadership Committee (FLC), comprised of seven senior federal representatives and chaired by the EPA Administrator. The Executive Order charged the federal agencies with developing and implementing a new federal Strategy for protection and restoration of the Chesapeake region. At the same time, the Chesapeake Executive Council decided to focus on short-term restoration goals we now know as "two-year milestones."

Prior to the landmark Chesapeake Bay TMDL in December 2010, each of the seven Bay jurisdictions began developing Watershed Implementation Plans (WIPs) that spell out detailed, specific steps each jurisdiction will take to meet its water pollution reductions by 2025 – with a mid-point goal of having all of the necessary actions and practices in place by 2017 to achieve 60% of the needed pollution reductions. In December 2010, the landmark Chesapeake Bay TMDL was established, using allocations provided almost entirely by the Bay jurisdictions' WIPs. The Bay jurisdictions will use their two-year milestones to track and assess progress toward completing the restoration actions in their WIPs.

Need for a New Agreement

In 2011, both the Chesapeake Executive Council and the Federal Leadership Committee acknowledged the need to potentially integrate the goals, outcomes and actions of the Chesapeake Bay Program—detailed in Chesapeake 2000—with those set forth in the federal 2010 *Chesapeake Bay Executive Order Strategy*. Most of the outcomes and commitments in the Chesapeake 2000 agreement had expired and there was a need to update and refresh them in order to accelerate progress in achieving the water quality and living resource goals of the program. The Partners recognized a new Agreement was needed to reflect improvements in our scientific knowledge, changes in laws, regulations and policies over the past decade and evolutions that have taken place within the Partnership and the restoration effort.

Process for Development

Beginning in 2012, the Partners set the course for a new Watershed Agreement that would be developed through an open, cooperative and collaborative effort. The CBP's Goal Implementation Teams and workgroups—comprised of state, federal and local representatives from all jurisdictions in the watershed—began developing draft goals and measureable outcomes for the Partnership. Each goal and outcome was developed individually by goal team partners using the best data and science available including past and current performance. Baselines were also established for many of the outcomes and were created using the best available data, for example, the annual Maryland and Virginia Blue Crab Dredge Survey, the National Wetland Inventory, and recent water quality data provided by the jurisdictions. Justification documents that explain the importance of each

outcome, how it was developed, how baselines were determined and who was involved in the development of the outcome are available on our public Agreement webpages.

Simultaneously, internal workgroups and the CBP Principals' Staff Committee developed a core set of principles for which the Program will operate from and be accountable for its work and progress. With help and guidance from the Scientific and Technical Advisory Committee, the Partnership created a framework for implementation that allows for flexibility to adapt and adjust efforts with ever-evolving conditions and circumstances.

To ensure transparency and receive valuable input from the citizens of the watershed, the Partners held public meetings at different locations around the watershed and published two draft documents for public comment. The Partnership received thousands of comments during the public comment periods which had a direct impact on the final content of the Agreement.

Creating this new comprehensive Agreement was possible because of the collective experience and science-based approaches of our internal teams, who have worked hand-in-hand on the issues, and the broader viewpoints of our leadership, who have brought many perspectives to the table.

The New Watershed Agreement

The new *Chesapeake Bay Watershed Agreement,* signed on June 16, 2014, is the most inclusive, collaborative, and goal oriented Agreement the Chesapeake Bay watershed has ever had.

The new Agreement identifies the Partnership's collective commitments for restoring and protecting the watershed through 10 goals and 29 outcomes. Goals articulate the high level aspects of the Partners' vision, while outcomes express specific, time-bound, measureable targets that directly contribute to achieving each goal. These goals and outcomes are clearer and better-defined than in previous agreements and allow for greater flexibility through the adoption of an adaptive management decision-making process—one based on the application of scientific process and continual analysis of monitoring data.

The goals and outcomes address the Partners' continuing efforts to improve water quality as well as to promote sustainable fisheries, vital habitats, healthy watersheds, stewardship, land use and conservation and public access. They also confronts critical emerging issues—environmental literacy, toxic contaminants and climate resiliency of the Bay ecosystem. And, it builds upon the strength of our diverse citizenry, and support of local governments, calling to action the nearly 18 million people that call the Bay watershed home.

The new Agreement marks the first time that the Bay's headwater states of Delaware, New York and West Virginia have pledged to work toward restoration goals that reach beyond water quality, making them full partners in the Bay Program and its watershed-wide work.

All previous CBP Partners confirmed their participation including EPA on behalf of the Federal Leadership Committee.

Management Strategies

The Partners agreed to develop and finalize "management strategies" for each of the 29 outcomes identified in the new Agreement within one year of its signing. Management Strategies, which will be developed by the CBP Goal Implementation Teams with opportunity for public input, will articulate the overarching and specific actions necessary to achieve the goals and outcomes by 2025.

Specifically, a management strategy is a single document that summarizes the means for accomplishing each outcome as well as monitoring, assessing, reporting progress and coordinating actions among partners and stakeholders. Each management strategy is expected to include "key elements" or sections that provide details on: outcomes and baselines; factors influencing the ability to meet a goal; current efforts and gaps; management approaches; plans for local engagement; programs for monitoring and assessing progress; and a plan for managing restoration efforts adaptively. The management strategies will also identify the jurisdictions and agencies who have agreed to participate and provide resources for implementation.

Each management strategy will also include a two-year workplan section that succinctly summarizes, for each Partner and select stakeholders, the specific commitments, actions and resources to reach the two-year target for that outcome. It will also articulate the supporting

activities the goal implementation teams and workgroups will undertake to reach the target. The workplans will project the work to be done in the following two years, but may be updated more frequently. Of course, participation in the implementation of each management strategy will vary by Partners based on differing priorities and resources across the watershed.

Together, these elements comprise the adaptive management system the CBP Partnership will use to ensure implementation, measure progress and make adjustments when and where they are needed.

The Chesapeake Bay Total Maximum Daily Load (TMDL) and the commitments each Bay jurisdiction made in its Watershed Implementation Plan are embodied in the new Agreement and will be reflected and incorporated into the management strategies. The new Agreement does not revise or expand upon the TMDL or the Watershed Implementation Plans or two-year milestones for water quality. The documents complement and will inform each other.

One of the most important lessons the Partnership has learned from the development of the TMDL and the past three decades of restoration is that although watershed-wide partnerships can help to coordinate and catalyze progress, implementation happens locally. Local governments are key partners in our work, so the Partnership is making a concerted effort to include local governments and elected officials in the development and implementation of the management strategies. We will be working closely with the CBP Local Government

Advisory Committee and with local officials from each jurisdiction to ensure their important perspective is echoed in the final strategies.

The goal teams are expected to submit draft management strategies to the Management Board early in 2015. To help ensure progress remains on track, the goal teams are expected to re-evaluate biennially and update strategies as necessary, with attention to changing environmental and economic conditions. Partners may identify policy changes to address these conditions and minimize obstacles to achieve the outcomes. Management strategies are considered living documents and their development is an ongoing process. The goal teams will apprise the Management Board of their progress every two years.

Transparency and Public Outreach

The public will be able to hold partners accountable for their actions, thanks to a level of transparency not seen in previous Agreements. The signatory partners agreed to identify their intent to participate in the development of each management strategy within 90 days of the Agreement signing. On September 16, 2014 the Partnership will publish a table that identifies the signatory partners who have committed to develop each of the 29 management strategies.

To ensure broad public input and support, the Partners agreed to conduct outreach to stakeholders to engage them in the development process and to make information about management strategy development available online and through public meetings, including a

stakeholder input period before final adoption. This information will be advertised on CBP webpages and announced in CBP newsletters and other online resources.

To help foster broader participation, our CBP advisory committees will help identify underrepresented and/or new stakeholders or groups that could be involved throughout the development process. Participation in both development and implementation may include sharing knowledge, data or information, educating citizens or members, working on future legislation and developing or implementing programs or practices. The final adopted management strategies will identify participating signatories and other stakeholders, including local governments and nonprofit organizations.

Moving forward, Bay Program Partners will collaborate with academic institutions, local governments, non-governmental organizations, businesses and citizens in developing and implementing the management strategies that will define how we will accomplish the Agreement's goals and outcomes.

Closing

In closing, EPA and the Chesapeake Bay Program Partners remain committed to working collaboratively with all stakeholders as we begin to implement the Agreement and begin the next step of developing management strategies.

Thank you for the opportunity to testify today. I am pleased to answer any questions that you or the Members may have.

SEPW Water and Wildlife Subcommittee Hearing
September 8, 2014
Questions for the Record and Draft Responses

Vitter 1: The U.S. Environmental Protection Agency (EPA) has previously promised members of Congress and the American public that it would develop a cost-benefit analysis for the Chesapeake Bay Total Maximum Daily Load (TMDL). To date, however, no such analysis has been provided by EPA. What explains EPA's failure to provide a cost-benefit analysis for the Chesapeake Bay TMDL? Doesn't this failure affect EPA's credibility amongst those counties and stakeholders who are required to alter their land management practices in order to comply with the TMDL?

Response: The EPA is in the process of completing an effort to estimate both the benefits and costs of the Bay jurisdictions' work to attain water quality standards through implementation of the Chesapeake Bay Total Maximum Daily Load (TMDL).

Vitter 2: In 2009, the Chesapeake Bay Foundation and other plaintiffs sued EPA, claiming that progress under the Chesapeake 2000 Agreement was too slow, and that the voluntary goals in the Agreement were in fact mandatory duties under the Clean Water Act. In other words, rather than a mutual commitment to work together on Chesapeake Bay restoration issues, the lawsuit painted the Chesapeake 2000 Agreement as containing inflexible standards which bound the Chesapeake states to a nonnegotiable mandate.

Instead of defending the voluntary nature of the Chesapeake 2000 Agreement, EPA entered into a settlement agreement with the plaintiffs which obligated the agency to develop the Bay TMDL. As Peyton Robertson with NOAA previously indicated, the Bay TMDL "fundamentally altered the nature" of the Chesapeake Bay Program because "[y]ou can't reasonably argue that it is a voluntary approach anymore."

Given this history, and the purported voluntary nature of the 2014 Chesapeake Bay Watershed Agreement, several questions arise:

Vitter 2a. By entering into the 2014 Chesapeake Bay Watershed Agreement, have the states inadvertently laid the groundwater for a future lawsuit against EPA over the alleged failure to accomplish the Agreement's goals in a timely manner?

Response. The EPA does not believe that that 2014 Chesapeake Bay Watershed Agreement (Agreement) provides a basis for a lawsuit against the United States over the alleged failure to accomplish the Agreement's goals in a timely manner. The Agreement is a voluntary undertaking by the Bay partners to achieve an environmentally and economically sustainable Chesapeake Bay Watershed. It does not establish any enforceable legal obligations on the part of its signatories.

This is evident in the terms of the Agreement itself at page 16 (the Affirmation page upon which each agency signed the agreement): "this Agreement is voluntary and subject to the availability of appropriated funds. This Agreement is not a contract or an assistance agreement. We [the signatories including EPA] also understand that this Agreement does not pre-empt, supersede or override any other law or regulation applicable to each signatory."

One of the requirements to bring a lawsuit against the United States is the waiver of sovereign immunity by the United States. This voluntary Agreement does not provide any such waiver.

Vitter 2b. If litigation occurs which claims that the 2014 Chesapeake Bay Watershed Agreement creates mandatory duties for EPA and the states, will EPA defend the voluntary nature of the Agreement?

Response: As noted above, the EPA does not believe the Agreement provides any basis for such litigation. However, if a lawsuit asserting such claims were filed, the EPA, working with the Department of Justice, would evaluate the lawsuit and its claims and respond in an appropriate manner.

Vitter 2c. Do you agree that there is a lag time between implementing conservation measures and observing local water quality improvements, and that the environmental improvements we are seeing in the Chesapeake Bay today are the result of voluntary efforts initiated several years ago?

Response: Yes, there is evidence from both local stream and river water quality and groundwater monitoring data, analyzed by the U.S. Geological Survey and university scientists, that there are lag times between implementation and responses of both voluntary and state mandated conservation practices.

Vitter 3. Environmental literacy is a major component of the 2014 Chesapeake Bay Watershed Agreement. According to the Agreement:

"Each participating Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy Goals and Outcomes of this Agreement."

Does EPA expect that environmental literacy curricula will also include a discussion of how private property rights serve as a backbone to the Chesapeake region's economy?

Response: The Education Workgroup of the Chesapeake Bay Program's Stewardship Goal Implementation Team is currently developing a management strategy for the Agreement's environmental literacy planning outcome. Management strategies, due no later than June 2015, will outline the means for accomplishing each outcome. The development of each management strategy is a collaborative effort of the goal team and/or workgroup including self-identified signatory partners with input from stakeholders. The Education Workgroup currently includes representatives from the National Park Service, the National Oceanic and Atmospheric Administration, the Chesapeake Bay Trust, the Chesapeake Bay Foundation, and other state, local and nongovernmental experts. Although the EPA does not disagree that private property rights serve as a backbone to the region's economy, it is premature to speculate about what exactly will be included in the environmental literacy curricula.

Senator CARDIN: Mr. DiPasquale, thank you very much for your testimony.

We'll now go to Mr. Robertson.

STATEMENT OF PEYTON ROBERTSON, DIRECTOR, NOAA CHESAPEAKE BAY OFFICE

Mr. ROBERTSON: Good afternoon, Chairman Cardin. Thank you for the opportunity to testify today on the Chesapeake Bay Watershed Agreement. My name is Peyton Robertson, and I'm the director of NOAA's Chesapeake Bay Office.

NOAA is the Federal lead for several goals and outcomes of the new Agreement. NOAA envisions a healthy, sustainable, and resilient Chesapeake Bay with thriving commercial and recreational opportunities and habitats to provide a range of benefits for fish and wildlife. The Chesapeake Bay Agreement will drive this vision toward reality. Today, I will highlight several areas where we're already making progress. Continuing to achieve measurable results under the agreement will only happen with sustained support from Congress.

First, I'd like to speak about the blue crab population. The blue crab is an iconic species in Chesapeake Bay. And, while blue crab populations can be highly variable from year to year, over the last decade populations in the Bay reached some of their lowest numbers ever, due in part to over-exploitation and habitat depletion.

Through the Chesapeake Bay Program, NOAA chairs the Sustainable Fisheries Goal Implementation Team. In 2008, the Chesapeake Bay Stock Assessment Committee, a workgroup of the Goal Team, recommended female-specific harvest regulations to begin rebuilding the blue crab population. Provision of this population target began in 2011 with the NOAA-funded Benchmark Stock Assessment, resulting in new female-specific reference points that drive crab management decisions today. This year, the population of 69 million adult female blue crabs is below the 70 million threshold set by State fishery managers, and, as a result, Bay jurisdictions agreed to a 10-percent harvest reduction and established a July to-July fishing season.

However, fishing pressure is not the only challenge affecting blue crabs. Over-wintering mortality, predation, cannibalism, poor water quality, and habitat loss are all factors that affect crabs. NOAA's Chesapeake Bay Interpretive Buoy System observed lower water temperatures from February to March of this year, and this overall persistence of colder water could partly explain the estimated blue crab over-wintering mortality.

Next, I'd like to speak about our efforts to support tributary-scale oyster restoration. The native eastern oyster has declined dramatically over the past century due to over-fishing, habitat loss and degradation, and disease. Oyster populations are currently estimated to be at less than 1 percent of historic highs, baywide, and substantial restoration efforts are necessary for population recovery and improving the Bay's fish, habitat, and water quality.

In Maryland, three tributaries and oyster sanctuaries have been selected for restoration, including Harris Creek, the Little Choptank, and Tred Avon Rivers. In Harris Creek, 377 acres are currently being restored, making this the largest single oyster res-

toration effort ever undertaken. We expect to finish that first tributary by the end of 2015. In Virginia, the Lafayette, Elizabeth, and Piankatank Rivers have similarly been targeted for restoration efforts.

The initial results of these efforts are very promising. The survival rate of oysters just after being planted has increased 100 percent. We have—attribute this marked improvement to better site selection informed by NOAA's C–4 habitat mapping and assessment products. NOAA and the State of Maryland recently found oyster population densities on restored sites of 49 oysters per square meter, a level consistent with success metrics developed by NOAA and our partners. NOAA and the Army Corps of Engineers invested over $14 million in Fiscal Year 2014 to restore these tributaries.

A third area I'd like to note is NOAA's support of large-scale research to assess how different shoreline types, such as rip rap, bulkheads, or natural shorelines, affect adjacent coastal ecosystems. An important goal of the agreement is to better inform decisionmakers and provide them the tools they need. And NOAA is doing that in the Bay region. Our coastal zone managers can utilize this new science to more thoughtfully evaluate shoreline alternatives, including the use of more comprehensive ecosystem-based approaches. The new agreement also supports NOAA's priority to provide the intelligence community's need to ensure preparedness and resilience, allowing them to withstand adverse impacts from changing climate conditions.

Now let me highlight our work addressing critical habitats for Bay species. Dams and other obstructions in the Bay Watershed block the natural migration of fish to historic spawning habitats. By removing these physical obstacles and increasing river connectivity, keystone species like American shad and river herring are able to return to their native spawning grounds. Since 1988, NOAA and our partners have opened 2,807 miles of habitat to migratory and resident fishes in the Chesapeake Bay.

Finally, I'd like to note that NOAA's Bay Watershed Education and Training, or BWET, program is also instrumental to realizing the Agreement's goals. NOAA is ensuring that students graduate with the skills necessary to protect, restore, and conserve the Bay, and launch them into successful science-and math-related careers. NOAA's modest investments of approximately $2-and-a-half million annually for education in the Chesapeake Watershed have reached almost a half-million students and created model programs.

NOAA's science, service, and stewardship mission touches the lives of every American. We're proud of our role of conserving and protecting natural resources in the Bay through the Chesapeake Bay Agreement. Continued support for the programs to strive in this testimony is critical to achieving measurable results for the Agreement's goals.

And so, thank you for the opportunity to testify today, and I'll be happy to answer any questions.

[The prepared statement of Mr. Robertson follows:]

WRITTEN TESTIMONY OF
PEYTON ROBERTSON
DIRECTOR, CHESAPEAKE BAY OFFICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

FIELD HEARING ON THE
CHESAPEAKE BAY AGREEMENT & EXECUTIVE ORDER

BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER AND WILDLIFE
U.S. SENATE

SEPTEMBER 8, 2014

Introduction
Good afternoon Senator Cardin. My name is Peyton Robertson and I am the Director of the National Oceanic and Atmospheric Administration's (NOAA) Chesapeake Bay Office within the Department of Commerce. Thank you for inviting me to testify today on NOAA's commitment to support the 2014 Chesapeake Bay Watershed Agreement (Agreement).

NOAA envisions a healthy and sustainable Chesapeake Bay, with habitats that provide a range of benefits for fish and wildlife, commercial and recreational opportunities, and that enable resilient coastal communities. We are fulfilling this vision through the new Agreement by providing a suite of products, services and expertise. I will highlight several recent accomplishments that demonstrate measurable results and successful partnerships. These include restoring oyster populations and habitat on an unprecedented scale, opening fish habitat by removing dams, advancing environmental literacy, supporting science that informs oyster restoration and blue crab and fisheries management, supporting coastal resiliency to climate change, and implementing place-based initiatives through NOAA's Habitat Blueprint. I will describe how these projects are integrated into the goals and outcomes of the new Agreement, and how none are possible without federal, state, and local partnerships. Sustained support for these programs and projects is required to achieve results.

NOAA's Role in the Chesapeake Bay Watershed Agreement
NOAA played a significant role as a member of the Principals Staff Committee, the Management Board and various Goal Implementation Teams of the Chesapeake Bay Program in developing the Agreement, and is a key federal partner in implementing projects that will achieve its goals and outcomes.

Sustainable Fisheries Goal and Outcomes
NOAA chairs the Sustainable Fisheries Goal Implementation Team and worked through this team to facilitate development of the Sustainable Fisheries Goal and associated outcomes for blue crab abundance, blue crab management, oyster restoration, forage fish, and fish habitat.

Blue crab abundance and management outcomes
Blue crab is an iconic species and valuable resource in the Chesapeake Bay. It is one of the most sought-after shellfish in the mid-Atlantic region, and is caught both commercially and recreationally. While blue crab populations are highly variable from year to year, requiring consistent monitoring and sound fishery management, during the last decade, blue crab populations in the Chesapeake Bay reached some of their lowest numbers ever due to overexploitation and habitat degradation.

The Chesapeake Bay Stock Assessment Committee, a workgroup of the Fisheries Goal Implementation Team, is the primary academic and managerial body that examines the annual status of the blue crab population. It also recommends management actions and prioritizes research objectives to ensure the best available science is applied to management. In 2008, this Committee recommended female-specific harvest regulations to begin rebuilding the blue crab population.

The Bay jurisdictions—the State of Maryland, Commonwealth of Virginia, and the Potomac River Fisheries Commission—implemented these regulations, including a shorter harvest season, daily bushel limits and new gear requirements to protect female crabs until a revised population target could be developed. Revision of the population target and threshold began in 2011 with the NOAA funded benchmark stock assessment. The stock assessment recommended jurisdictions shift from a total adult (male and female population) target to a new female-specific set of reference points in order to place more emphasis on female crab conservation. These female-specific reference points (with a target of 215 million and threshold of 70 million adult female crabs) were implemented by the Bay jurisdictions for the 2012 crabbing season and continue to drive management decisions today.

This year, the population of 69 million adult female blue crabs is below the 70 million threshold, but overfishing is not occurring. As a result of these low numbers, Bay jurisdictions agreed to a ten percent harvest reduction and established a July-to-July fishing season. Triggering these management actions was possible because of the scientifically derived and agreed to reference points mentioned above.

However, fishing pressure is not the only challenge affecting blue crabs. Significant overwintering mortality, habitat loss, poor water quality, predation, and cannibalism are all factors thought to be affecting blue crab abundance and recovery, despite a few high recruitment years. NOAA's Chesapeake Bay Interpretive Buoy System, which provides real time observations of weather and water conditions, observed lower water temperatures from February to March 2014 in comparison to previous years. While the buoys measure water temperature at the surface, this overall persistence of colder water could help explain the estimated blue-crab mortality from the winter dredge survey. NOAA will work with the Committee to explore ways of linking buoy observations with the blue crab winter dredge survey to improve our understanding of how physical factors such as temperature may affect crab populations. In addition, the Committee is evaluating the role of these other ecosystem factors and causes of natural mortality. Stock assessments are the most crucial piece to continually improving blue crab management. The next blue crab stock assessment is planned for 2016.

In addition to improving the science, there is interest in evaluating other management approaches. The new Agreement includes an outcome to, *"Evaluate the establishment of a Bay-wide, allocation-based management framework with annual levels set by the jurisdictions for the purpose of accounting for and adjusting harvest by each jurisdiction."*

Oyster restoration outcome
Eastern oysters in the Chesapeake Bay have declined dramatically over the past century due to overfishing, habitat loss (including poor water quality) and disease. Oyster populations are currently estimated to be less than one percent of historic highs Bay-wide, making substantial restoration efforts necessary if the population is to recover. Restoring these oyster populations is important to improving Chesapeake Bay habitat for multiple reasons, including fish habitat and water quality. Because of their tremendous ecological value, the new Agreement commits state and federal agencies to an outcome of, "*Restoring native oyster habitat and populations in 10 tributaries by 2025 and ensuring their protection.*"

NOAA chairs interagency workgroups in Maryland and Virginia, as part of the Fisheries Goal Implementation Team, which are restoring oyster populations on a tributary scale. In Maryland, three tributaries and oyster sanctuaries (Harris Creek and the Tred Avon and Little Choptank Rivers) have been selected for restoration, and plans have been developed for each. In Harris Creek, 377 acres are targeted for restoration, making this the largest single oyster restoration effort ever undertaken. By the end of 2013, 190 acres had been constructed, and another 127 acres are currently underway, with a total of 317 acres expected to be restored by the end of 2014. We anticipate that all 377 acres will be completed by the end of 2015.

Reef construction started in 2014 on the Little Choptank, and will begin in late 2014 on the Tred Avon. Strong partnerships with the U.S. Army Corps of Engineers (Corps), Maryland Department of Natural Resources, University of Maryland, Oyster Recovery Partnership, National Fish and Wildlife Foundation, The Nature Conservancy, Chesapeake Bay Foundation and others have been critical to these projects. In Fiscal Year 2014, Maryland, NOAA and the Corps invested over $14 million to restore these tributaries.

In Virginia, three tributaries have been selected for large-scale oyster restoration, including the Lafayette, Elizabeth and Piankatank Rivers. NOAA and the Corps are chairing workgroups to develop restoration plans for each. Nonprofit organizations, including the Chesapeake Bay Foundation, Elizabeth River Project, Oyster Reefkeepers of Virginia, and The Nature Conservancy, have implemented reef restoration projects in these tributaries to date, some with NOAA funding. Additional key partners include the Virginia Marine Resources Commission, Virginia Institute of Marine Science, the City of Norfolk, and Elizabeth River Project.

The results of the restoration look promising. First, the number of oysters surviving after restoration has increased 100 percent. We believe this improvement is directly related to better site selection, informed by NOAA's seafloor habitat mapping and assessment products. Second, we have evidence of oyster population densities of 49 oysters per square meter. This level is consistent with oyster metrics developed by NOAA, the Corps, states, and other partners, that specify the amount of oyster biomass in a given area for a reef to count as "restored."

As restoration moves forward, it is important to monitor restoration success as well as the ecosystem services restoration provides. NOAA has begun to quantify these benefits by working with partners at University of Maryland and Virginia Institute of Marine Science to measure how nitrogen removal and fisheries productivity changes as a result of large scale restoration.

Forage fish and fish habitat outcomes
NOAA is encouraging Chesapeake Bay states to work across jurisdictional boundaries to implement ecosystem-based fisheries management. In 2006, NOAA published "Fisheries Ecosystem Planning for the Chesapeake Bay," which identified the need to understand the role of habitat and forage base in a fishery's sustainability. Those needs are reflected in the new Agreement Forage Fish Outcome: *"Continually improve the Partnership's capacity to understand the role of forage fish populations in the Chesapeake Bay. By 2016, develop a strategy for assessing the forage fish base available as food for predatory species in the Chesapeake Bay."*

NOAA's Chesapeake Bay fisheries science program supports research on species interactions, disease, habitat, climate, and other factors that affect fish health, populations, and sustainability in the Bay's waters. Annual funding priorities are directly informed by the Fisheries Goal Implementation Team, which uses NOAA research results, along with U.S. Fish and Wildlife Service and U.S. Geological Survey science assessing freshwater fisheries, to inform management decisions. Science conducted under this program, such as studies on the impacts of invasive catfish or value of oyster reefs in providing habitat, supports the development of fish stock assessments that incorporate habitat and ecosystem information. Since 2011, this competitive program has provided over $3.7 million in grants to universities and state agencies in Maryland and Virginia. This research is shedding light on critical fisheries management issues facing the Bay.

NOAA is supporting a large-scale research project to predict how shoreline development interacts with other stressors to change coastal ecosystems and the species that depend on them. Researchers are identifying tipping points - the minimum natural shoreline needed to sustain estuarine habitats and species, and what happens when we exceed that threshold. Coastal zone managers and land use planners can use the results to transform management from the current "parcel by parcel" approach to one that can consider the whole ecosystem. This is the final year of a competitive $4.2 million award to the Smithsonian Environmental Research Center, with partners involved from the University of Delaware, Virginia Institute of Marine Science, University of Maryland, Pennsylvania State University, U.S. Geological Survey, and the Maryland Department of Natural Resources.

Habitat Goal and Fish Passage Outcome
NOAA chaired the Fish Passage Workgroup under the Habitat Goal Implementation Team which established the outcome: *"Continually increase available habitat to support sustainable migratory fish populations in Chesapeake Bay freshwater rivers and streams. By 2025, restore historical fish migratory routes by opening 1,000 additional stream miles."* Dams and other obstructions block the natural migration of fish to their historic spawning habitats. By removing physical obstacles and increasing river connectivity, key species like American shad, river

herring and American eel are able to return to their spawning grounds. Removing dams can also increase recreational opportunities, reduce flooding and remove safety hazards. Since 1988, we have opened 2,807 miles of habitat to migratory and resident fishes in the Chesapeake Bay with more than 120 miles opened in 2014 alone.

Demolition of the Harvell Dam on the Appomattox River in Petersburg, Virginia, was a significant dam removal completed this year. This removal will open significant habitat for American shad, river herring and American eel. The Bloede Dam removal on the Patapsco River in Elkridge, Maryland is set for removal in 2015. This project is a critical component of what will be the largest river restoration in the state of Maryland, and will establish a model for future dam removal efforts in the Chesapeake Bay. Removal of Bloede Dam will open 183 miles of habitat for diadromous fish species including river herring, hickory shad, and American eel. It will also eliminate a public safety hazard in the park where two deaths have occurred in the past two summers.

The Fish Passage Work Group has developed and is using a web-based tool to assist in prioritizing the remaining 5,000 fish passage projects. This tool helps to target high-priority projects based on our collective priorities, allows the Federal, state and local governments, and non-profits to have a consistent voice when advocating for Bay-wide priority projects, and acts as a database for dam information. In the future, we will continue to implement high priority projects as identified through the Fish Passage Tool.

Environmental Literacy and Stewardship Goals and Outcomes

In response to the President's Executive Order on Chesapeake Bay Protection and Restoration, NOAA worked with the regional education community to develop the Mid-Atlantic Environmental Literacy Strategy, which outlines a shared vision for the future of environmental education in the region. This strategy was used as the foundation for the goal and outcomes under the new Agreement, including teacher-supported Meaningful Watershed Education Experiences in elementary, middle, and high schools; sustainable and healthy schools; and statewide plans and metrics to guide environmental literacy efforts.

The NOAA Bay Watershed Education and Training Program has provided small grants that allow school divisions and their partners to establish or strengthen environmental education programs for students. Of the $7.5 million provided for the NOAA Bay Watershed Education and Training Program in the FY 2014 Omnibus, $2.5 million is invested in the Chesapeake area, reaching almost a half million students and creating programs on outdoor environmental education.

NOAA also provides technical assistance and funding to the Chesapeake Bay National Estuarine Research Reserve sites in Maryland and Virginia. These Reserves support research, education, and training programs at seven component sites throughout the Bay watershed in a variety of habitats and support land conservation.

Climate Resiliency Goal and Outcomes

Climate resiliency is a new goal in the agreement. NOAA and the Department of the Interior will provide federal leadership to work with states and local communities to carry out the outcomes.

NOAA is making several important contributions to this effort. At the Cooperative Oxford Laboratory, NOAA is applying climate projections to ecological forecast models for *Vibrio* bacteria in the Chesapeake Bay. These bacteria are naturally occurring pathogens that can cause a range of illnesses resulting from water contact or consumption of raw or undercooked seafood. Our modeling and observation systems are providing decision makers the tools and early warning needed to manage our natural resources, protect human health, and prepare for climate related impacts. Once validated and transitioned to operations, our ecological forecasts will help state and federal coastal and public health managers prepare for potential impacts and inform the seafood industry's practices to ensure delivery of safe seafood to consumers.

Recently, NOAA and its partners initiated the Chesapeake Bay Sentinel Site Cooperative. This Cooperative plans to provide long term multifaceted data that will inform Chesapeake Bay municipalities and natural resource managers by providing critical information needed for community resiliency, protection, and management decisions. Current information includes: land elevation change, mean sea level change, water quality, and biological measurements. NOAA recently completed topographic-bathymetric LiDAR aerial surveys of Bay shorelines that collected data to improve coastal flooding models. We will soon add sociological and economic attributes of communities surrounding monitoring stations. In a related effort, NOAA scientists at the Cooperative Oxford Laboratory, the University of Maryland's Horn Point Laboratory and Virginia Institute of Marine Science are collaborating to study the seven Chesapeake Bay National Estuarine Research Reserve System sites to understand and anticipate the ecological challenges these estuaries will face due to climate change.

NOAA's National Coastal Zone Management System has provided funding to assist with efforts to improve community resilience to coastal hazards. Examples of these efforts include conducting vulnerability assessments and incorporating measures into local plans that help communities adapt to changing conditions. Across the entire National Coastal Zone Management System, approximately $10 million is being spent in FY 2014 on coastal hazards and resilience. In addition, on July 16, 2014, NOAA released updated guidance for the Program that reflects the specific challenges that coastal hazards pose to community resilience. This new guidance will help all coastal management programs, including Virginia and Maryland, develop multi-year strategies to better address priority coastal management issues and emphasizes that these states need to consider how climate change may exacerbate these issues. The guidance also sets aside approximately $1.5 million for competitive funding for FY 2016 to help coastal states make improvements to their coastal management programs, improvements that specifically increase resilience to coastal hazards.

Stakeholder Engagement to Achieve Outcomes

Based on NOAA's long-term involvement with the Chesapeake Bay Program, we have learned that the most effective programs are those that are directly tied to reaching, engaging and empowering communities. We have also learned about the power of special places in the Bay – the backyards of those engaged communities, where stewardship is most likely to take hold and persist over time.

On a national level, NOAA has similarly recognized the need to increase the sustainability and productivity of our fisheries by focusing on the habitat that fish need to spawn and grow, as well

as protect the coastal resources on which our communities depend. In keeping with this philosophy, NOAA established the Habitat Blueprint, which designates Habitat Focus Areas in regions across the Nation.

On May 5, 2014, NOAA announced the selection of the Choptank River watershed in Maryland and Delaware as a place where the agency will focus its resources to support habitat conservation and restoration work to achieve demonstrable results within the next 3-5 years. Three factors drive the focused attention on the Choptank region: (1) the urgency associated with degraded environmental conditions, (2) the community's recognition of significant societal impacts resulting from those conditions, and (3) the desire to protect the significant investments of Federal, State and non-profit organizations in oyster and other habitat restoration efforts. NOAA is also linking this geographic focus to other Federal and state programs on the land, including the U.S. Department of Agriculture's Rural Conservation Partnership Program, the Harriet Tubman Trail, and related land conservation and protection efforts. These coordinated efforts will lead to more effective implementation and achievement of the related outcomes of the new Agreement.

Conclusion

NOAA's missions in science, service and stewardship contribute significantly to the Chesapeake Bay Program and the goals and outcomes of the new Agreement. We worked closely with our partners to develop the new Agreement and look forward to implementing activities that will achieve its goals and outcomes. Continued support for the programs and efforts described in this testimony is critical to achieve desired results.

Thank you for the opportunity to discuss some of these efforts with you. I would be happy to answer any questions you may have.

Senate Environment and Public Works
Committee Hearing September 8, 2014

Follow-Up Questions for Written Submission
for Peyton Robertson
Director, Chesapeake Bay Office
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Questions from Senator David Vitter

1. You indicated in a 2011 *Bay Journal* article that the Bay TMDL "fundamentally altered the nature" of the Chesapeake Bay Program because "[y]ou can't reasonably argue that it is a voluntary approach anymore." What assurances have you received from EPA that history will not repeat itself, and that the 2014 Bay Watershed Agreement will remain voluntary in nature?

Answer:

During the development of the Agreement, it was paramount that all partners achieve strong consensus among the jurisdictions in the watershed (six states and the District of Columbia), multiple federal agencies (including NOAA), and a wide range of private, non-profit, and academic partners. The final agreement outlines a set of ten goals and thirty-one desired outcomes, along with the actions needed to track progress and ensure implementation through a flexible, adaptive, management process. As a result, the strong partnership agreement represents a framework for cooperative action and accountability without imposing any new regulatory requirements.

2. During this month's hearing, Senator Cardin rightly emphasized the importance of balancing economic growth with environmental efforts that help to restore the health of the Chesapeake Bay.

Do you believe it is important for NOAA to find the right balance between economic prosperity and environmental protection when it is administers environmental statutes? If so, how do you reconcile instances in which NOAA and the National Marine Fisheries Service (as well as the U.S. Fish and Wildlife Service) have argued that courts and public officials may not balance the hardships and costs associated with Endangered Species Act regulation?

Answer:

The Administration always works to achieve both environmental protection and economic prosperity; a strong economy depends upon a healthy environment, including clean air, clean water, and sustainable natural resources. The vitality of the Chesapeake Bay region depends on restoring the watershed and estuary by conserving fish and wildlife, improving private farms and forests, and increasing the resilience of towns and cities, which together will protect the livelihoods of all of its residents. The environmental statutes administered by federal agencies direct whether and how natural resource benefits and economic impacts should be considered.

The Endangered Species Act (ESA) requires NOAA Fisheries and the U.S. Fish and Wildlife Service (Services) to base many decisions solely on the best available scientific data. In particular, when determining whether a species warrants listing under the ESA, the Services are prohibited by the ESA

from considering the economic impact that may occur as a result of the listing. Once a species is listed, however, the ESA does permit economic considerations in some aspects of the implementation of the listing. The Services designate "critical habitat" for each listed species; these are areas that are important for the species' conservation and recovery. In making these designations, the Services must consider their economic impacts, the impacts on national security, and other relevant impacts, in addition to the benefits to the species. The assessment of proposed critical habitats uses an "incremental approach" in which the Services assess the economic impacts of critical habitat inclusions or exclusions separately from the impacts of species listing.

Additionally, under Section 7 of the ESA, reasonable and prudent alternatives should be economically and technically feasible. As such, economic impacts of modifications to projects as a result of effects to ESA-listed species are considered when consulting on projects that are federally funded, authorized or carried out. Furthermore, there is significant flexibility available to the Services in developing and implementing recovery actions for ESA-listed species.

Senator CARDIN: Well, thank you, Mr. Robertson.

We'll now go to The Honorable Molly Ward.

STATEMENT OF HON. MOLLY WARD, SECRETARY OF NATURAL RESOURCES, STATE OF VIRGINIA

Ms. WARD: Good afternoon. On behalf of Governor McAuliffe, thank you for inviting me to be part of this hearing on the 2014 Chesapeake Bay Agreement. My name is Molly Ward, and I'm the Secretary of Natural Resources for the Commonwealth of Virginia.

Virginia has been an active partner in the Chesapeake Bay Program since its establishment in 1983, and for good reason. Of the almost 12,000 miles of tidal shoreline that surround the Bay and its tributaries, Virginia is home to 7,000 of those miles. Upon taking office in January 2014, Governor McAuliffe appointed a Deputy Secretary specifically for the Chesapeake Bay, Russ Baxter, and the administration immediately began the review of the new Agreement. Even before the end of the public comment period, Governor McAuliffe committed to including new goals for toxics and climate change.

The Bay is a highway for commerce and a draw for recreation and tourism that is very important to the Commonwealth's economy. Just 2 weeks ago, Governor McAuliffe announced the establishment of the Virginia Oyster Trail that will promote Virginia's oysters industry along the—along with Virginia wineries and businesses along the trail. We harvested over a half-million bushels of oysters in the Commonwealth last year, up from 23,000 bushels in 2001.

On the point-source side, we have invested over 1.6 billion in State and local money on nutrient upgrades to sewage treatment plants in the Bay Watershed. We established an innovative nutrient trading program that provided for load caps for each facility and each river basin 4 years before the establishment of the TMDL.

On the agricultural side, over $200 million in State, Federal, and agricultural funds have been invested. In 2011, the General Assembly passed legislation that authorized our new Resource Management Program, which became effective just this past July 1st. The State/Federal agencies, the agriculture community, and conservation groups worked together to develop the implementing regulations. The program, while voluntary, contains rigorous conservation standards and oversight while provide a safe harbor from additional regulatory requirements during the effective period of each plan.

On August 25th, Governor McAuliffe visited a farm in the Shenandoah to promote the RMP program. He was joined by a bipartisan group of members of the General Assembly, leadership from the major agricultural and agribusiness organizations in Virginia, soil and water conservation districts, and environmental organizations, demonstrating the wide, strong support for this initiative.

We are hopeful our proposals for the Regional Conservation Partnership Program and the critical conservation area components of the farm bill will be favorably reviewed and provide needed resources to help fully realize the potential of this program. We remain committed to land conservation in Virginia, and particularly

with regards to water quality and Bay access. Despite budget difficulties, we have maintained a $100 million land conservation tax credit program, and the Governor has been personally committed to pursuing the Rivers of the Chesapeake proposal, together with Maryland, Pennsylvania, and our Federal and conservation partners. We pledge the full attention of the administration to the needs of Bay restoration and to be a full and productive partner in this new agreement to truly restore and protect this national treasure.

My submitted testimony further details our conservation efforts.

And I want to thank you for having us here today.

[The prepared statement of Ms. Ward follows:]

TESTIMONY
Secretary of Natural Resources Molly Joseph Ward
Commonwealth of Virginia
The 2014 Chesapeake Bay Watershed Agreement
Senate Subcommittee on Water and Wildlife
Monday, September 8, 2014
Annapolis, Maryland

On behalf of Governor McAuliffe, thank you for inviting me to be part of this hearing on the 2014 Chesapeake Bay Watershed Agreement and our efforts to meet the nutrient and sediment reduction goals for the bay and its tidal tributaries.

I have been asked to address a number of issues related to the development of the agreement and our work to reduce nonpoint source pollution from agricultural sources. But please allow me to first set the context for Virginia's commitment to the protection and restoration of the bay.

Virginia's Commitment to the Chesapeake Bay

Virginia, as I'm sure you know, has been an active partner in the Chesapeake Bay Program since its establishment in 1983, and for good reason; of the over 11,000 miles of tidal shoreline that surround the bay and its tributaries, Virginia is home to over 7,200 of those miles.

We are a leading producer of seafood with our oyster harvest reaching over 500,000 bushels last year compared to just 23,000 bushels in 2001; resulting in a dockside value on more than $22 million dollars. We are also a leader in the blue crab harvest and a host of other fisheries, both wild and cultured.

The bay is also a highway for commerce and a draw for recreation and tourism that is integral to the Commonwealth's economy. Just two weeks ago, Governor McAuliffe announced the establishment of the Virginia Oyster Trail that will promote the rebirth of Virginia's oyster industry along with Virginia wineries and other businesses along the trail. That same week, he was joined by a number of public and private partners to cut the ribbon on a new public access point along the Captain John Smith Chesapeake National Historic Trail at Caledon State Park on the Potomac River, again demonstrating the connection between our natural, historic and economic resources.

Governor McAuliffe's administration is focused on building a new Virginia economy that not only nurtures new business and industry, but capitalizes on economic strengths that have sustained our Commonwealth nearly from its beginning, industries such as seafood, agriculture and forestry.

Virginia has also not been shy about investing in the bay. On the point source side alone, Virginia, between the state and sewage treatment plant owners, has spent over $1.6 billion on nutrient reduction upgrades in the bay watershed. Combined with an innovative point source nutrient trading program, we have led the watershed in point source nutrient reductions.

We established nutrient caps for each wastewater facility and each of the major tributary basins 4 years before the establishment of the Chesapeake Bay TMDL. These were sufficiently stringent that they were adopted almost as written by EPA when it issued the TMDL in 2010.

On the agricultural side, between the state best management practices cost-share program and the state share of the Conservation Reserve Enhancement Program, over $200 million in state funds have been spent, supplemented by agricultural producers and federal funds. Virginia has also spent considerable amounts for land conservation, oyster replenishment and a host of other programs that directly benefit the bay and its tributaries.

I give you these examples only to ensure you and the members of your committee, the Congress and the public understand that we have put our money where our mouth is; on actions that will have a direct benefit to the water quality and the critical habitats of the Chesapeake Bay. I hope federal agencies and appropriators appreciate the magnitude of the investment that one single watershed state has made in support of the bay agreements to which we have been signatories.

The New Chesapeake Bay Watershed Agreement

By virtue of the signatures of the Governors of the six watershed states, the Mayor of the District of Columbia, the chairman of the Chesapeake Bay Commission and EPA on behalf the federal government, we have now an agreement that spans the entire watershed and the range of land, water, habitat, fisheries and other issues that are critical to the sustained restoration of the health and bounty of the bay.

The watershed agreement signed on June 16 is a departure from the past. Just as we have uncovered new knowledge and science to guide our efforts, we have also worked to improve our approach to management. Previous bay agreements set forth ambitious goals whose magnitude and difficulty may not have been fully appreciated at the time the agreements were signed. In addition, not all the goals and commitments were supported by specific strategies charting out how they would be achieved and who would take responsibility for their implementation.

I am not suggesting that these agreements were in vain; they represented the best science available at the time and provided the policy direction for significant actions taken by all the signatories. However, as you know we have a large watershed with complex scientific, management, social and political issues that take time to address and we may have been a little naïve in our ability to meet the commitments we made.

However, times have changed. This new agreement sets forth broad goals that are buttressed by specific outcomes supported by what will be detailed management strategies. The management strategies will demonstrate for all to see the actions that will be taken to meet the outcomes established in the agreement.

While we have in place a management structure that makes sense, I do not want to leave the impression that significant challenges do not still remain in meeting the ambitious goals of the agreement. However, I am heartened by the existence now of a complete watershed partnership, with the inclusion of Delaware, New York and West Virginia. This will certainly help in meeting our goals.

Upon taking office in January 2014, we immediately engaged in the review of the draft agreement and the Governor appointed a deputy secretary of natural resources for the Chesapeake Bay that bolstered our role in the negotiations. Even before the end of the public comment period earlier this year, Governor McAuliffe committed to including new goals and outcomes for toxics and climate change.

With respect to climate change, the Governor has established a Climate Change and Resiliency Commission that will build on the report prepared by Governor Kaine's administration more than 4 years ago. This reconstituted commission will help inform the actions we will take not only for the protection of the bay and its watershed but also for the rest of Virginia, particularly our vulnerable coastal areas, including Hampton Roads and the Eastern Shore.

Also over the course of our work on the agreement, we also endeavored to keep all the watershed states at the table. While being full partners in the bay agreement I'm sure was a bit daunting for the headwaters states of Delaware, New York and West Virginia, their participation is a critical element to ensure a watershed-wide approach to watershed protection and restoration. Our priority was to not only have a meaningful agreement but to keep all the states at the table as we looked for common ground on some difficult issues and language.

The Governor has publically stated and I say again today that Virginia is "all in" in the development and implementation of the management strategies that will define the actions necessary to achieve the goals and outcomes of the new agreement. We know that significant issues face the Chesapeake Bay beyond the nutrient and sediment reduction goals in the TMDL, and we look forward to fully participating across the range of issues embodied in the agreement.

The Governor has taken a particular interest in land conservation, knowing the multiple benefits it provides for air quality, habitat, recreation, tourism, access to waters and water quality protection. We have, since the very beginning of the administration, worked with land owners, land trusts, state and federal agencies and others to conserve important lands during this administration. As an example, the Governor has been doggedly supporting the Land and

Water Conservation Fund "Rivers of the Chesapeake" proposal that will lead to the protection of critical habitats and landscapes along some of the Chesapeake's great rivers.

Our Work with Agriculture to Meet Water Quality Goals

The Governor committed during his campaign to keep Virginia on the trajectory to meet the 2017 60% load reduction goal for nutrient and sediments and his commitment hasn't wavered. As I have said, while we have made great progress in reductions from wastewater, we must now turn our attention to the key nonpoint source sectors, urban and agriculture.

In the agricultural sector, we have committed over the next two years to significantly increase the installation of agricultural best management practices on the agricultural landscape through our existing state agricultural cost share program, with our partnerships with USDA's Farm Service Agency and the Natural Resources Conservation Service, and now with the implementation of our new Resource Management Plan program, which I'll refer to as RMPs.

In 2011, the Virginia General Assembly passed legislation which authorized the creation of the RMP program. Representatives from agricultural commodity groups, conservation organizations, and state and federal agencies worked together to developed the implementing regulations. The Virginia Soil and Water Conservation Board approved the regulations in 2013 and the effective date of the program was July 1, 2014.

Just two weeks ago, Governor McAuliffe visited a farm in the Shenandoah Valley that is just the second farm to have an RMP developed. During his remarks in support of the program, the Governor was joined at the podium by members of the General Assembly, the leadership of major agricultural and agribusiness organizations in Virginia, our Soil and Water Conservation Districts and environmental organizations demonstrating the broad support for this program. My secretariat continues to work side-by-side with the Secretary of Agriculture and Forestry to ensure close coordination within state government.

The idea for the RMPs had its origins in the agricultural community. It sprang from the common sense idea that each farm had its unique challenges and opportunities and each farmer, with the assistance of professionals, needs to make decisions about what practices work best for them and their operation within the framework of the standards established in the regulations that govern plan development under this voluntary program.

So what's in it for farmers?

First, I would suggest a more efficient and profitable operation that will use fertilizers more wisely, improve soil heath, increase yields and improve the health, safety and productivity of livestock.

Second, it demonstrates to the state, to EPA and the public that the producer is meeting a high standard of conservation and water quality protection. In return, a producer can be assured

that they are in compliance with any new state nutrient, sediment requirements that may come over the 9 year effective period of the plan, in particular those related to the Chesapeake Bay TMDL or local TMDLs. This is Virginia's approach to so-called "safe harbor" legislation that provides a measure of regulatory certainty reserved for producers that meet high standards of conservation and water quality protection.

Third, it allows us a vehicle for quantifying practices that were installed by a producer that were not part of a cost-share program.

Finally, participation in the program is completely voluntary. It's the farmer who makes the decision on whether to participate and the mix of practices to meet necessary standards.

So what's in it for Virginia and the rivers and streams and Chesapeake Bay that we hold in trust for all our citizens?

First, a continuing partnership with agriculture that yields benefits for the rural economy and our natural resources.

Second, just as the farmers will get credit for practices they have installed outside of a cost-share program, RMPs will allow us to report those practices in compliance with our Chesapeake Bay Watershed Implementation Plan and related EPA reporting requirements under the Chesapeake Bay TMDL.

RMPs require strict oversight and reporting to remain valid and we are partnering with our soil and water conservation districts to provide that service. I invite all to visit the website of the Department of Conservation and Recreation at dcr.virginia.gov to learn the details of the RMP program.

Finally, it will bring us closer to our water quality goals not only for the Chesapeake Bay but for the many rivers and streams throughout our commonwealth that have sustained fish and wildlife and generations of Virginians from Southwest Virginia to the Eastern Shore.

I am also happy to report exclusion of livestock from streams is a required element of an RMP. The benefits of this practice are well documented. As livestock producers know first-hand, when livestock is excluded from stream and given an alternative source of fresh water, herd health and safety improves, veterinarian bills fall, animal production improves and the water quality benefits can be dramatic. As Governor McAuliffe said on his visit to the Shenandoah Valley, livestock exclusion is a poster child for a win – win solution for profitable agriculture and water quality.

We have also made livestock exclusion a lynchpin of our state agricultural cost share program through the 100% cost-share of our so-called "SL-6" livestock exclusion practice through the next fiscal year that includes fencing, alternative watering, and pasture management.

I am not suggesting that farmers have not made significant improvements to date or that they have not embraced conservation practices. They have. But there is always more to do and the pace of implementation must be accelerated to meet our water quality goals within the timeframes of the TMDL.

While we are excited about this new program, we also recognize it is not without its challenges. We need funds for cost-share in a very difficult state budget climate, trained RMP plan writers and sufficient technical staff at our Soil and Water Conservation Districts and NRCS to fully realize the potential.

That's where our proposals for the Regional Conservation Partnership Program (RCPP) and the Critical Conservation Area (CCA) program under the Farm Bill come into play.

Farm Bill Funding Proposals

We are pleased our pre-proposals for the RCPP and CCA programs were favorably reviewed and that full proposals have been requested for each of the programs.

The focus of our RCPP proposal is to accelerate the installation for structural agricultural best management practices, particularly those related to livestock exclusion through building additional capacity for the technical assistance necessary to get those practices on the ground. We are also working to increase the number of buffers on lands placed under easement that would be held by the Virginia Outdoors Foundation. Our lead agency is the Department of Conservation and Recreation which manages our agricultural cost-share program and the RMP program. We are also partnering in this proposal with the Virginia Association of Soil and Water Conservation Districts, the Virginia Farm Bureau, Trout Unlimited, the Virginia Agribusiness Council and the Virginia Forage and Grassland Council.

With our CCA proposal, we are partnering with the states of Delaware and Maryland, nonprofit conservation organizations, federal agencies, and agricultural industry organizations to increase the numbers of BMPs on agricultural lands to meet the commitments made in our Chesapeake Bay TMDL Watershed Implementation Plans. Our focus as part of the broad CCA partnership is the funding of agricultural BMP implementation particularly stream exclusion and riparian buffers which are key elements of our Watershed Implementation Plan.

I am proud about what Virginia has done to date as a partner in this watershed effort. But we have more to do and time is growing short. I pledge the full attention of this administration to the needs of bay restoration and to continue to be a full and productive partner with our sister states, the federal government, agriculture, industry, localities, and citizens to truly restore this national treasure.

Thank you.

Senator CARDIN: Thank you very much, Secretary Ward.

We'll now turn to The Honorable Ronald Miller.

STATEMENT OF HON. RONALD MILLER, REPRESENTATIVE, PENNSYLVANIA HOUSE OF REPRESENTATIVES

Rep. Miller: Good afternoon, Chairman Cardin and members of the subcommittee. I am State Representative Ron Miller, of York County, Pennsylvania, and I thank you for the opportunity to speak to you today as chairman of the TriState Chesapeake Bay Commission.

The Commission is primarily comprised of State legislators from Maryland, Pennsylvania, and Virginia. The Commission has been a signatory to all of the Chesapeake Bay agreements since the first one was signed in 1983. In fact, the Commission hosted that meeting at which that first agreement was signed. Our Commission, and later the Bay Program, was created because my predecessors knew it would take participation and coordination across the larger watershed and between the State and Federal Governments to clean up the Bay. Without Federal support and vigilance, the Chesapeake Bay Program would not be the premier restoration effort that it is today. The establishment of the Bay Program Office, under Section 117 of the Clean Water Act, and the appropriations of funds for operations and implementation are critical. We applaud the recent and proposed increases in this funding and thank you, Senator Cardin and other leaders of our congressional delegation who have consistently supported the Bay Program's work.

A key strength of the Bay Program is the reliance on science and data to guide our work. Indeed, more data has been generated on Chesapeake Bay than any other estuary. Experts from the State and Federal Government, universities, private industry, and others share information, ask questions, coordinate their work, and leverage resources. Each of our Bay agreements have influenced, and were influenced by, this scientific work. The 1987 agreement set broad nutrient-reduction goals. Now, through improved modeling, monitoring, and a better understanding of how each tributary impacts the Bay, we have specific nitrogen, phosphorous, and sediment goals for our rivers and State-specific watershed implementation plans.

The Commission's 2013 annual report highlights a few of the many legislative victories for the Bay that have been accomplished in our three member States as a result of Bay agreement commitments. This latest agreement acknowledges that we cannot do everything at once, and focuses on key actions that will achieve the greatest benefits. It also recognizes that participation across the entire Watershed, at all levels of government, is necessary to achieve our goals. If we are to be truly successful with restoration of the Bay, it will only be through the collective efforts of local towns and neighborhoods across the Watershed, as well as the whole range of local organizations that play a role in educating, advocating, and implementing for positive change.

The role of the Federal Government is no less critical. The Chesapeake Bay Stewardship Fund and Clean Water State Revolving Fund support local efforts across the Watershed. Farm bill programs help our farmers implement cost-effective best-management

practices. And the Chesapeake Bay Gateway Program helps connect our citizens with the national treasure of the Bay and its tributaries. These programs continue to be enormously helpful, and we thank you again for your support.

Looking forward, we call your attention to the opportunity to designate the rivers of the Chesapeake as a funded, large landscape initiative under the Land and Water Conservation Fund. I know that you, Senator Cardin, and Congressman Moran have been leading the fight for this, and we thank you.

Additionally, the U.S. Army Corps of Engineers is a key partner in oyster restoration, wetlands protection, and other restoration activities. Recently developed—the Corps has recently developed a comprehensive Bay management plan, and we thank the Senate for recognizing that the Corps authorities in the Water Resources Development Act should be amendment to—amended to align with this plan. NOAA's Bay Watershed Education and Training Program and EPA's Environmental Education Program face funding threats, and the Bay Program itself, within EPA and under NOAA, need reauthorization. We also look forward to the opportunity to discuss how a reauthorized transportation bill can promote better storm water management and improve fishing and boating access.

The Federal Government has also been a key voice in the call for improved transparency and verification of our work, and this new Agreement is a response. Through the development of management strategies, specific implementation actions will be identified as well as the partners who have committed to them. This can include local governments, nongovernmental organizations, and private businesses. It will also include our agency partners across the Federal Government. But, it is equally important to assure that agency budgets and authorizations provide the tools and resources that our Federal partners need to carry out their commitments under this new Agreement and Presidential executive order.

In summary, the Chesapeake Bay Program is a premier estuary restoration effort in the Nation because of its science-based approach to policymaking and the strong partnership between State and Federal Governments. The new 2014 Chesapeake Bay Watershed Agreement seeks to enhance this partnership through better engagement with local governments and organizations and improved accountability for our work.

I would like to thank you, Senator, for this opportunity, and look forward to being able to answer any questions.

Thank you.

[The prepared statement of Rep. Miller follows:]

Testimony of State Representative Ron Miller (PA)
Chairman of the Chesapeake Bay Commission
before the
Subcommittee on Water and Wildlife
Committee on Environment and Public Works
United States Senate

September 8, 2014
Annapolis, MD

Good afternoon, Chairman Cardin and members of the Subcommittee. I am State Representative Ron Miller of York County, Pennsylvania, and I thank you for the opportunity to speak to you today as Chairman of the tri-state Chesapeake Bay Commission. The Commission is primarily comprised of state legislators from Maryland, Pennsylvania and Virginia who advise their general assemblies and the U.S. Congress on all matters related to the Chesapeake Bay.

The Commission has been a signatory to all of the Chesapeake Bay Agreements since the first one was signed in 1983. In fact, the Commission pre-dates the larger Chesapeake Bay Program partnership and hosted the meeting at which that first Agreement was signed. Our Commission, and later the Bay Program, was created because my predecessors knew that we could not clean-up the Bay by one or even two states acting alone. It would take participation and coordination across the larger watershed, and between the state and federal governments, to make it happen.

Make no mistake, without federal support and vigilance, the Chesapeake Bay Program would not be the premiere restoration effort that it is today. The establishment of the Bay Program Office under Section 117 of the Clean Water Act, and the appropriation of funds for operations and implementation are critical. We applaud the recent and proposed increases in this funding and thank you, Senator Cardin, Senator Mikulski and other leaders of our Congressional Delegation who have consistently supported the Bay Program's work.

A key strength of the Bay Program is the reliance on science and data to guide our work. Indeed, more data has been generated on Chesapeake Bay than any other estuary. This has been possible because of the forum the Bay Program provides for experts from state and federal government, universities, private industry, and others to share information, ask questions, coordinate their work and leverage resources.

Each of our Bay Agreements have influenced, and were influenced by, this scientific work. The 1987 Agreement set broad nutrient reduction goals. Now, through improved modeling, monitoring and a better understanding of how each tributary impacts the Bay, we have specific nitrogen, phosphorus and sediment goals for our rivers and state-specific watershed implementation plans. From general planning goals for living resources and stewardship in early Agreements, we now have crab population targets, and numeric goals for public access and

wetland acres, among others. But each Agreement has also identified key areas where further study is needed.

The goals outlined in a Bay Agreement help us to prioritize our work. As a legislator, it is extremely helpful to know that I can go to my colleagues with specific recommendations that have been vetted across the watershed, and supported by scientific information. The Commission's 2013 Annual Report highlights a few of the many legislative victories for the Bay that have been accomplished, just in our three member states, as a result of Bay Agreement commitments. This latest Agreement, in particular, acknowledges that we cannot do everything at once, and instead focuses on key actions that will achieve the greatest benefits.

However, it also recognizes that participation across the entire watershed, at all levels of government, is necessary to achieve our goals. If we are to be truly successful with restoration of the Bay, it will only be through the collective efforts of local towns and neighborhoods across the watershed. I am especially pleased that this new Agreement specifically recognizes the role of local governments in implementation, as well as the whole range of local organizations that play a role in educating, advocating, and implementing for positive change.

But the role of the federal government is no less critical. The Chesapeake Bay Stewardship Fund and Clean Water State Revolving Fund support local efforts across the watershed, Farm Bill programs help our farmers implement cost-effective best management practices, and the Chesapeake Bay Gateways program helps connect our citizens with the National Treasure of the Bay and its tributaries.

These programs have been and continue to be enormously helpful and we thank you again for your support. Looking forward, we call your attention to the opportunity to designate the Rivers of the Chesapeake as a funded large landscape initiative under the Land and Water Conservation Fund. I know that you, Senator Cardin, and Congressman Moran have been leading the fight for this, and we thank you.

Additionally, the U.S. Army Corps of Engineers is a key partner in oyster restoration, wetlands protection and other restoration activities. The Corps has recently developed a Comprehensive Bay Management Plan and we thank the Senate for recognizing that the Corps' authorities in the Water Resources Development Act should be amended to align with this plan. Additionally, the Corps will soon reach its authorized funding for oyster restoration. If their critical work is to continue, the authorization should be increased from $50 million to $70 million.

Across other agencies, NOAA's Bay Watershed Education and Training Program and EPA's environmental education program face funding threats, and the Bay Program itself within EPA and under NOAA need reauthorization. We also look forward to the opportunity to discuss how a reauthorized transportation bill can promote better stormwater management and improve fishing and boating access.

The federal government has also been a key voice in the call for improved transparency and verification of our work, and this new Agreement is a response. Through the development of Management Strategies, specific implementation actions will be identified, as well as the

partners who have committed to them. This can include local governments, non-government organizations and private businesses. It will also include our agency partners across the federal government. Congressional oversight of this work is vital, but it is equally important to ensure that agency budgets and authorizations provide the tools and resources that our federal partners need to carry out their commitments under this new Agreement and Executive Order 13508. In addition, support for the verification of implemented practices, along with water quality monitoring in both tidal and non-tidal areas, is crucial to our accountability for progress.

In summary, the Chesapeake Bay Program is the premiere estuary restoration effort in the nation because of its science-based approach to policymaking and a strong partnership between state and federal governments. The new 2014 Chesapeake Bay Watershed Agreement seeks to enhance this partnership through better engagement with local governments and organizations and improved accountability for our work.

As a state legislator, I understand the political and budget challenges that we face, but I and my colleagues on the Chesapeake Bay Commission look forward to working with you to support our agency partners with the tools they need to keep our progress on track. This new Agreement, by focusing on the most effective actions for the near term, is our guide.

Thank you for the opportunity to testify here today. I welcome any questions you may have.

Chesapeake Bay Commission · May 2014

10 Things *Members of Congress Can Do* to Advance Chesapeake Watershed Restoration

ADMINISTRATIVE ACTIONS

1 USDA Farm Bill The 2014 Farm Bill consolidated the USDA Chesapeake Bay Watershed Initiative into a new, nationally competitive Regional Conservation Partnership Program. Of the total of approximately $275 million available, 35 percent will go to eight Critical Conservation Areas, 40 percent will be provided in competitive grants and 25 percent to states.

ACTION NEEDED: Urge the Secretary of USDA to designate the Chesapeake Watershed as a Critical Conservation Area and to give high priority to applications received from partners in the Chesapeake region.

2 Collaborative Landscape Conservation Initiative For the past three years, the Obama Administration has committed over $100 million each year in Land and Water Conservation Funds to help conserve large landscapes in particular areas of the country. However, proposals submitted by state and federal partners in the Chesapeake region have been rejected, despite high technical rankings.

ACTION NEEDED: Urge the Obama Administration, specifically the directors of OMB, NPS, USFWS, BLM and USFS, to designate the Chesapeake as the highest priority landscape in the President's Fiscal Year 2016 budget and support appropriations if the Chesapeake is included.

3 Education Issues Providing environmental education opportunities for all 3.5 million preK–12 students in the watershed is critical to preparing the next generation to be good stewards of the Bay, its lands and waterways. Yet the U.S. Department of Education provides virtually no financial support to schools for environmental education and the Obama Administration proposes to terminate funding for the only Federal programs that do: NOAA's Bay Watershed Education and Training Program (BWET) and EPA's environmental education program.

ACTION NEEDED: Urge the Secretary of Education to provide financial support for state and local preK-12 environmental education in watershed schools and restore funding for NOAA's BWET and EPA's environmental education programs.

4 Conowingo Dam Relicensing Issues The relicensing of the Conowingo Dam on the Susquehanna River offers an opportunity to address several major issues critical to the health of the Chesapeake Bay and its living resources associated with the dam including water quality, fish passage, flow rates, debris management and recreation and conservation.

ACTION NEEDED: Urge the Federal Energy Regulatory Commission (FERC) and other appropriate federal agencies to ensure that the final license agreement includes a comprehensive plan to address water quality, fish passage and living resources, conservation and recreation issues associated with the dam.

LEGISLATIVE ACTIONS

5 Highway/Transit Bill Reauthorization Issues Stormwater runoff from highways, roads and other impervious surfaces is the fastest growing source of pollution to the Bay and waterways nationwide. Many bridges, which cross navigable waterways, present tremendous opportunities to improve public fishing and boating access to our waters, at little cost.

ACTIONS NEEDED: In the reauthorization bill: A) Support stormwater controls for all new federal-aid highway construction and major reconstruction to maintain runoff at pre-construction levels. B) Ensure

Continued on next page

that due consideration is given to improving fishing and boating access in all appropriate federal-aid bridge construction and major reconstruction projects.

6 **Water Resources Development Act** The U.S. Army Corps of Engineers provides critical support to state and local partners through its oyster restoration and Chesapeake Bay Restoration/Protection Authorities, among others. But in 2015 the Corps will reach its authorized cap on oyster restoration funding and the Chesapeake Restoration and Protection program must be reauthorized and amended to better link its outcomes to the Corps' Comprehensive Bay Management Plan now under development.

ACTIONS NEEDED: Raise the cap on oyster restoration from $50 million to $70 million and reauthorize and amend the Corps of Engineers' Chesapeake Bay Environmental Restoration and Protection Program as contained in the Senate-passed WRDA, but not addressed in the House-passed bill.

7 **Clean Water Funding** Communities throughout the watershed rely on dollars provided through the Clean Water State Revolving Fund to improve their sewer infrastructure. These funds have resulted in a significant improvement in water quality and are an important part of our efforts to make continued progress. The ability to use these funds for green infrastructure and other non-traditional projects is critical as communities seek new cost-effective and collaborative approaches to water management.

ACTIONS NEEDED: Continue funding support for the Clean Water State Revolving Fund and enable these dollars to promote innovative approaches that are cost-effective and help achieve multiple local water management goals.

8 **Bay Program Budgets** Funding for the Chesapeake Bay Programs of EPA, NOAA, USGS, National Park Service, Fish and Wildlife Service, Army Corps of Engineers, USDA and the Forest Service, among others, as well as the national clean water, conservation and wildlife programs, is essential to achieve Bay watershed restoration goals.

ACTIONS NEEDED: In the Fiscal Year 2015 appropriations process, support these programs at least at the levels approved in the Fiscal Year 2014 Omnibus, or at the higher level recommended in the President's budget request.

9 **Reauthorization of Bay Programs** Authority for EPA's Chesapeake Bay Program, NOAA's Chesapeake Bay Program and the National Park Service's Chesapeake Gateways and Watertrails Program have expired, but the programs have continued through the annual appropriations process.

ACTIONS NEEDED: Ensure that these program authorities are continued, reauthorized and provided with the funds necessary to implement these programs.

10 **Oversight/Accountability** Since the first Chesapeake Bay studies were initiated by Congress, Congressional oversight has been a vital part of the process of ensuring that the various federal agencies are achieving the goals of the program and advancing Chesapeake watershed restoration.

ACTION NEEDED: In the annual appropriations process, in Members' roles on authorizing committees, and in the formulation of the President's budget request, ensure that the federal agencies have the necessary tools and resources to carry out their responsibilities for Bay watershed restoration and are achieving the goals under their authorities and Executive Order No. 13508.

Chesapeake Bay Commission
Policy for the Bay

Headquarters
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CHESAPEAKE BAY COMMISSION 2013
Policy for the Bay

OUR WORK

The Chesapeake Bay Commission is a tri-state legislative commission created in 1980 to advise the General Assemblies of Maryland, Pennsylvania and Virginia on matters of Baywide concern. Twenty-one members define the Commission's identity, determine its direction and share its workload. Fifteen are state legislators, three are cabinet-level secretaries representing their governors, and three are citizen representatives. The full range of urban, suburban and rural life enjoyed in the watershed is represented on the bipartisan Commission, with each member contributing his or her unique perspective, knowledge and expertise.

The Commission's charge is to address the breadth of issues and policies that take into account the pollution sources, land uses, and human impacts that threaten the health of the Bay watershed, a 64,000-square-mile area spanning six states, our nation's capital and 1,800 local governments. Commission members craft and secure passage of laws and policies that must balance many ecological, societal and economic concerns.

The Commission is one of six signatories to all of the Bay Agreements as a member of the Chesapeake Executive Council, the governing body of the multi-state Chesapeake Bay Program. The successes to date in restoring the Chesapeake Bay have resulted in no small part from the three Bay Agreements, and the Commission has had the privilege to serve in a leadership role in the adoption and execution of each of them.

With a new Agreement pending in 2014, there is wisdom in taking the time to examine the successes that were inspired by the past agreements in the hopes that a new Agreement will similarly propel actions that shape and accelerate the restoration of the Chesapeake Bay and its watershed well into the future.

OUR MEMBERS

MARYLAND

COMMISSION CHAIR

★ The Hon. Maggie McIntosh
MARYLAND HOUSE OF DELEGATES

The Hon. Brian E. Frosh
MARYLAND STATE SENATE

The Hon. Thomas McLain "Mac" Middleton
MARYLAND STATE SENATE

★ The Hon. James W. Hubbard
MARYLAND HOUSE OF DELEGATES

The Hon. John F. Wood, Jr.
MARYLAND HOUSE OF DELEGATES

The Hon. John R. Griffin
(Served January through May)
SECRETARY OF NATURAL RESOURCES, MARYLAND

The Hon. Joseph P. Gill
(Served May through December)
SECRETARY OF NATURAL RESOURCES, MARYLAND

The Hon. Bernie Fowler
MARYLAND CITIZEN REPRESENTATIVE

★ Member of the Executive Committee

VIRGINIA

COMMISSION VICE-CHAIR

★ The Hon. John A. Cosgrove
(Served January through August)
VIRGINIA HOUSE OF DELEGATES

★ The Hon. Emmett W. Hanger, Jr.
(Served September through December)
SENATE OF VIRGINIA

The Hon. Frank W. Wagner
SENATE OF VIRGINIA

The Hon. Lynwood W. Lewis, Jr.
VIRGINIA HOUSE OF DELEGATES

★ The Hon. L. Scott Lingamfelter
VIRGINIA HOUSE OF DELEGATES

The Hon. Doug Domenech
SECRETARY OF NATURAL RESOURCES, VIRGINIA

The Hon. John J. Reynolds
VIRGINIA CITIZEN REPRESENTATIVE

NAVAL LIAISON

Rear Admiral Tim Alexander
(Served January through September)

Rear Admiral Dixon R. Smith
(Served September through December)

PENNSYLVANIA

COMMISSION VICE-CHAIR

★ The Hon. Ronald E. Miller
PENNSYLVANIA HOUSE OF REPRESENTATIVES

The Hon. Michael W. Brubaker
SENATE OF PENNSYLVANIA

★ The Hon. Michael L. Waugh
SENATE OF PENNSYLVANIA

The Hon. Garth D. Everett
PENNSYLVANIA HOUSE OF REPRESENTATIVES

The Hon. P. Michael Sturla
PENNSYLVANIA HOUSE OF REPRESENTATIVES

The Hon. Michael Krancer
(Served January through April)
PA. SECRETARY OF ENVIRONMENTAL PROTECTION

The Hon. Chris Abruzzo
(Served April through December)
PA. SECRETARY OF ENVIRONMENTAL PROTECTION

The Hon. G. Warren Elliott
PENNSYLVANIA CITIZEN REPRESENTATIVE

PHOTO: STEVE DROTER

Chesapeake Bay Commission members, staff and alumni gather among 300 celebrants at the Alliance for the Bay's 2013 Taste of the Chesapeake gala.

OUR NEXT CHALLENGE: PHOSPHORUS

Since the signing of the 1987 Agreement calling for a 40 percent reduction in nitrogen and phosphorus, the Chesapeake Bay Program has focused many regulatory, legislative, and funding decisions on this goal. The good news is that the Program has achieved measurable success. Water quality conditions have improved, with monitoring results showing significant progress in reducing nitrogen and phosphorus. Sewage treatment plant upgrades, the phosphorus detergent ban, agricultural conservation practices and many other actions have made a big difference.

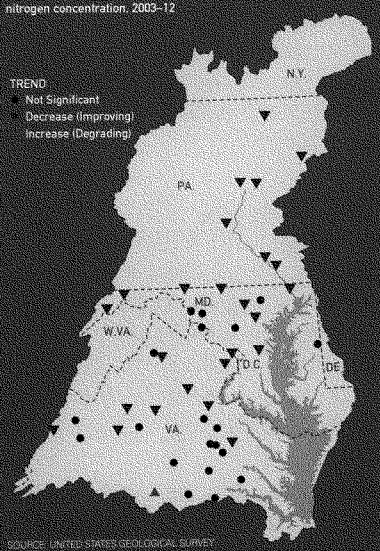
But when it comes to phosphorus, monitoring and modeling results indicate that our success over the past 27 years is being threatened by the trends of the last ten – over this past decade, phosphorus has either ceased to continue its downward trend or has increased. USGS monitoring results show that nitrogen has continued its downward course. Phosphorus has not. (See maps below.)

Science has established that two components of the problem with phosphorus are the increasing amounts of urban stormwater and the presence of phosphorus-saturated soils. Stormwater is the only growing source of pollution in the Bay watershed. It and manure are among the highest contributors of phosphorus. With manure, while the phosphorus from it often binds to soil and other particles, thereby restricting its movement, new science concludes that there are limits to this binding capacity. When soil is saturated with phosphorus, the phosphorus becomes more mobile. Bottom line: our current practices and priorities are not sufficiently addressing the legacy of phosphorus from manure that now burdens many farm fields.

In 2013, the Commission identified stormwater and manure among its highest priorities. We cannot slide backward when it comes to reducing phosphorus pollution. We have come far, but we have further to go.

NITROGEN: IMPROVEMENT EVIDENT

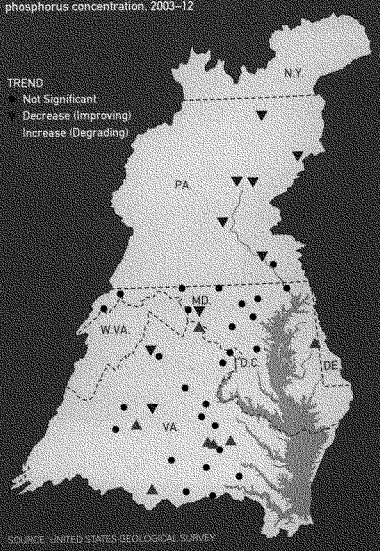
Short-term trend in flow-adjusted total nitrogen concentration, 2003–12



SOURCE: UNITED STATES GEOLOGICAL SURVEY

PHOSPHORUS: WORK REMAINS

Short-term trend in flow-adjusted total phosphorus concentration, 2003–12



SOURCE: UNITED STATES GEOLOGICAL SURVEY

THE COMMISSION, THE

In 1978, Congress directed the EPA to conduct an in-depth study of the Chesapeake Bay. It triggered the largest, most comprehensive ecosystem restoration effort in the nation, one that would ultimately bring six states, the Chesapeake Bay Commission, the District of Columbia, and twelve Federal agencies together as the "Chesapeake Bay Program." Since then, three unprecedented Bay Agreements have guided the Program's actions. In 2014, the Program will add another chapter to the Chesapeake restoration story with the signing of a fourth Agreement.

The Chesapeake Bay Commission was created in 1980 following an interstate legislative study, three years before the creation of the Program in 1983. Recognizing the interstate nature of the Bay and its challenges, the states of Maryland and Virginia saw the need for a state-focused, policy-making body to act upon the EPA study's recommendations. Formed by parallel legislative action in the two states, the Commission has worked since 1980 with its state, Federal and local government partners to identify key Chesapeake Bay and watershed restoration opportunities requiring intergovernmental collaboration and legislative action. The Commission's role and effectiveness were amplified when Pennsylvania joined in 1985.

The Commission's earliest actions focused on reciprocity laws governing commercial fisheries. This was but the tip of the iceberg. Upon the issuance of the EPA study, the Commission co-sponsored a conference at George Mason University on December 5, 1983. It was there that the Chesapeake Bay Program was born. The Commission's foresight in organizing a politically broad-based conference in partnership with the states, EPA and the Alliance for the Chesapeake Bay led to the groundbreaking 1983 Bay Agreement, signed at the conference, creating the Chesapeake Executive Council and launching the nation's most prominent and successful ecosystem restoration initiative.

BAY AGREEMENTS AND THE

1983 CHESAPEAKE BAY AGREEMENT

Focus: Purpose and Governance

The congressionally funded, $27 million, five-year EPA study to analyze the Bay's rapid loss of wildlife and aquatic life identified excess nutrient and sediment pollution as the main source of the Bay's degradation. As the study headed toward its conclusion, the attention of all parties turned to a central question: What would governments do to protect and restore the Bay and how would they manage that process?

The original Bay Agreement answered that question. With its signing on December 5, 1983, the Agreement committed the signatories — Maryland, Virginia, Pennsylvania, the District of Columbia, EPA and the Chesapeake Bay Commission — to work cooperatively, across jurisdictional boundaries, to manage and reduce pollution entering the Bay as well as to protect the Bay's habitat and living resources. A simple one-page document, it was oriented to management matters, calling for the establishment of the Chesapeake Executive Council, the governing body of the new multi-jurisdictional effort; the establishment of an Implementation Committee, which over time would become the heart of the "on-the-ground" work; and the maintenance of an EPA liaison office in Annapolis, designed to ensure the ongoing investment of the Federal government in the initiative and to provide support to the Council and the Committee.

1983 Chairman Sen. Joseph V. Gartlan, Jr. (Va.)

This initial agreement would define the Chesapeake Bay Program efforts for the first four years. It would also trigger Pennsylvania's General Assembly to join the Chesapeake Bay Commission in 1985 as a full partner; its House and Senate members had already been monitoring the Commission's work for at least three years.

During those formative years, each signatory to the Agreement returned to its home turf to address water quality, habitat, and living resource issues raised by the EPA study. What we now consider basic and ordinary environmental laws and programs were the result. At the time, however, they were revolutionary: new state sediment and erosion control laws; sewage treatment plant upgrades; Maryland's Critical Areas Law and the beginnings of Virginia's Chesapeake Bay Preservation Act. Most significant, however, was the addition of Section 117 to the Clean Water Act in 1987, which specifically acknowledged the national importance of the Chesapeake Bay and efforts to restore it.

LEGISLATION ARISING FROM THE 1983 AGREEMENT

PENNSYLVANIA

- Agricultural Non-point Source Abatement Program ('84)
- Agricultural Cost-Share Program ('85)

MARYLAND

- Critical Areas ('84)
- Sediment & Erosion Control ('80, '84)
- Phosphate Detergent Ban ('85)
- Rockfish Moratorium ('85)
- Stormwater Control Act ('82-'86)

VIRGINIA

- Water and Sewer Assistance Authority ('86)
- Water Facilities Revolving Fund ('86)
- Erosion and Sediment Control ('86)
- Dredged Material Use Priority ('87)
- Phosphate Detergent Ban ('87)

1987 CHESAPEAKE BAY AGREEMENT

Focus: Measurable, Time-Specific Outcomes

By 1987, it was clear that the restoration of the Bay required a more clearly defined set of goals and objectives, rather than a mere general commitment to cooperative management. Thus, the 1987 Chesapeake Bay Agreement marked a significant expansion from the brief declaration of purpose and governance signed in 1983 to a goal-oriented framework of interstate policy to drive very specific, meaningful and measurable targets and timeframes. The new pact included 32 specific commitments and, in almost all cases, deadlines for achieving those commitments.

This new Agreement re-defined the roles for the states and Federal agencies, forging a partnership within the Program that necessitated greater shared regulatory and legislative actions. With six broad categories of focus

LEGISLATION THEY INSPIRED

2013 Chairman Delegate Maggie McIntosh (Md.)

The Chesapeake Bay Commission is unique in the world of conservation policy-setting bodies. It is comprised primarily of legislators focused on a common goal to conserve the Bay through enactment of strong, scientifically-based and economically-sound laws and regulations. The work of the Commission and its members has been guided by all three Bay Agreements and the aspirations, goals, and policy directives set forth in each. As a result, the Commission and its members have historically played, and will continue to play, a pivotal leadership role in Maryland, Pennsylvania and Virginia to protect and restore the Bay.

Listed here, organized by State and Agreement date, are some of the most important pieces of legislation enacted in support of Chesapeake Bay restoration. The Commission is proud of its role in crafting and supporting passage of these legislative achievements.

(water quality, living resources, public access, population growth and development, public information and education, and Program governance), the most notable commitment was to reduce nitrogen and phosphorus entering the waters of the Bay by 40 percent by the year 2000. Agreeing to numeric goals such as the 40 percent reduction, with specific deadlines, was unprecedented in 1987, but has since become a hallmark of the Program.

1987 Chairman Rep. Kenneth J. Cole (Pa.)

Five years later, recognizing the need to move beyond the Bay itself to achieve the 40 percent reduction, the Program adopted a set of amendments, drafted by the Commission staff, to the 1987 Agreement. These amendments moved the restoration effort watershed-wide, establishing the critical commitment to reduce nitrogen and phosphorus by 40 percent in the Bay's largest tributaries by 2000, and to cap those nutrients upon achieving the reduction. This new "tributary strategy" approach led to the creation of river-specific clean-up plans and load reduction goals specific to sub-watersheds across the states of Pennsylvania, Maryland, Virginia and the District of Columbia. For the first time, the Program recognized that the restoration of the Bay was a "sum of its parts."

In spite of the best efforts of the Program partners, the achievements of the 1987 Agreement were mixed. Without question, the Agreement and amendments spawned a wide array of legislation at the state and Federal level. However, when 2000 arrived, the waters of the Chesapeake were still receiving too many nutrients. The 40 percent goal remained unmet.

LEGISLATION ARISING FROM THE 1987 AGREEMENT

PENNSYLVANIA

Farmland Preservation Program ('89)
Phosphate Detergent Ban ('89)
Agricultural Nutrient Management ('93)
Growing Greener I ('99)
Environmental Education ('93)

MARYLAND

Agricultural Nutrient Management ('88)
Sewage Treatment Plant Compliance ('90)
Forest Conservation ('91)

Smart Growth ('97)
Blue Crab Targets and Thresholds ('99)

VIRGINIA
Nutrient Management Certification ('94)
Blue Crab Fishery Management Plan ('95)
Water Quality Improvement Act ('97)
Poultry Waste Management Act ('99)
Land Conservation Fund ('99)

CHESAPEAKE 2000

Focus: Broad-based Precursor to the TMDL

The new millennium was more than a symbolic opportunity for a renewed commitment to Chesapeake Bay. Judicial action in 1999 led the Program to consider, adopt and embrace the most ambitious of agreements in 2000. Known as Chesapeake 2000 (C2K), it was the most comprehensive agreement to date, and committed the partners to an aggressive strategy for future restoration actions. In response to overtures from the Program partners, the Commission took the lead in drafting this precedential agreement.

Chesapeake 2000 established five broad goals and an ambitious set of 102 commitments to reduce pollution, restore habitats, protect living resources, promote sound land use practices and engage the public in Bay restoration.

Most important was the water quality section, which became the dominant driver for the next decade. Poor water quality resulting from excess nitrogen, phosphorus and sediment had led portions of the Bay to be listed as "impaired" under the Federal Clean Water Act. Collaborative actions to generate cleaner and healthier waters in order to remove the Bay from this list became the primary focus of C2K. And, in an unusual recognition by the Program partners, the Agreement acknowledged that if the Program was unsuccessful in removing these waters from the "impaired waters list" by 2010, as required by a judicial consent decree, the Federal government would develop a clean-up plan known as a Total Maximum Daily Load, or TMDL.

To accomplish this task, C2K contained a series of clearly defined steps. First, the Program would define the water quality conditions necessary to protect living resources. Then, the Program would identify pollutant load reductions for nitrogen and phosphorus for each major tributary. Finally, the state signatories and the District would adopt the legislative and regulatory elements necessary to achieve these reductions and determine when water quality goals had been met.

Because the loadings of nutrients and sediment came not just from the signatory states and the District of Columbia but also from Delaware, New York and West Virginia, the water quality commitments of C2K led the Program to seek the engagement of those three "headwater states." By 2002, all three had officially joined the Program's water quality restoration efforts through a memorandum of understanding. Though these states were not signatory members of the Executive Council, the Program, with its history of inclusivity, invited them to participate in all Program efforts.

2000 Chairman
Senator
Bill Bolling (Va.)

C2K drove significant restoration gains in key areas, such as land conservation, forest buffer restoration, and fish passage reopening. In the legislatures of the Commission member states as well as Congress, C2K provided the basis for the Commission's partnership work on legislative initiatives that funded sewage treatment plant upgrades, installed advanced septic systems, incentivized land preservation, and garnered never-before-seen levels of Federal dollars for agricultural conservation practices.

By the year 2008, however, it became clear that in spite of the myriad of initiatives designed to reduce the loads of nitrogen and phosphorus pollution, the Program would not succeed in removing the Chesapeake Bay and its tidal tributaries from the "impaired waters list" by the 2010 deadline. The Executive Council members, along with the headwater states, agreed to the development of a Federal TMDL.

LEGISLATION ARISING FROM CHESAPEAKE 2000

PENNSYLVANIA
Growing Greener I Funding ('02)
Water & Wastewater Treatment Bond ('04)
Manure Hauler & Broker Certification ('04)

Growing Greener II ('05)
REAP (Transferable Ag Tax Credit) ('07)

MARYLAND
Bay Restoration Fund ('04, '12)
Bay and Coastal Bays Trust Fund ('07)
Lawn Fertilizer Restrictions ('11)
Stormwater Utilities ('12)
Septic Tanks ('09, '12)

VIRGINIA
Land Preservation Tax Credit ('00)
Nutrient Credit Exchange ('05)
Major Point Source Upgrades ('05)
Crab Dredging Ban ('08)
Lawn Fertilizer Restrictions ('12)

TWO-YEAR MILESTONES

Focus: Short-term Accountability

To help accelerate the implementation of the water quality elements of C2K and the impending TMDL, the Program partners in 2009 adopted a short-term strategy for evaluating success. Called milestones, this elegantly simple strategy committed the seven Bay jurisdictional partners to set and meet two-year incremental goals. Assessment and re-evaluation would occur every two years, allowing the Program and the public to see, understand, and critique progress. These milestones would also provide the Commission with windows of opportunity by identifying initiatives that required policy attention.

2014 CHESAPEAKE BAY AGREEMENT

Focus: Full Watershed Representation and Adaptive Management

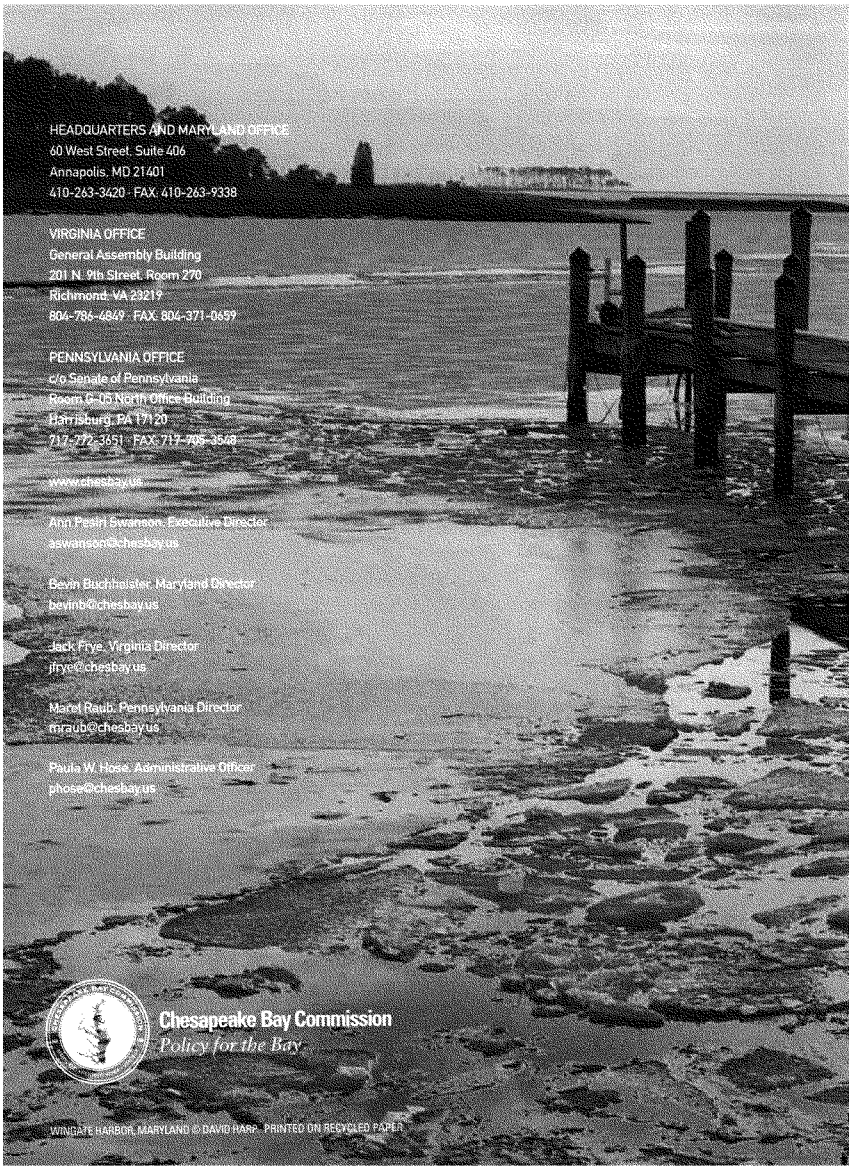
With the adoption of the Federal TMDL at the close of 2010, the Bay Agreements took a back seat to the water quality efforts defined by the TMDL. Implementation of the TMDL led the Program in 2013 to consider the next chapter of the broader restoration effort. Since the signing of the first Bay Agreement, the Program had accomplished much. While population in the watershed has doubled, nitrogen and phosphorus loads have been reduced by almost half. New management schemes for fish and shellfish — systems identified in the agreements — are in place. Fully 20 percent of the watershed's landscape is conserved and many of the region's waste treatment plants are "state of the art."

A new Chesapeake Bay Watershed Agreement is now a work in progress. With the TMDL governing the water quality goals and actions of the Program partners, the draft agreement looks to other priorities: oysters, crabs, forage fish and wetlands, for example. But what distinguishes the proposed new agreement from all others is its embrace of the concept of adaptive management and the expansion of the formal partnership.

To achieve the former, the Agreement creates a set of principles for the Program that the partners will employ through a series of "management strategies." The Agreement's commitment language allows these strategies to evolve over time as conditions and circumstances change. To achieve the latter, the headwater states are expected to join as full signatory members, and special consideration will be given to local governments and their important role in implementation.

With these changes, the Commission encouraged a discussion on governance, challenging the Program to define clearly the rules of engagement. With flexibility a hallmark of the new agreement, how will decisions now be made? How will goals and outcomes change in response to changing environmental, cultural and economic conditions? Will new levels of transparency and verification also be hallmarks of this agreement?

In 2014, with the anticipated signing of a new Agreement, the Program will plot a renewed trajectory for the restoration of the Bay and the rivers and streams that feed it. Challenges remain. As we have done since 1980, the Chesapeake Bay Commission will face these challenges with a team of legislators and staff committed to a healthy and vibrant resource, and will continue to play a critical role in the restoration of this vital and incomparable estuarine ecosystem.



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Chesapeake Bay Commission
Policy for the Bay

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Senator CARDIN: Well, thank you, Representative Miller.

We'll now turn to The Honorable Mary Ann Lisanti.

STATEMENT OF HON. MARY ANN LISANTI, COUNCILMEMBER, HARFORD COUNTY COUNCIL

Ms. LISANTI: Thank you, Chairman Cardin, for the opportunity to lend my voice to this effort and share my experience with local government for the record.

I offer this testimony today as a legislator, a former city manager, and a member and past chairman of the Local Government Advisory Committee to the Executive Council, representing 1800 units of local government in the Chesapeake Bay region.

At this pivotal moment in the Bay's future and during the most challenging of economic times, we have worked to advise the Governors of Maryland, Virginia, Pennsylvania, the mayor of D.C., and the administrator of the EPA on policy matters related to the Chesapeake Bay, and most recently provide input to the development of this new—newly signed Bay Agreement.

Developing one message from the diverse communities has been a daunting task. We have fully engaged in this agreement and the creation of community-based plans for water quality improvement. Our local plans will guide future decisions and help each community meet our 2025 goals that have been established.

Overall, we are pleased with the New Chesapeake Bay Watershed Agreement, but, notably, we are grateful for the acknowledgment of the vital role the local government plays in achieving the vision of an economically and environmentally sustainable Chesapeake Bay Watershed.

This Agreement does a good job of acknowledging local governments' role in watershed protection and restoration; but for implementation to be successful, this simple acknowledgment must be translated into effective engagement of local government. We must now go beyond acknowledgment and focus on achieving outcomes. We must work together to develop management strategies that identify the actions, tools, and technical support needed to empower local governments. Success really depends on all of us approaching this as true partners.

Although the task of implementation seems complex, our message has been simple and united: Let us focus on our waters and our towns with projects we know that will produce desired outcomes. We, in local government, recognize that Bay restoration begins by cleaning every stream, creek, and waterway in the Chesapeake Bay region. Clearly, we, as elected leaders of counties, cities, townships, and boroughs, are the ones who engage the public, direct our staff, and make the decisions necessary to improve stormwater management systems and sewer treatment plants.

To better engage local government, Federal, State—Federal and State partners must also better understand what drives local implementation efforts. For example, in some communities, watershed protection and restoration may be driven by the simple need to provide—to protect their drinking water. In others, it may be the desire to restore a freshwater stream in order to boost their local economy or provide recreational opportunities. Linkages must be drawn between the local driver and the Bay.

As local government officials, we are focused on the basics—protect our communities' health, safety, and welfare, which, for some—sometimes is not apparent on how that connects to the Bay. But, when we talk about things that harm the Bay, like pollution and runoff and flooding, those—my colleagues and I in Pennsylvania, Virginia, Western Maryland, West Virginia, New York, and Delaware now understand what is good for the Bay is good for their residents, too. As we all know, it all has to go somewhere, and eventually somebody's got to clean it up.

The new Agreement sets goals for environmental literacy. Specific strategies must be developed, not only for students, but for the public at large, decisionmakers, and elected officials. Although we ask our citizens to fund this necessary endeavor, we have done very little to simply explain why. If you engage and educate Main Street, you will gain their support, influence growth patterns, and reduce pollution in our communities, which inevitably will improve the Chesapeake Bay. An effective watershed-wide environmental education program will ensure that environmental literacy outcomes will be achieved. If we are to be successful in this agreement, we must do a better job of communicating the vision as it relates to people in their daily lives.

I live in Havre de Grace, Maryland, at the—at—where the Susquehanna River joins the Chesapeake Bay. It's hard for me to imagine that others don't have that deep connection that I do. But, as I have traveled the watershed from the Commonwealth of Virginia to the farmlands of Pennsylvania to Maryland's Eastern Shore to the mountains to Washington, DC, I have witnessed that same deep-rooted commitment to protect those special places that we are responsible for. Many have pledged to do their part. Now we need your help.

We are grateful for additional funding to implement the budget. And, Mr. Chairman, thank you for your leadership and support. While I would hope the funding will continue in the future, I believe we can also do a better job using existing funds to achieve benefits. For example, in—well, I'll give this example later. In—I believe that there are opportunities beyond environmental funding to align resources to multiply benefits of water quality.

I thank you, Mr. Chairman, for the opportunity to be here and provide a local perspective to this global issue.

[The prepared statement of Ms. Lisanti follows:]

Testimony of Mary Ann Lisanti
Council Member, Harford County, Md
Member and Past Chair, Local Government Advisory Committee to the Chesapeake Executive Council
Before the Senate Committee on Environment and Public Works
Subcommittee on Water and Wildlife
"Field Hearing"
September 8, 2014

Chairman Cardin, Ranking Member Boozman, members of the subcommittee – thank you for the opportunity to lend my voice to this effort and share my experience for the record.

I offer this testimony as a member and past-chair of the Local Government Advisory Committee to the Chesapeake Executive Council, representing 1,800 units of local government in the Chesapeake Bay Region.

At this pivotal moment in the Bay's future, and during the most challenging of economic times, we have worked to advise the Governors of Maryland, Virginia and Pennsylvania, the Mayor of Washington DC and the Administrator of the US Environmental Protection Agency, on policy matters related to the Chesapeake Bay and most recently provided input to the development of the newly signed bay agreement.

Developing one message from diverse communities has been a daunting task. We have been fully engaged in this agreement and the creation of community based plans for water quality improvement. Our local plans will guide future decisions and help each community meet the 2025 goals that have been established.

Over-all we are pleased with the new Chesapeake Bay Watershed Agreement, most notably we are grateful for the acknowledgment of the vital role of local governments play in achieving the vision of an environmentally and economically sustainable Chesapeake Bay watershed.

This agreement does a good job of acknowledging local government's role in watershed protection and restoration but for implementation to be successful, this simple acknowledgement must be translated into effective engagement of local governments.

We must now go beyond acknowledgement and focus on achieving outcomes. We must work together to develop management strategies that identify the actions, tools and technical support needed to empower local governments. Success really depends on all of us approaching this effort as true partners.

Although the task of implementation seems complex; our message has been simple and united. **"Let us focus on our water, in our Towns with projects we know will produce the desired outcome**". We, in local government recognize that Bay restoration begins by cleaning up every streams, creeks and waterways in the Chesapeake Bay region.

Clearly, we the elected leaders of counties, cities, townships and boroughs will are the ones to engage the public, direct our staff, and make the decisions necessary to improve storm water systems and sewage treatment plants.

To better engage local governments, federal and state partners must also better understand what drives local implementation efforts. For example, in some communities watershed protection and restoration may be driven by a desire to protect their source of drinking water. In others it may be a desire to protect or restore a freshwater stream in order to boost the tourism economy. Linkages must be drawn between the local driver and the Bay.

As local government officials we are focused on the basics; protect our community's health, safety and welfare, which to some has very little apparent connection to the Chesapeake Bay. But, when we talk about the things that harm the Bay – like polluted runoff – in terms of local impacts – like flooding – my colleagues in Pennsylvania and Virginia and Western Maryland and West Virginia and New York and Delaware now understand that what's good for the Bay is also good for them and their residents. As we all know.....it all has to go somewhere.. and eventually someone has to "clean it up",

The new agreement sets goals for environmental literacy. Specific strategies must be developed not only for students, but for the public at-large, decision makers and elected officials. Although we have asked our citizens to fund this necessary endeavor, we have done very little to simply explain "why". If you engage and educate "Main Street" you will gain their support, influence growth patterns and reduce pollution in our communities which will inevitably improve the health of the Chesapeake Bay.

An effective watershed wide environmental education program will ensure that our environmental literacy outcomes will be achieved. If we are to be successful in implementing this new Chesapeake Bay Watershed Agreement, we must do a better job of communicating the "Vision" as it relates to people in their daily lives.

Living as I do, in Havre de Grace, Maryland where the Susquehanna River joins the Chesapeake Bay, it is hard for me to imagine, that others do not feel the deep connection to the Chesapeake as I do. It supports our economy and gives us a magnificent place to yield delicious food and a fun place to play and enjoy of beauty of nature.

But, as I have traveled within this Watershed, from the Commonwealth of Virginia to the Farmlands of Pennsylvania, from Maryland's Eastern Shore, west to the Mountains, and down to DC, I have witnessed the same deep rooted desire to protect those "special places and to take responsibility for our actions. So many have pledged to do their part; to set our communities on the right path to reap the benefits of clean water and a healthier environment.

We are grateful for the additional funding for local implementation you have provided in the EPA's FY 2014 budget. Mr. Chairman, your leadership and support for local projects is deeply appreciated.

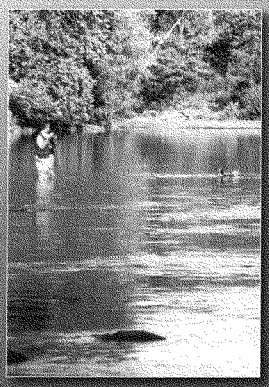
While I would hope that this funding will continue in future years, I believe we can also do a better job of using existing funds to achieve water quality benefits. For example, in Lancaster County, PA the County Housing and Redevelopment Authority has encouraged applicants for Community Development Block Grants to incorporate street trees into Neighborhood Improvement projects, adding ecosystem services to what were traditionally seen as more aesthetic projects. Some people refer to this as benefit stacking, or leveraging funds.

I believe that there are many other opportunities beyond environment funding to align resources to realize multiple benefits including water quality improvements. For example, in my hometown of Havre de Grace, Maryland; the City and County Governments along with the Board of Education have coupled resources to address flooding, water-quality, recreation and educational problems into a single capital project. Plans have recently been approved to construct a new Havre de Grace, Middle/ High School. The project combines various funding sources such as education, transportation, public safety, recreation and environmental funding to accomplish important public outcomes. While on the surface this project looks like just a school but with good planning, public and private partners we have combining limited resources. The end result will provide enhance public safety, flood control, new recreational opportunities in an educational facility that will not only offer the 3-R's but also be a site for student to learn more about water-quality, nutrient load and drainage issues affecting our drinking water. The students are planning to enhance the protection of native grasses and "vital habitat" by creating safe nesting areas for bald eagles and osprey.

In conclusion, I invite the members of this Committee to visit us in our communities so that you can see first-hand the result of your hard work, commitment and funding.

Thank you for this opportunity to provide the local perspective to this global issue.

OUR WATERS, OUR TOWNS



LOCAL GOVERNMENTS' ROLE IN THE WATERSHED IMPLEMENTATION PLANS

Local Government Advisory Committee to the Chesapeake Executive Council

Alliance for the Chesapeake Bay

A NOTE FROM THE CHESAPEAKE EXECUTIVE COUNCIL'S LOCAL GOVERNMENT ADVISORY COMMITTEE

July 2011–Way back when the Chesapeake Bay restoration effort began more than two decades ago, local government involvement was viewed as nice, but maybe not essential. How times change. Now it's clear that when it comes to improving the health of our local rivers and streams, and ultimately the Chesapeake Bay, we–the elected leaders of town and county governments and the appointed leaders of local soil conservation, storm water, and planning districts throughout the Chesapeake watershed–are the ones who will make it happen. We will be the ones who engage our councils, direct our staffs, and make the detailed decisions about how to improve storm water systems, sewage treatment plants, growth patterns, and best management practices to reduce pollution. We will also be the ones who set our communities on the path to reap the benefits of a healthier environment and leave a healthy legacy for future generations.

During the next several months, you and I as local leaders will be asked to engage in a process to develop what is called Phase II of our state's Watershed Implementation Plan (WIP). This is a crucial opportunity; it is the moment we have to shape the commitments made and actions planned to achieve the clean water goals set in the newly developed Chesapeake Bay Total Maximum Daily Load (called the TMDL for short) developed by the U.S. Environmental Protection Agency.

I am the chair of the Local Government Advisory Committee (LGAC). The committee is made up of local government representatives from Pennsylvania, Maryland, Virginia, and the District of Columbia–the jurisdictions that are signatories to the Chesapeake Bay Agreement. There are 21 of us on the committee, and our job is to advise the Executive Council of the Chesapeake Bay Program, the body that makes broad policy decisions and sets goals that affect us all. The Executive Council is made up of the governors of the three signatory states, the mayor of D.C., the representative of the Chesapeake Bay Commission (which represents the states' legislators on the council), and the administrator of the EPA.

LGAC's focus for this next year will be on the local pollution limits and the Phase II WIP process. Our role will be to provide the Executive Council a clear understanding of the concerns of local governments and to provide local governments information about limiting pollution.

The Chesapeake Bay restoration program will require effort from all of us in the Watershed. It will also bring benefits to all of us. The plans we make to direct growth will protect our farms and forests; the efforts we make to reduce stormwater and agricultural runoff and to improve sewage treatment plants and septic tanks will improve the health of our streams. The results will be healthy and attractive streams that add value to our communities for our residents, businesses and tourists; clean drinking water; effective flood control; more trees in our towns and cities; and more efficient water treatment. Our actions will increase the vitality and security of our communities and our region, for this and future generations.

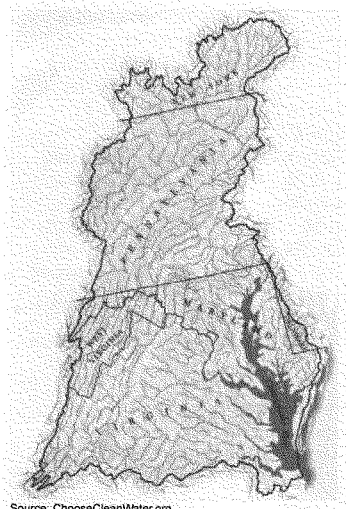
In this report, you will find background on the Local Government Advisory Committee, the TMDL and the current Phase II WIP process, and resources for more information. We hope this information is helpful, and we ask that you let your state's members on our committee know of your concerns. Check the Alliance website for their names and contact information.

Sincerely,

Mary Ann Lisanti

Mary Ann Lisanti
County Councilwoman, Harford County, Maryland
Chair, Local Government Advisory Committee to the Chesapeake Executive Council

What is the Local Government Advisory Committee?



Source: ChooseCleanWater.org

The Chesapeake watershed covers 64,000 square miles and includes parts of six states: Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia. There are almost 1,800 units of local governments located here and they represent the 17 million people who live in the watershed. The Local Government Advisory Committee (LGAC) represents those local governments before the Executive Council–the highest council of the combined state and federal Chesapeake Bay Program. LGAC has 21 members, 90 percent of them elected officials, with six each appointed by the governors from Maryland, Virginia, and Pennsylvania, plus three appointed by the mayor of Washington, D.C.

Local Governments are: Cities, Counties, Municipalities, Towns, Townships, and Boroughs

LGAC meets four times a year to hear expert advice and discuss issues that affect the Bay's health. We participate in Bay Program management meetings to remind the Federal EPA Bay Program and the individual states that local governments must implement the actions they take. We advise the Executive Committee how to develop policies and programs that have the best chance to succeed at the local level.

What is a Watershed Implementation Plan?

Last year, the U.S. Environmental Protection Agency, working with the six states in the Chesapeake Bay Watershed, put in place the Chesapeake Bay Total Maximum Daily Load, or TMDL, which is a regimen to substantially reduce the nitrogen, phosphorus, and dirt (or sediment as the TMDL calls it) that enters our streams and rivers and flows to the Bay. Those three pollutants most degrade the health of the Chesapeake, the nation's largest estuary and one of the region's strongest economic drivers. Limiting the pollutants to no more than the watershed's ecosystem can assimilate–its total maximum daily load–will result in long-sought water quality improvements, not just in the Bay, but in our local rivers and streams.

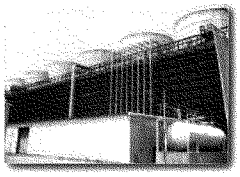
For the first time...local governments have the opportunity to ensure that restoration efforts meet local needs.

The TMDL was based on Phase I Watershed Implementation Plans that the six watershed states and the District of Columbia developed to reduce nitrogen, phosphorus, and sediment to target levels established by the EPA. Those plans were approved last winter. Now Phase II–given the shorthand name of WIP II–has begun.

For the first time in the history of regional cooperation and federal oversight to restore the Chesapeake Bay, local governments, accountable to local constituents, have the opportunity to ensure that restoration efforts meet local needs. Also for the first time, local and state plans will include the impacts on local waters of federal lands, and the federal government will be held accountable for ensuring that those lands help protect local waters. In some parts of the region, this represents a significant asset to local governments' ability to protect local waters.

In WIP II, the states and D.C. must develop plans that detail the actions they will take at the sub-watershed and local government level. An observer of this process might borrow and change the sage advice of former Speaker of the House of Representatives Tip O'Neill who said "All politics is local" to "All pollution control is local." It is crucial that local elected and appointed leaders–the men and women who have direct control of planning, zoning, stormwater districts, sewage treatment plants, and soil conservation districts–are engaged in the WIP II process, for they are the ones who will play a crucial role in achieving the goals.

Implementation Measures



Local officials, committed to healthy, vibrant communities, have made great progress in waste water treatment, land use planning, and zoning. WIP II challenges them to puzzle out which additional measures best reduce pollution, meet community needs, and match resources. Examples of actions and benefits include:

Action	Benefit
Upgrade wastewater treatment plants to remove more nitrogen and phosphorus from the discharge and eliminate sewer overflows.	Healthier streams with cleaner, fishable and swimmable waters for our families. Helps protect public and private drinking water sources.

Reduce urban storm water through green roofs, rain barrels and rain gardens, urban tree planting, and urban stream restoration. Require development to include large, effective waterside buffers and state-of-the art stormwater controls.	Green roofs save energy. Increasing tree canopy cools and cleans the air. Restoring urban streams and requiring effective waterside buffers in new development can reduce flooding and increase green spaces for wildlife habitat and recreation for our children.

Require nitrogen-removal septic systems in sensitive areas; require other systems to be regularly pumped; where possible connect areas served by septic tanks to advanced sewage treatment plants.	Nitrogen reducing systems are more efficient and produce cleaner waste water, which may extend the lives of the systems. Less nitrogen in the groundwater benefits nearby streams.
Plan and zone to protect farms and forests from sprawl; direct development to areas served by sewer systems.	Farms and forests form a base of working lands that strengthen local economies. Forests provide aquifer recharge and carbon sequestration and reduced sprawl leads to more efficient transportation, education and public safety systems.
Plant natural filters, such as streamside forest buffers and restore wetlands.	Forest buffers and wetlands create wildlife habitat and control flooding as they capture pollutants. Some can be designed to connect to recreation areas or urban green spaces.

Address agricultural pollution through cooperation with soil conservation districts. Actions can range from cover crops, to water controls structures, to fencing to keep animals out of waterways. Controls will be needed particularly on animal manure, and these can range from structures to careful, planned use.	Agricultural best management practices are designed to benefit water quality while maintaining or even enhancing agricultural production. They can also create wildlife habitat and create recreational opportunities when buffers are planted and wetlands and streams restored.

What are the Benefits for Leading Your Community Through This and Coming Up with a Plan?

When you help develop the Watershed Implementation Plan, you will have a say in:

- The local targets for pollution reduction and how to best achieve them;
- The resources, authorities and technical assistance needed for the work;
- The strategies that are best for local partners and that achieve the best results.

The Watershed Implementation Plans are really about water quality in your own backyard. Pollution impairs many local streams and rivers that flow into the Chesapeake Bay. For the sake of our families and future generations, we need to get them healthy. Other streams are in good shape, and we need to make sure they stay that way. If we improve stream health throughout the watershed, then the Chesapeake Bay will grow stronger. Less nitrogen, phosphorus, and dirt entering our streams and rivers will result in: *cleaner waters and healthier ecosystems; better fishing, swimming and boating; improved public health; greater economic opportunities; increased aesthetics; and enhanced real estate values for homes, farms, and businesses.*

There will be costs to implement the watershed plans. Fees and taxes may increase. Local ordinances and the ways in which governments at the local, county, and state level work together may be adjusted. You can have a say in the plan if you are at the table.

By 2025, all the actions planned now will be in place; most of them are expected to be in place in the next five years. Our streams and rivers will grow healthier as a result. While the process will be difficult, the legacy left our communities will be great.

Resources

During the next several months, as the WIP planning is underway, LGAC will continue to provide updates and information to local governments. We would also like to hear from you so we can represent your views before the Executive Council and in the management meetings we attend. Please share with us your success stories and photos of your work. You can email them to Rick Keister, LGAC coordinator, at rkeister@allianceforthebay.org or call us at 443-949-0575. Below are websites with more information.

TMDL Background and Guidelines

- http://www.epa.gov/chesapeakebaytmdl
- http://www.chesapeakebay.net/watershedimplementationplans.aspx?menuitem=52043
- http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/decisions_index.cfm

How Will You Be Involved?

Each watershed state and D.C. has developed its own process to write its WIP II plan and involve local governments. Their common denominator is that local officials need to be involved and will be called upon to enlist the strong support of their staffs. The states and D.C. plan to engage county and municipal governments, soil conservation districts, and relevant federal and state agencies. They all must submit the Draft WIPs by December 1, 2011. The following are the state contacts for information about the WIPs:

Delaware	Jennifer Walls, DNREC	Jennifer.Walls@state.de.us	(302) 739-9062
	Jennifer Volk, DNREC	jennifer.volk@state.de.us	(302) 739-9939
Washington, D.C.	Diane Davis, DOE	diane.davis2@dc.gov	(202) 741-0847
	Sarah Sand, DOE	sarah.sand@dc.gov	(202) 535-2691
Maryland	Rich Eskin, MDE	reskin@mde.state.md.us	(410) 537-3691
	Matt Fleming, DNR	mfleming@dnr.state.md.us	(410) 260-8719
	Cathie Shanks, DNR	CShanks@dnr.state.md.us	(410) 260-8717
New York	Jackie Lendrum, DEC	jmlendru@gw.dec.state.ny.us	(518) 402-8118
Pennsylvania	Pat Buckley, DEP	pbuckley@state.pa.us	(717) 772-1675
	Andy Zemba, DEP	azemba@state.pa.us	(717) 772-4785
Virginia	Joan Salvati, DCR	Joan.Salvati@dcr.virginia.gov	(804) 225-3440
West Virginia	Teresa Koon, DEP	Teresa.M.Koon@wv.gov	(304) 926-0499 x. 1020
	Dave Montali, DEP	david.a.montali@wv.gov	(304) 926-0499 x. 1063

Tracking

- http://stat.chesapeakebay.net

Local Government Advisory Committee

- https://allianceforthebay.org/?page_id=792

Members, Meetings and More Information

- http://www.chesapeakebay.net/committee_lgac_info.aspx?menuitem=46327
  Contact Rick Keister, LGAC Coordinator, at 443-949-0575 or rkeister@allianceforthebay.org

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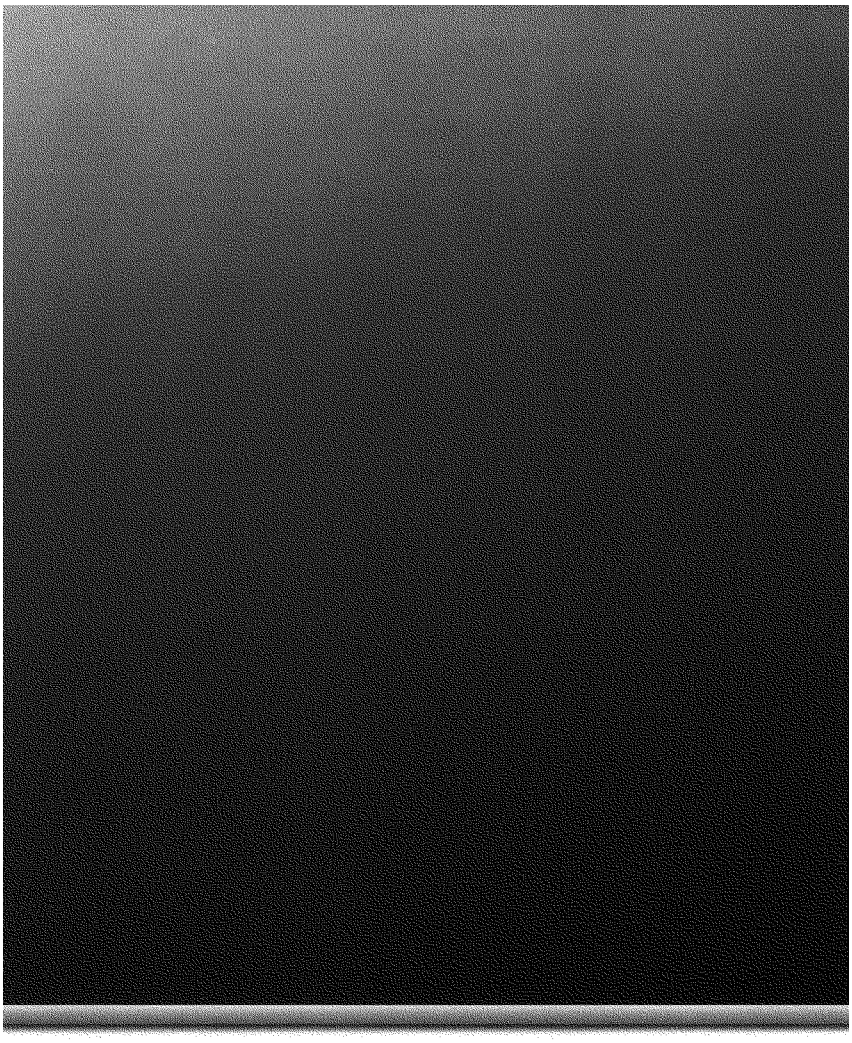

Local Government Advisory Committee to the Chesapeake Executive Council

Alliance for the Chesapeake Bay

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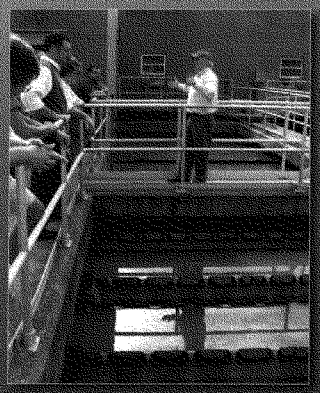
CASE STUDIES: OUR WATERS, OUR TOWNS



COUNTIES & CITIES DEVELOP EFFECTIVE WATERSHED PROGRAMS

Local Government Advisory Committee to the Chesapeake Executive Council

Alliance for the Chesapeake Bay

Local Governments Improving Waterways and Communities

November 2012–The timeline and complexity of new Chesapeake Bay Total Maximum Daily Load (TMDL) and its required Watershed Implementation Plans (WIPs) is creating uncertainty in many jurisdictions. Some view it as a challenge and others an opportunity for partnership and innovation.

As leaders and decision makers, we are faced with economic challenges, yet many communities are finding creative ways to improve water quality in local streams, rivers and tributaries. For years, our colleagues in cities and counties all over Pennsylvania, Maryland, the District of Columbia, and Virginia have completed watershed improvement projects and seen measurable results. They have used a variety of techniques to clean the local waters resulting in healthier communities and job creation.

This collection of examples follows our recent publication "*Our Waters, Our Towns: Local Governments' Role in the Watershed Implementation Plans*," which provided useful information about the new requirements and emphasized the importance of local government and elected officials engaging in the Phase II WIP process. After all, we know our communities best!

As you may recall, the Local Government Advisory Committee, is made up of representatives from Pennsylvania, Maryland, Virginia and the District of Columbia – the jurisdictions that are signatories to the Chesapeake Bay Agreement. There are 21 members and we advise the Executive Council of the Chesapeake Bay Program, the body that makes policy and sets the bay restoration goals. The Executive Council is made up of the governors of Pennsylvania, Maryland and Virginia, the mayor of D.C., the representative of the Chesapeake Bay Commission (which represents the states' legislators on the council) and the administrator of the Environmental Protection Agency.

Our focus has been peer education and representing the interest of local government within the Bay Program to ensure the states and the federal government partner in financing the projects within our local WIPs. We are also seeking credit for those communities that have made water quality a priority through their past investment.

Here you will find examples of local governments that have developed planning processes that may be applicable in your community. Two examples are the Hampton Roads Planning District Commission, which created a process that may be replicated by other Virginia districts, and Anne Arundel County, Md., which developed an urban county approach. We have also found approaches that drew on what the local government had learned from residents. An example is the District of Columbia's "RiverSmart Homes" project. Meanwhile, Lycoming County, Pa., has created a countywide nutrient trading program after engaging many of the local stakeholders.

We also discovered a creative financing model using multi-government agency and private sources. The City of Havre de Grace, Md., is integrating environmental education and public recreation into a larger water quality/public safety/high school athletic field improvement project, thus leveraging funding to accomplish many community goals.

Take a look. Use the ideas that work for your community and share your own success stories. Your on-the-ground knowledge of your community is valuable, and learning from others is necessary in our work to clean local waterways and the Chesapeake Bay. We hope this information is helpful, and we ask that you let your state's members on our committee know what's happening in your community.

Sincerely,

Mary Ann Lisanti

Mary Ann Lisanti
County Councilwoman, Harford County, Maryland
Chair, Local Government Advisory Committee to the Chesapeake Bay Program

Case Study One: City of Lancaster, Pennsylvania

Project: Green Infrastructure Plan

Issue/ Sector Being Addressed: Stormwater

Cost, Source of Funds and/ or Partners: $141 million over 25 years from stormwater utility fees

Outcome: A green sponge to sop up a billion gallons of water

Most of the time, the City of Lancaster's advanced wastewater treatment plant can readily handle the volume of water flowing to it through the aging system of pipes that combine both stormwater runoff and wastewater from homes. But about 15 percent of the time, during rainstorms or heavy snowmelt, the system is overwhelmed by the sheer volume of water from downspouts, streets, sidewalks and parking lots. Over the course of a year, a billion gallons of this dirty water—a combination of untreated sewage and the grit, oil, and other pollutants swept from roofs and streets—overflows the combined sewage system and runs into the Conestoga River. Eventually some of the pollution reaches Chesapeake Bay.

Faced with the need to improve water quality in the Conestoga and to meet the requirements of the Chesapeake Bay Total Maximum Daily Load (TMDL), the city had a problem to solve: How to eliminate, in 25 years or less, one billion gallons of storm water runoff from entering its aging sewage system. And how to do it at a price the city and its residents could afford.

The traditional engineering approach to fixing an old combined sewage system like Lancaster's is to increase capacity and flow in the system by putting in massive holding tanks, bigger pipes and pumps, and greater treatment capacity at the plant. The estimated cost for this approach was at least $250 million, and that was on top of $18 million already spent to improve the system.

Faced with those numbers, the city opted to substantially develop its "green infrastructure" while increasing the efficiency of its existing gray infrastructure. It has developed a plan to engage homeowners and businesses in an effort to catch as much rainwater as possible and divert it from the sewage system. The city has also identified a series of public works projects to improve streets, parking lots, and playgrounds.

The techniques include porous pavements, sidewalks, rain gardens, retention ponds, green rooms, trees and planter boxes to filter water into the ground or evaporate it; and rain barrels, cisterns, and ponds to capture and slowly release water.

There are many benefits for Lancaster residents. The green infrastructure recharges ground water, saves energy, and improves the quality and quantity of water reaching local streams. It provides cleaner air, beautifies neighborhoods, and creates recreational opportunities. And it costs less. And here's an additional small benefit: neighbors near a new, pervious-surface basketball court (one of many the city hopes to install) report it is quieter. In the next five years, the green infrastructure is projected to reduce the suspended solids reaching the local river by 252,000 pounds annually, phosphorus by 4,800 pounds, and nitrogen by 10,700 pounds at a cost about half that of a traditional approach of redeveloping the gray infrastructure. In 25 years the pollution reduction will be many times that, and the savings just as great.

Contact: Charlotte Katzenmoyer, Director of Public Works, 717-291-4739, CKatzenmoyer@cityofLancaster.com

Case Study Two: Lycoming County, Pennsylvania

Members of the Lycoming County Chesapeake Bay Tributary Strategy Advisory Committee tour a riparian buffer. Credit: Megan Lehman, Lycoming County Planning

In Pennsylvania, where townships make many of the land use decisions and independent authorities operate the sewage treatment plants, the Lycoming County Commissioners made a bold decision. They chose to invest half a million county dollars to bring the whole community to the table to develop a plan for how to meet water quality standards required to restore the Chesapeake Bay. Their decision, made more than three years ago, led to a model county approach with important benefits for local residents.

Seven wastewater treatment plants in the county needed upgrades at an estimated cost of $225 million. The plants faced tight deadlines, with the last upgrades due by 2013. The commissioners feared that putting that full burden on ratepayers might convince industries to leave the county and would exceed many residents' ability to absorb costs.

At the same time, some urban communities being asked to make these investments pointed toward the impact of agricultural runoff, and talk began of a Chesapeake Bay TMDL that would impact all sources. Farmers began to worry that they would be next, with enhanced enforcement of Pennsylvania's nutrient management laws.

The solution devised by Lycoming County's stakeholders was a county-based nutrient trading program, created within the boundaries of Pennsylvania's nutrient trading program administered by the Pennsylvania Department of Environmental Protection (DEP). Lycoming County farmers who meet the baseline requirements for nutrient reductions can install additional measures to stop even more pollution. These extra measures are certified by the state, and the extra nitrogen and phosphorus they prevent from entering the waters can be counted as nutrient reduction credits. The credits can be sold to permitted point sources, and they could reduce their compliance costs and provide the farmer with an additional income source to sustain the farm operation.

Wastewater treatment plant operators or others who need to reduce the amount of nitrogen they put in local waters can buy the credits to help meet their goals. Buying the credits may help the plants avoid upgrades entirely, or allow them to do less expensive upgrades and offset any shortfall in pollution reduction with the credits. Buying credits can also gain the plants time to evaluate future needs or arrange capital.

Project: Countywide Nutrient Trading Program

Issue/ Sector Being Addressed: WWTPs; Agriculture

Cost, Source of Funds and/ or Partners: $850,000 from county funds

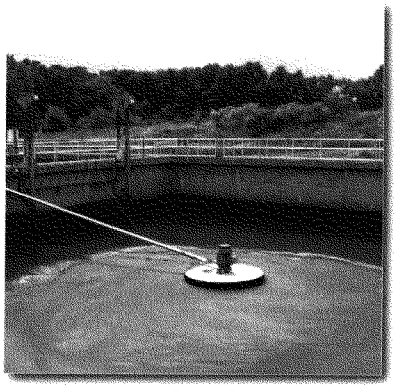
Outcome: Model trading plan involves whole county

For the County, the approach has many benefits. Nutrient trading can:

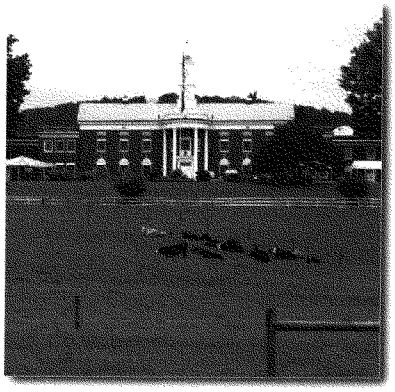
- Provide flexibility to wastewater treatment plants, which in turn enables the exploration of more cost-effective options for reducing pollution.
- Improve financing options for local sewer authorities, because a regional approach increases the viability of funding from state and federal government sources that prefer to address environmental issues on a larger geographic scale. This will help minimize the impact on ratepayers.
- Multiply environmental benefits, as local investments in best management practices improve the county's natural habitat, recreational uses and tourism, stormwater management, and flood control.
- Enable economic growth, because businesses are attracted to a county that demonstrates innovative approaches to compliance. By controlling costs at existing wastewater treatment plants (WWTPs) in core communities, the feasibility of redeveloping old industrial sites and targeting economic growth to planned growth corridors served by existing infrastructure is enhanced.
- Drive cost-effective compliance and enable local control.

In Fall 2010, the first statewide nutrient credit auction, administered by the Pennsylvania Infrastructure Investment Authority (PENNVEST), generated nearly $93,000 in revenue for six county farmers and the county. The county plans to increase the numbers of farmers in the program.

Contact: Megan Lehman, Environmental Planner, Lycoming County, at 570-320-2115 or mlehman@lyco.org



Lycoming County Water and Sewer Authority's wastewater treatment plant. Credit: Megan Lehman



Cattle rest in a paddock of the rotational grazing system installed on the Lycoming County Farm. Credit: Megan Lehman.

Case Study Three: Anne Arundel County, Maryland

Project: Phase II WIP Planning

Issue/ Sector Being Addressed: WIP Planning for Urban Counties

Cost, Source of Funds and/ or Partners: EPA

Outcome: Early adapter develops a guide for others

There are probably few county Public Works Departments across the Chesapeake Watershed that have spent more time thinking in detail about the Phase II WIP process than has Anne Arundel County's. Last year the county was invited by the Maryland Department of the Environment to participate in a pilot program to develop a template to guide other urban Maryland counties through the intricacies of the process. Since then, a detailed plan has emerged, and Director of Public Works Ron Bowen has hit the speaking circuit to present the findings.

The plan Anne Arundel developed illustrates two points:

First, the reduction in nitrogen, phosphorus, and sediment that the TMDL requires demanded a comprehensive approach that addressed all sources and that balanced pollution reduction techniques against costs in order to return the greatest reductions at the least costs.

Second, the exercise illustrated that a robust framework and method that can provide sound strategic direction can be developed even when working with uncertainty and imperfect or incomplete information. Uncertainty and incomplete information is a given in the current Phase II WIP process. Across the watershed, local governments await detailed numbers to come down to them from the federal and state agencies. But by moving ahead, Anne Arundel gained insight on what to do when numbers arrive.

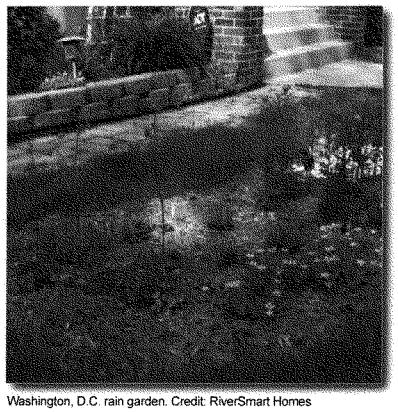
Anne Arundel is heavily urbanized in the north where suburbs to Baltimore City blend into suburbs around Annapolis. Only the southern half of the county is rural. As a result, agriculture is not a leading contributor of pollution. The county's sediment, nitrogen and phosphorus pollution comes from sewage treatment plants, urban stormwater runoff and eroded streams, and failing septic systems. The county's Phase II WIP addresses all three, but has an emphasis on addressing storm water runoff through stream and outfall restoration as well as upgrades of existing storm water management ponds. Septic systems will be retired by extending sewer service in urbanized areas within the Critical Area (land within 1,000 feet of tidal waters) and within 1,000 feet of non-tidal streams. The County Health Department will continue requiring enhanced nitrogen removal systems within the Critical Area.

Bowen has said that addressing the Chesapeake Bay TMDL will substantially improve conditions in the county's streams and rivers. Creating the WIP has engaged many of the county's federal, state, and city stakeholders. In response to requests from other local governments and advocacy groups, Bowen is going to other counties and explaining what Anne Arundel has learned.

Contact: Ron Bowen, Anne Arundel County Department of Public Works, 410-222-7500

Case Study Four: Washington, D.C.

Rain barrel provided to residents as part of the RiverSmart Homes program. Credit: RiverSmart Homes



Washington, D.C. rain garden. Credit: RiverSmart Homes

With a half-inch of rain, Washington, D.C. faces a problem: Its combined sewage treatment system, which serves one-third of the city, begins to overflow, sending raw sewage and trash from the city's streets into the Anacostia River.

Across the nation, 770 cities face similar problems. They all have combined stormwater and sanitary sewer systems. Built a century ago, these systems were thought to be the best way to handle urban runoff. The cities generally embrace the same set of solutions, too. They must increase the capacity the system can store and decrease the runoff that goes into the system.

Project: RiverSmart Homes

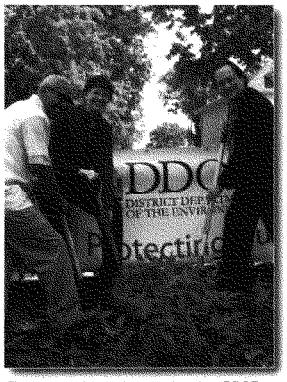
Issue/ Sector Being Addressed: Homeowner Stormwater Management

Cost, Source of Funds and/ or Partners: ARRA funds of $1 million over two years

Outcome: Lessons from homeowners sharpen program's design

Decreasing the amount of runoff entering the system is far cheaper than re-engineering the sewers. However, it requires engaging property owners to take strong measures to keep rainwater on their properties, rather than letting it run off into gutters and storm drains. Cities have found that programs to engage homeowners often under-perform. The D.C. Department of Environment (DDOE) RiverSmart Homes program can serve as a guide to other jurisdictions interested in engaging homeowners and showing them how to make the best usage of stormwater.

The District's RiverSmart Homes Program aims to reduce stormwater runoff by offering subsidies to District homeowners to install rain barrels, shade trees, rain gardens, BayScaping, and pervious pavers. The way the program operates is simple.



Finishing touches on bay scaping, then-DDOE director George Hawkins, Rock Creek Conservancy (formerly FORCE) Executive Director Beth Mullin and RiverSmart Homeowner Frank Matthews. Credit: RiverSmart Homes

Interested residents sign up for the program and, within two months, are contacted by a DDOE official, who visits the home and conducts an assessment of the home property. The assessment, which usually takes up to an hour, offers the homeowner an opportunity to ask questions and to get information on stormwater retention measures.

Convenience to homeowners is key in implementing the District's RiverSmart Home Program. Rain barrels, trees, or materials to create a rain garden, for example, are brought directly to homeowners, many of whom use public transportation as a means of getting around and have limited access to vehicles big enough to transport these products.

Additionally, most homeowners don't necessarily know how to install rain barrels, pervious pavers, or how to plant trees or design and build rain gardens. So there needs to be expertise available to them. The RiverSmart Homes program relies on non-profit partners to get the materials to the homes and install the recommendations. Homeowners also need to be taught how to maintain the installations, and the non-profit partners handle that.

Cost-sharing is important. The RiverSmart Homes project provides a subsidy of up to $1,200 toward the costs of landscaping, rain barrels, or other recommended practices. However, the homeowner also contributes at least 10 percent of the project's costs. The District Department of the Environment found that District residents felt more invested and they better maintained the installations if they chipped in for the cost of the installation.

The RiverSmart Homes project, which began in 2007, is now active in all of the city's wards. More than 2,000 homeowners participate. As more cities in the Chesapeake region begin to rely on citizen involvement to reduce stormwater runoff, the lessons learned in the RiverSmart Homes project will prove valuable.

Contact: Jenny Guillaume at 202-535-2252

Case Study Five: Hampton Roads, Virginia

Project: Local planning district model

Issue/ Sector Being Addressed: A best process for WIP planning, primarily urban stormwater

Cost, Source of Funds and/ or Partners: $80,000, Locality per capita funds and stormwater committee. Applying for grants to fund the remainder.

Outcome: Accurate, shared data and local strategies for Virginia's WIP process

The Hampton Roads Planning District Commission (HRPDC) has committed to assist Virginia by coordinating the local government input for Virginia's Phase II Watershed Implementation Plan for the Chesapeake Bay TMDL. HRPDC developed a two-tiered approach to coordinate stakeholder involvement for the Phase II WIP throughout Hampton Roads, consisting of a regional steering committee and a group of local teams.

The local tier is made up of 14 local government teams composed of staff from all departments affected by or affecting nutrient load reductions. The local teams were formed by the City Managers and County Administrators at the request of the HRPDC and will develop the localities' nutrient reduction strategies by selecting a combination of best management practices or BMPs (nutrient reduction methods) that meet the localities' nutrient reduction target. Local government teams have been formed and are reviewing information provided by DCR for accuracy and adjusting information based on local data.

The regional tier is a Steering Committee composed of local representatives, federal and state agencies, agriculture representatives, and selected environmental groups. The Steering Committee provides a forum for local government representatives and other stakeholders to communicate their questions and concerns as they identify the management actions they will implement to meet the nutrient and sediment reduction goals necessary for a clean Bay.

HRPDC staff will work with Virginia and EPA staff to address the local government concerns and provide technical assistance to develop management action scenarios. The following issues have already been identified for the Steering Committee to address:

1. Divide nutrient loads based on land use and ownership (Agricultural, Virginia Department of Transportation, Department of Defense, and so on) to clearly identify the portion of the nutrient reductions that the locality must implement.
2. Coordinate with the EPA and the Department of Conservation and Recreation (DCR) to expand the types of BMPs that can be incorporated into the Bay model. For example, by establishing efficiencies for BMP maintenance upgrades and conversions to more efficient BMPs (such as converting dry detention pond to a bioretention areas), and developing a process to credit nutrients removed through correction of sewer overflows.
3. Provide regional feedback to the state on what localities need from the state such as more authority, regulations or funding.

The Steering Committee also serves as a forum for stakeholders to share information and learn about innovative solutions to reduce nutrient and sediment loads. A valuable part of each meeting is a roundtable discussion that allows each locality to report on their progress and the challenges they face in developing their nutrient reduction strategies. The Steering Committee held its first meeting in July and will hold monthly meetings through the completion of the Phase II development process in Spring 2012. Locality staff and additional stakeholders on the Regional Steering Committee have identified priority issues and questions and sent them in a letter to DCR for response, a process the Steering Committee will continue as the WIP is developed.

HRPDC staff has created a webpage to provide local governments and other stakeholders with a location to access information and data related to the Phase II WIP. http://www.hrpdcva.gov/PEP/ChesBayTMDLInfo.asp

Contacts: Whitney Katchmark (wkatchmark@hrpdcva.gov)or Jenny Tribo (jtribo@hrpdcva.gov) at 757-420-8300

Case Study Six: Havre de Grace, Maryland

Lilly Run may be a small stream, but it poses a variety of significant public safety and environmental problems to Havre de Grace, Md. Lilly Run drains a watershed of 970 acres, most of which is located at a much higher elevation than the sea level waterfront city, a topography particular to where the Piedmont Plateau and the Coastal Plain meet. In addition, scenic, historic Havre de Grace is located at the confluence of the Susquehanna River and the Chesapeake Bay. Those factors combine during heavy rains when swollen streams can be exacerbated by astronomical high tides and storm surges from the Bay, creating unmanageable flooding as we saw with 2011's Hurricane Irene and Lee.

Lilly Run floods due to the proximity of the stream to development and inadequate infrastructure to convey stormwater through the city, which is the second oldest municipality in Maryland.

The City has a long standing history of being a good environmental steward of the Susquehanna and the Bay, as both contribute to the quality of life and local economy. Over the past 50 years, flooding by Lilly Run has posed a threat to public safety, but as the Chesapeake Bay's health has become more of a priority, a newer and more urgent focus has been the quality of the water Lilly Run poured into the Susquehanna River and headwaters of the Bay.

The Mayor and City Council funded a study to identify solutions to problems associated with Lilly Run flooding. The study suggested the design and replacement of 17 structures within the City's stormwater system and the creation of an environmental living classroom developed around a temporary water holding facility on Board of Education property connecting the Middle and High schools.

This concept provided the opportunity for the City to gain an additional partner and the students to learn more about water quality, nutrient load and drainage issues in the watershed. This flood mitigation feature is only possible because the local school system is one of the project's primary partners and the land that connects the middle and high schools was large enough to fulfill project requirements. This setting gave project designers the room to incorporate additional water quality, education, recreation, and environmental features that set this project apart from most stormwater management projects. The plan also includes a loop trail system for the community's enjoyment.

While the City has not yet secured construction funding, it is leveraging existing multi-jurisdiction funding to proceed. The City views the Chesapeake TMDL as an opportunity to invite environmental and hydrology experts to demonstrate their techniques and provide assistance to achieve multi-sector load reduction and secure the remaining construction dollars.

The Project Director envisions this project, upon completion, to be a regional showpiece that will include innovative concepts for managing water flow, quality and the reduction of nutrients. Already several multi-disciplinary professionals have joined the project partners to create a one-of-a-kind project opportunity to combine known best practices with scientific advances.

Project: Lilly Run Improvement Project

Issue/ Sector Being Addressed: Stormwater management, flood control and sediment reduction

Cost, Source of Funds and/ or Partners: City of Havre de Grace, Harford County Board of Education and Dept. of Public Works, Huber Corp. and Lower Susquehanna Heritage Greenway Inc.

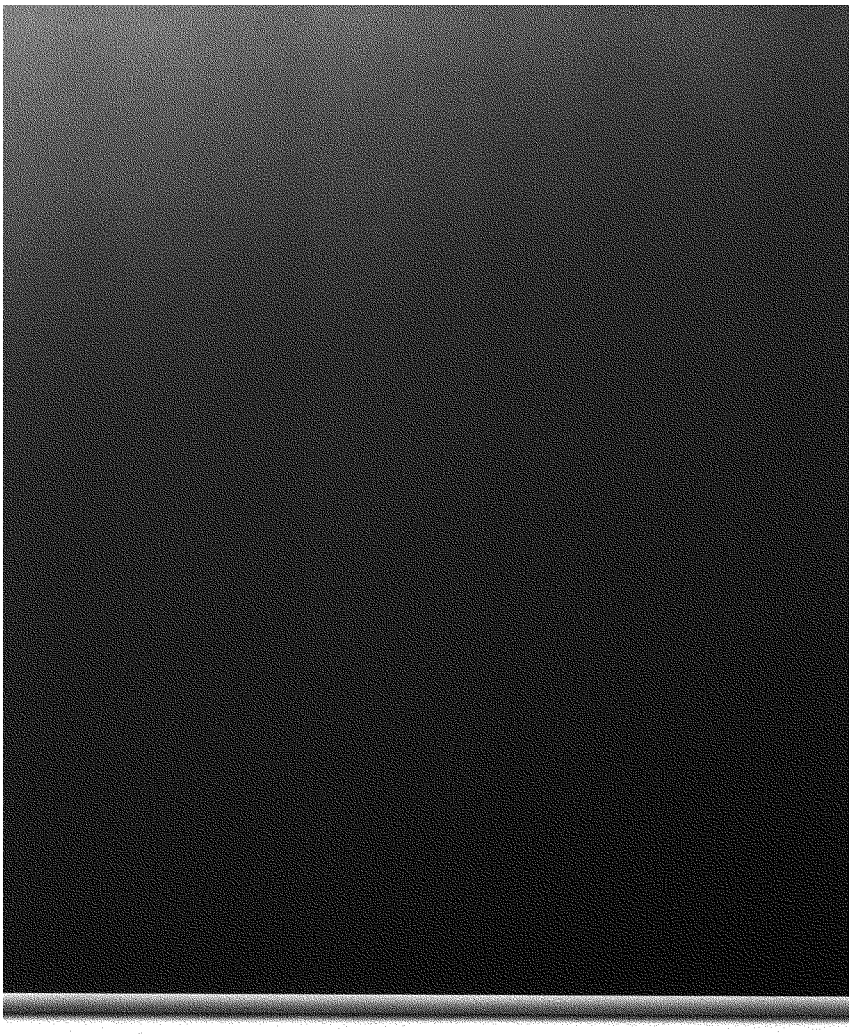
Outcome: Little Lilly Run provides big opportunity

Contact: John Van Gilder, Inter-Governmental Affairs Manager at 410-939-1800 or jvg@havredegracemd.com

Cover Photos:

Top left: Walt Nicholson of the Williamsport Sanitary Authority explains their West Plant operations. Credit: Megan Lehman, Lycoming County Planning.

Bottom left: Chesapeake Bay Program



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Senator CARDIN: Thank you very much, Councilwoman Lisanti. We'll now turn to The Honorable Steve Hershey.

STATEMENT OF HON. STEVE HERSHEY,
U.S. SENATOR FROM THE STATE OF MARYLAND

Senator HERSHEY: Thank you, Senator Chairman, fellow panel members and stakeholders. I appreciate the opportunity to speak with this committee on the recently signed Chesapeake Bay Watershed Agreement.

I am State Senator Steve Hershey. I represent the upper Eastern Shore of Maryland. And I certainly support the goal of restoring the Chesapeake Bay. However, because of Maryland's experience with previous Chesapeake Bay agreements and the subsequent EPA 2010 Bay TMDL pollution reduction goals, I have two major concerns with this new voluntary agreement:

First, the voluntary Chesapeake Bay agreements and the mandated EPA pollution reduction goals are regularly cited as motivation for advancing policy initiatives which previously were considered politically untenable. Both Maryland's executive and legislative branches now craft policy and defend such policy as critical to the Bay restoration goals. Some have rightly questioned the necessity of these policies to achieve Bay cleanup goals, as policymakers have established new accountability mechanisms to measure success. While it is important to wonder how effective these policies may be, policy proponents unfairly dismiss such skepticisms, oftentimes accusing their authors of not supporting Bay cleanup efforts.

My second concern focuses on the astronomical cost to achieve the goals and outcomes outlined in this Agreement. In 2012, Maryland's Department of Legislative Services estimated that the Bay's total cost for pay—Bay reduction efforts to be $14.7 billion through 2025. Although this agreement asserts that progress must be made in a strategic manner, focusing on efforts that will achieve the most cost-effective results, our experience in Maryland confirms that these restoration efforts will have an enormous price tag with limited evidence that they may yield significant results.

Forty-five years ago, when the Clean Water Act became law, the Federal Government provided 87.5 percent of the funding to help local governments pay for the massive investments. Since then, the Chesapeake Bay Watershed Agreements have been voluntary and generally independent of Federal assistance. Today, the EPA mandates exist, but the Federal funding does not.

Forced to comply with these unfunded mandates, State policymakers have not just passed the financial obligation down to the local subdivisions, but they have also directed the manners in which those subdivisions are to meet the Bay objectives. While these mandated pollution-reduction goals have accelerated Maryland policy initiatives, such as centralized planning, tier water and sewer maps, and the usurping of local and zoning authority, efforts to achieve pollution-reduction goals focuses on four main areas, which are agriculture, septic-system regulation, stormwater management, and sewage treatment.

Maryland's agricultural regulations have tightened since 2010 in an effort to meet the Bay objectives. Demonstrating the agricultural communities' commitment to Bay restoration, the Maryland

Farm Bureau reports that State farms have already reached their 2017 watershed implementation plan. Farmers have worked to reduce the nutrient loading by implementing best management practices which—with limited State assistance. Nonetheless, the Department of Agriculture intends to promulgate further regulations by implementing a phosphorous management tool which could have a devastating effect on our region's farmers. With little concern for cost implications, Maryland is now asking its farmers, who have done their part, to do more in the name of Bay restoration.

In order to meet the Bay objectives, Maryland has directed its attention, enacted law, and promulgated regulations governing the use of conventional septic systems. It should be emphasized that Maryland's septic systems discharge contributes 0.8 to 1.6 percent of the total Bay nitrogen load. Nonetheless, under the yoke of the Federal mandate, Maryland has enacted laws to restrict septic use in new developments. In rural areas, like the one I represent, this has stunned development, lowered land values, and dissuaded businesses from locating to rural counties.

Maryland has certainly been the most aggressive in relationship to stormwater management. Maryland's Department of Legislative Services reports that stormwater management initiatives will cost local governments $6.27 million over the next 15 years—I'm sorry—billion dollars. Since this mandate contains no funding, the Maryland General Assembly passed what is commonly known as the "rain tax," which forces local governments to impose a tax on businesses, commercial industrial properties, and homeowners, based on the amount of their impervious surfaces. This tax has certainly not improved Maryland's reputation amongst businesses and industry. The imposition of the—and uncertainty of each county's implementation of the rain tax presents an additional impediment for businesses seeking to locate in Maryland.

The fourth focus to reach the Bay cleanup objective has been for upgrading Maryland's existing wastewater treatment plants. Maryland's 67 major plants were the first to be updated with local funds in grants from the State's Bay Restoration Fund. This special fund is financed by an assessment known as the "flush tax" on all property owners across the entire State. Maryland intends for its smaller plants to be updated in the coming years with enhanced nutrient-removal technology. While larger wastewater treatment plants this technology have reduced their nutrient output, smaller plants do not treat the same volume of waste, and the expensive upgrades create only a marginal environmental benefit when—one must consider the volume of waste processed through the treatment plant.

Again, cost-effectiveness is of little concern. For a smaller municipality, the price tag for an ENR upgrade can be staggering. I represent the town of Betterton, in Kent County, which has a population of 339 people. Last year, Betterton approved an ENR improvement of its existing wastewater facility. The projected cost is between $5.5 million and $7 million. While Federal and State grants may reduce the total cost by about 3 million, the town may have to find a way to finance the remaining $2.5-to $4 million. For a town with such a small population, one can't help to consider if such an upgrade is a worthwhile investment.

These major investments in wastewater treatment facilities and stormwater management projects on top of the regulations on our farming industry and restrictions on growth in our rural counties in the name of a healthy Bay come at a heavy cost without any guarantee that the investments will pay off.

Consistently, Maryland's executive and legislative branch policymakers along with environmental organizations have chosen to ignore the single largest point solution—point of pollution in the Chesapeake Bay Watershed: the Susquehanna River and the discharge of nutrient and sediment that flows through the Conowingo Dam. This disregard is once again apparent as this agreement fails to mention either the river or the dam.

All of the goals and the outcomes outlined in this agreement, along with the investments to achieve them, might be in vain as one major storm event in the Bay Watershed could wipe out any progress. Failure to address or assign responsibility to dredge and maintain the accumulated sediment behind the Conowingo Dam undermines the legitimacy of this new Agreement.

I would urge other States considering voluntary pacts similar to the Chesapeake Bay Watershed Agreement to enter such agreements with caution. In Maryland's experience, non-adherence of such agreements have served as a basis for an EPA unfunded mandate. Similar agreements could provide the opening needed for EPA to force States to spend billions on unaffordable and largely ineffective efforts that may never reach their intended goals. As an outcome of the Chesapeake Bay Watershed Agreement or EPA mandates, improvements in the health of the Chesapeake Bay must be achieved in a prudent and fiscally conservative and responsible manner. We all want to save the Bay, but how to do so with limited Federal Government resources is still a point of discussion.

[The prepared statement of Senator Hershey follows:]

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The Senate of Maryland
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U.S. SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON WATER AND WATER LIFE
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Good afternoon and thank you for inviting me to speak with this committee on the recently signed Chesapeake Bay Watershed Agreement. As a state representative of the Upper Eastern Shore of Maryland, I certainly support the goal of restoring the Chesapeake Bay.

However, because of Maryland's experience with previous Chesapeake Bay Agreements and the subsequent U.S. Environmental Protection Agency's (EPA) 2010 Bay Total Maximum Daily Load (TMDL) pollution reduction goals, I have two major concerns with this new voluntary Agreement.

First, the voluntary Chesapeake Bay Agreements and the mandated EPA pollution reduction goals are regularly cited as the motivation for advancing policy initiatives which previously were considered politically untenable. Both Maryland's executive and legislative branches now craft policy and defend such policy as critical to Bay restoration goals.

Some have rightly questioned the necessity of these policies to achieve Bay cleanup goals as policy makers have established few accountability mechanisms to measure success. It is appropriate to wonder how effective these policies may be, yet policy proponents unfairly dismiss such criticisms, often times accusing their authors of not supporting Bay cleanup efforts.

My second concern focuses on the astronomical cost to achieve the goals and outcomes outlined in this Agreement. In 2012, Maryland's Department of Legislative Services estimated that the State's total cost for bay restoration efforts to be $14.7 billion through 2025. Although this Agreement asserts that "progress must be made in a strategic manner, focusing on efforts that will achieve the most cost-effective results," our experience in Maryland confirms these restoration efforts will have an enormous price tag with limited evidence that they may yield significant results.

Forty-five years ago when the Clean Water Act became law, the federal government provided 87.5% of funding to help local governments pay for the

Restoration Fund. This special fund is financed by an assessment known as the "Flush Tax" on all property owners across the entire state.

Maryland intends for its smaller plants to be updated in the coming years with Enhanced Nutrient Removal (ENR) technology. While larger waste water treatment plants implementing ENR technology have reduced their nutrient output, smaller plants do not treat the same volume of waste. The expensive upgrade creates only a marginal environmental benefit when one considers the smaller volume of a minor waste water treatment plant.

So, once again, cost effectiveness is of little concern. For smaller municipalities the price tag for an ENR plant can be staggering. I represent the Town of Betterton in Kent County. As of 2012, it had a population of 339. Last year, Betterton approved an ENR improvement of its wastewater facility. The projected cost is between $5.5 and $7 million. While federal and state grants may reduce the total cost by about $3 million, the town will be left to find a way to finance the remaining $2.5 to $4 million. For a town with such a small population, one can't help but consider if such an update is a worthwhile investment.

These major investments in wastewater treatment facilities and stormwater management projects on top of regulations on our farming industry and restrictions on growth in our rural counties in the name of a healthy Bay come at a heavy cost without any guarantee that the investments will pay off.

Consistently, Maryland's executive and legislative branch policy makers, along with environmental organizations have chosen to ignore the single largest source of pollution in the Chesapeake Bay watershed: the Susquehanna River and the discharge of nutrient and sediment that flows through the Conowingo Dam. This disregard is once again apparent as this Agreement mentions neither the river nor the dam.

All of the goals and outcomes outlined in this Agreement, along with the investments to achieve them might be in vain, as one major storm event in the Bay Watershed could wipe out any progress. Failure to address or assign responsibility to dredge and maintain the accumulated sediment behind the Conowingo Dam undermines the legitimacy of this new Agreement.

I would urge other states considering voluntary pacts similar to the Chesapeake Bay Watershed agreements, to enter such agreements with caution. In Maryland's experience, non-adherence to such an agreement has served as the basis for the EPA unfunded mandate. Similar agreements could provide the opening needed for the EPA to force states to spend billions on unaffordable and largely ineffective efforts that that may never achieve their intended goals.

As an outcome of Chesapeake Bay Watershed Agreements or EPA mandates, improvements in the health of the Chesapeake Bay must be achieved in a prudent and fiscally responsible manner. We all want to save the Bay, but how to do so effectively with limited resources is still a point of discussion.

Senator CARDIN: Senator Hershey, thank you very much for your testimony.

Many of you mentioned additional Federal resources, which is something that is dear to all of our hearts on dealing with the Chesapeake Bay. And I could mention literally every member of the Congress from the Bay region who have been helpful to us in the Chesapeake, but let me just acknowledge Senator Mikulski, my colleague and chairman of the Appropriations Committee. The two of us have had several discussions on how we can maximize the Federal resources in regards to the Chesapeake Bay. And it's incredibly helpful to have Senator Mikulski as Chair of the Appropriations Committee, and I just really want to acknowledge that.

Senator Hershey, you raise some very valid points in regards to how the plans are implemented. So, let me just back up. And you're correct that the current enforceable program on the Chesapeake Bay comes under the Clean Water Act. The waters have been determined to be impaired, and there is certain science that base certain results and enforced an—and held—progress by the TMDLs, and we can judge where we are in regards to improvements. But, the Watershed Improvement Plans, the WIPs, are developed by the States, so the specifics are really a State issue, not so much a Federal issue, as to what is determined to be the priority of the State in reaching what science says that we can reach. And I understand some of the concerns you raise, but I think many of these are State issues more so than Federal, although I would like to get more Federal funds. I couldn't agree with you more on that point.

So, let me start, if I might, with Mr. DiPasquale. As—you were saying there's accountability in the Chesapeake Bay programs. It's a State—have signed on, but it's voluntary. So, can you sort of reconcile how we have accountability in a voluntary agreement?

Mr. DIPASQUALE: Sure. Well, I think, as you know, Section 117 of the Clean Water Act authorizes the Agreement, and there are no enforcement mechanisms or enforcement provisions that are contained in them. So, it's not like a law or regulation that would be implemented and then there would be consequences if a party didn't comply. So, it has been the best-faith effort of the signatories to the agreement that have given us the progress we have achieved to date.

There is a modest amount of funding to support the new agreement, and we're working with the States and the District of Columbia to help provide support to them. I might also add that, under the TMDL, about—almost two-thirds of the funding that comes to the Bay Program ends up going back out to the States to help them implement their obligations under the TMDL. So, there is more support on that end.

But, it is a voluntary agreement. The States will participate and contribute—all the signatories will, to the extent they can. I think we recognize that there are some goals and outcomes contained in the Agreement that aren't really relevant or appropriate for some of the jurisdictions. Blue crabs, for example, probably are not a big concern in West Virginia. So, we know that they're not going to be participating in that part of the agreement.

But, the agreement does define what participation really—what activities constitute participation. And it's a wide range of activi-

ties: contributing data, providing reports, sharing successful experiences in each of those jurisdictions.

But, we—the accountability really comes in the management strategies and the biennial reviews. And we will measure our progress. We will be held accountable by the public. We're going to make all of that information available, at a click of a mouse, basically, or in any form that anybody needs to get it. But, the accountability really is in the management strategies and the 2-year reviews and progress updates.

Senator CARDIN: Well, you know, and I applaud you for being very specific as to the goals in many different areas. I could talk about the number of oyster restoration projects in 10 streams. We could talk about some of the specifics in regards to acreage of wetlands that you intend to protect, the number of conservation acres in a State, the restoration of sea grasses and—I mean, there's a lot of specifics in this Agreement. But, there is less specifics on dealing with agriculture, specifically. You don't have the cover crops or things like that spelled out. There's less specifics on storm runoff. Is there a reason why those two areas are not as specific as you have it on the fish habitat and on some of the other areas?

Mr. DIPASQUALE: That's a great question, Senator. And really the water quality goals essentially adopt the existing TMDL and Watershed Implementation Plan, so there's no specific source sector that's broken out. Those are already contained within the Watershed Implementation Plans, and those are the mandatory part of the program. So, it—there was some discussion early on about not including water quality, and specifically the TMDL, but the signatories felt that it was important to have water quality contained within the voluntary agreement, even though it was a regulated or mandatory program.

Water quality works in conjunction with habitat and fisheries. And I think the signatories felt it was important to really deal with the entire restoration effort on an ecosystem basis, and water quality was included for that reason.

Senator CARDIN: That's helpful. And I understand the aspect of adopting what's in the TMDLs.

Let's go to point source for a moment. Toxic. As I understand it, at least some of the original drafts did not have the toxic in there. It seems like it's even less specific as to how we deal with point source problems.

Mr. DIPASQUALE: Correct. The original document that was put out for public review did not contain a toxics goal and outcome. And there were some signatory members who felt that the existing programs would—were already doing an adequate job dealing with those issues. But, there were others who felt that, certainly, the partnership could provide a coordination effort that could look for gaps. We have a lot of emerging contaminants—for example, pharmaceutical products, estrogen disruptors, those sorts of things—that wastewater treatment plants don't currently deal with. We're also dealing with a lot of legacy issues; for example, from PCB contamination and mercury contamination. And those are pretty widespread in water bodies throughout the country.

At the end of the day, after receiving public comment—we received 2400 comments, and many of those were focused on toxics

and climate change. And the signatories agreed that they needed to be included in the new Agreement.

Senator CARDIN: Let me move to State and local for a little bit. I'm—Mr. Robertson, you're not off the hook. We're—I have some questions for you on specific issues.

[Laughter.]

Senator CARDIN: But, let me—Senator Hershey, I want you to know that I did hold a hearing on the Conowingo Dam. So, we—our subcommittee held a hearing on that, because we are concerned about the impact it has on water quality. I learned a new term: dynamic equilibrium. I never knew that term before that hearing, dealing with sediment issues. And that—and there is a permitting process, as you know, in regards to the Conowingo Dam, that is currently being reviewed.

So, the fish passageway that Mr. Robertson talked about is a major part of our effort on the Bay, so it's not just the sediment and pollution that is blocked by dams that can be—cause surges that we're not exactly sure of the total impact on the water quality, but it's also fish passageways and fish habitat that's affected by it. And if you've never seen the fish elevator that's at the Conowingo Dam, it's worth a visit just to see how the shad make it upstream. And eel have a little bit more problems. They have to—we have to use a car to take them up, or something. I don't know how that all works, but it's——

[Laughter.]

Senator CARDIN:—it is a challenge to deal with the habitat issues whenever you have a blockage on the—on our rivers.

I am amazed, Ms. Lisanti, that you're dealing—you had to deal with 1800 units of local government.

Ms. LISANTI: Yes.

Senator CARDIN: That's a challenge. I mean, there's a lot of local governments, and they don't have the same degree of flexibility that a State may have.

Ms. Ward, I—we give the States flexibility so you have some way of judging what's important for your State.

But, if I could ask the two of you, How do you deal with the local governments, versus the State, in trying to put together your action plans and policies? And, Mr. Miller, you want to join us in this discussion? I'm just curious as to how the input from our State and local governments are handled to get into the Bay Agreement itself.

Rep. Miller: It's a good question, Senator. In Pennsylvania, as you know, we probably add to the—a huge amount to those numbers of local governments with our municipalities, boroughs, incorporated towns, townships. It's difficult. It really is. But, we are making a very specific effort at the State to reach down to them and do an educational process. I will tell you that York County is at the forefront with stormwater planning, trying to come up with a coherent plan across the whole county that will work for stormwater management.

But, you are absolutely correct, it is an educational process, it's an outreach process that we need to continue to work on.

Ms. LISANTI: From the Local Government Advisory Committee perspective, we have representatives from all of the signator States, and they're a diverse group of elected officials. Some are

from municipalities of less than 300, others are from major subdivisions, others with strong county governments, some with very weak State governments. Very different forms of government in those 1800 units.

So, what we tried to do in providing comments that would be effective in the agreement was to look for commonalities. It's very easy to get caught up in all the things that we disagree on, so we focused on the things that we agree on. And all of us, as elected officials, agree on one very specific tenet, and that is that we need clean water, whether it's the Chesapeake Bay or Lycoming Creek or the Rappahannock or whatever wellhead that you get your community's water from. Scientifically, we know that what happens on the land affects water quality. So, we started there. We started with the basic tenet that we're looking for clean water.

Second, our approach to the States and to EPA is to educate them on the capital budget investments that we are doing at a local level. Many of our public infrastructure investments are joint-funded with the State of Maryland and—with all the States, and sometimes with the Federal Government. So, we were looking for creative ways to leverage those funds so that we would have a water quality outcome. So, we tried to educate, if you will, our State and our Federal partners as to what we do on the homefront so that they can make better policy decisions.

Senator CARDIN: I really do believe that the Chesapeake Bay strategies was bottom up. It came from the locals up to the Federal, and it was initiated by leadership in our State and our counties and private sector, and that's how the Bay agreements came about. It wasn't Washington saying, "Hey, why don't we have a Bay agreement?" It was——

Ms. LISANTI: Right.

Senator CARDIN:—basically, the locals saying, "We know we have to work together. And, by the way, we need the Federal Government, and we need your help in putting this together."

How did the Commission interact with the Bay Agreement? Was there an open process, here? Are you satisfied that local government got enough input? That's to you, Representative Miller.

Rep. Miller: From the Chesapeake Bay Commission——

Senator CARDIN: Yes.

Rep. Miller:—perspective?

Senator CARDIN: Yes.

Rep. Miller: Senator, you know all politics is local. You need to work with your colleagues to get something passed. In Pennsylvania, we need to do the same. So, it becomes an educational process, working with everybody to try to convince them that this is the proper thing to do. But, since all politics is local, the point was very well made that it—we don't have to focus on the health of the Bay, we have to focus on the health of individual rivers, watersheds. People get that. They understand. They want clean water in their creeks, they want clean water in their rivers, they want to be able to fish, they want to be able to recreate in those waters. So, we have to boil this down to a local issue. We have to sell the importance of this on "everything is local." We address the needs in our own watersheds, and, by doing so, we will address the needs of the Chesapeake Bay.

Senator CARDIN: Senator Hershey, you and I are going to agree that our farmers have done a really first-rate job in trying—they want clean water, they want the Chesapeake Bay—they understand the importance of it. We've had programs in Maryland with cover crops and farming practices to try to deal with the challenges of the Bay. We also want to preserve farmland in our State. It's far better to have farmland than developed space, and we want to maintain a strong agricultural base, particularly on the Eastern Shore, where it's part of the life.

There seems to be a lot of national interest on what's happening in the Chesapeake Bay Watershed, which, at times, can cause it more difficult for us to have the type of relationship that we've had in Maryland with our agricultural community in trying to work together on the agreement. Do you have any advice for us as to how we can get greater confidence from the agricultural community that we are really balanced, and want to be balanced, in the way that we deal with the future of the Chesapeake Bay?

Senator HERSHEY: Well, I think you said it. We certainly want to have more farmland, but we don't want to continue having the farmlands being the target of the pollution that's going into the Bay. And far too often, we're seeing that some of our farmlands are being targeted with where the sediment is coming from, with having to do—more than just cover crops, but having to maintain ditches, having to maintain certain waterways. And we feel, over and over, that the farmers have done their job in doing this.

As we said earlier, they've already reached their 2017 pollution reduction goals, and I think it's about time that the farmers are given the opportunity to take a look at, and have more input into, what these different policies are. As I said before, a lot of my concerns on these things deal with cost-effectiveness.

And last summer, we were meeting with the farmers in Easton. As I mentioned earlier, the State of Maryland is talking about putting a phosphorous management tool in place. There were over 500 farming families that were at this location, up in arms about what these new regulations are going to do to their businesses. And I don't think that we look at them enough, and I don't think we get enough of their input on what the cost-effectiveness is what the cost-benefit is on these types of policies. We need to include them more.

Senator CARDIN: Secretary Ward, I've mentioned, several times, the flexibility to the States. And I want to get Virginia's perspective as to whether there is adequate guidance for you to make your local decisions, consistent with the overall strategies. And I would appreciate your comment on that, and then I'm going to get to a specific question on oysters, in a moment.

Ms. WARD: Well, I have a local government background, as well, and I agree with what the other speakers have said, in terms of, you know, that is where the decisions really get made, and that really is where the rubber meets the road. And that's our perspective, as well. And we've included the local planning district commissions, the soil and water conservation districts, and the people that really have their boots on the ground as we've gone through this process. We've thought it was very, very important to have them at the table the whole way along the route.

Senator CARDIN: So, let me talk about oysters for a moment. Virginia was a pioneer in looking at an Asian oyster, as to whether that could work. We've been pretty desperate to try to increase our oyster crop. We've seen some positive signs in the last several years. I appreciate what Mr. Robertson has said about that. So, let me get your view, and then I want to turn it over to Mr. Robertson, as to how he plans to implement this.

It's pretty specific about 10 restoration projects in—I think it's 10 streams. Are you confident that will be determined in a fair manner by the discussions you've had in the development of the Bay Agreement?

Ms. WARD: Is this my question or——

Senator CARDIN: Yes.

Ms. WARD:—Peyton's question?

Senator CARDIN: No, I'm getting to——

[Laughter.]

Ms. WARD: I'm sure he's confident as——

Yes, we are confident. We've had a great partnership, thus far, and had fair and open discussions. And we expect to continue to do so. And, you know, Virginia, as I stated in my comments, has had this very aggressive restoration program, in terms of oysters and oyster reefs. We've just laid some new concrete—concrete substrait reefs in Virginia and are taking it river by river. So, we—I don't—we don't always agree, but I believe that we do have a clear road ahead, a clear path ahead.

Senator CARDIN: Well, OK.

Let me turn to Mr. Robertson for a moment. I've been out in the Bay, I've been with watermen. I know the—a little bit of the politics of oyster restoration, and it's pretty—can be pretty complicated. It's not easy. You made a very general statement that you're going to select the best locations from the point of view, I guess, of productivity. My guess is that was a little naive, that there will be some politics played on the 10 sites that you select. Can you give us a little bit more guidance as to how these selections will be made?

Mr. ROBERTSON: So, from a NOAA perspective, of course, we're talking about being in State waters. And so, our role as a Federal agency is really facilitating a process by, you know, trying to provide sound science and working with the States to bring that information to bear on their selection.

In the State of Maryland, the State identified a variety of historic oyster bars, essentially looking at the historic habitat that had been most productive, looking at what available habitat was still there. NOAA's support for that really has been to go out and confirm that the habitat that's been identified for doing that restoration is the best available to do the work so that science essentially is contributing to where we focus the work. We've done a similar effort in Virginia.

I appreciate your point that, with respect to affected interests, not all are necessarily appreciative of whatever designations those—have been made, in the case of Maryland's so-called sanctuaries, which are off limits to fishing. But, I'd offer two hopeful outlooks for the future to try to reconcile those differences:

One, the point made earlier, not only that all politics are local, but Councilmember Lisanti talking about what's meaningful to people on a local level. I think we're finding that using a tributary-based approach, where the river system is named—and I'd use the Lafayette, in Virginia, as an example—looking at the way the community has come together around that river and how interested they are in oyster restoration really gives us signs that there's a growing general public interest in these ecological relations, and they're owned, really, by that community. Again, the Lafayette's a great example.

The other is that, with the gross of the—growth of the aquaculture industry, which has—is really taking off in Virginia and is following suit in Maryland, that there is now a bit of a bifurcation in the industry, and many are going—the entrepreneurs are essentially going after aquaculture, because it's more cost-effective and effectively generates greater profits. And so, I think, as more watermen use—you know, move to that approach of growing oysters, whether they be on the bottom or in cages, we're going to see a shift in pressure off of the wild fishery, and perhaps some of those conflicts that have existed with local watermen communities will be defused over time.

Senator CARDIN: So, I think you've answered my question. I think you have. By saying "best available," you're talking about within the confines of the State's interest. Is that a fair statement? So, you would evaluate applications through the States and then, within that, determine best available?

Mr. ROBERTSON: That's right. I mean, the way the work is actually done is an interagency workgroup that includes NOAA, the U.S. Army Corps of Engineers, the State management jurisdictions; in the case of Virginia, the Virginia Marine Resources Commission; in Maryland, Maryland DNR; along with other partners, to look at exactly what you said, what are the States' interests in areas that they would like to identify. And NOAA and the Corps are providing both the science and looking at the projected resources necessary so that we can support the effort both with science and implementation funding.

Senator CARDIN: And there has been Federal interest in helping fund on oyster restoration. It's——

Mr. ROBERTSON: Absolutely.

Senator CARDIN:—an area that there is a great deal of interest in trying to deal with. And, as I said, we've seen some encouraging signs. You know, I don't want to get too optimistic, because we're still only at 1 percent, but we have seen some encouraging signs. And there seems to be more community support for oyster restoration. So, it's an area that we need to move forward. And I'm very interested in following up how the 10 sites are actually selected for this project.

Let me turn to crabs for one moment. You mentioned a fact—you have an ambitious goal, I must tell you, considering the recent numbers—you mentioned the problem with the recent crab population was overexploitation and habitat degradation. I think they're the two issues that you mentioned. So, how do we deal with the two problems in order to achieve our goals on adult female crabs?

Mr. ROBERTSON: So, going back to how that target was established—so, 215 million adult female crabs is the result of science continuing to evolve. We used to have a goal that was 200 million adult crabs. The last blue crab stock assessment said we really should focus on females. That science was used to apply by the States to setting that target. The point of your question is, you know, in terms of natural causes versus manmade causes or fishing mortality, as we call it, which is essentially watermen taking crabs out of the water, that's something that, you know, we can manage that effort. Those are the so-called knobs that can be turned by managers. These other natural factors of mortality are ones that we have essentially theorized about. We have some good science that supports the suggestion that something like overwintering mortality or the temperature drop last winter was so severe as—a number of crabs died, and therefore the available female population to restock the next year, if you will, wasn't available. But, frankly, that's part of the road ahead, as well, to understand better what the range of these factors is. They've been theorized by everything from crabs eating each other to red drum coming into the Bay and consuming crabs in the lower Bay.

So, there'll be a continued need for science to inform that decisionmaking, but I would also offer that, in terms of the partnership between the jurisdictions that manage this fishery, being the Maryland Department of Natural Resources, the Potomac River Fisheries Commission, and the Virginia Marine Resources Commission, and all those fishery managers who were just together for a meeting of the Chesapeake Bay Commission, down on Tangier Island last week, there is great cooperation amongst those jurisdictions. There's also a real sensitivity to the pain that's caused when they do have to turn the knobs and ratchet down on the fishery. And there's, I think, a sincere commitment to move forward and make sure they understand fully all the range of factors that are affecting blue crabs as they manage that fishery.

Senator CARDIN: I want to get Senator Hershey into this discussion, if I might. And I want to come back to give you a chance, also. But, it seems to me this is a very sensitive issue.

I think there's an understanding that what we take out of the Bay affects the health of the Bay. I think there is an understanding. And we've gone through a long process on rockfish, and it's a—it looks like it was—the results have been pretty positive on the rockfish population. But, one thing we learned from that is, to have a healthy industry in our State, they need some predictability as to what their season is going to look like. They just can't—we can turn it on pretty fast and turn it off pretty fast. They can't. So, how do we make these decisions in a way that's sensitive to those that are in the industry?

And, Senator Hershey, let me turn to you as to—am I correct, is this a concern that you hear about in regards to——

Senator HERSHEY: You're absolutely correct. In fact, last session, we had legislation addressing that same issue, on how DNR is turning on and turning off, whether it be limits or whether it be the season, in itself. And what our commercial watermen are certainly asking for is predictability. They want to be able to know

that they have a certain season, that they go out and they can earn a living in doing so.

I think what we also find in the differences between maybe what Mr. Robertson and I deal with on a different basis is, he certainly deals in the science end, and I certainly deal in the end of talking every day to the commercial watermen and what they're doing. And there is a discrepancy there. There is a disconnect.

So often in Maryland, we seem to believe that policy sometimes is driving the science, that, in a sense, the policy is being created on the—on, again, maybe in the interest of the Chesapeake Bay or in the interest of some type of act, but we're not seeing whether or not the science came first or the policy came first. And the commercial watermen are definitely out there, along with our farmers, are saying that we see, over and over again, this policy comes first and then all of a sudden they dig up the science to back that up. And, you know, again, more and more, we need to get these groups involved. They are a tremendous industry in the State of Maryland. Agriculture, No. 1, farming—and, you know, commercial watermen are doing everything they can. It's becoming tougher and tougher on these groups, and we really need to include them so we can find better ways to help them out.

Senator CARDIN: Mr. Robertson, what type of assurance can you give on making decisions in a timely way for those that make their livelihood off of the harvest of the Bay?

Mr. ROBERTSON: Well, I think, first, a cautionary note that providing predictability with respect to blue crabs is a big challenge, because they're a—they're not like striped bass or rockfish, they don't run on 7-year recruitment cycles, they run on annual recruitment cycles. And so, these variety of factors that we think may affected them are very difficult to address in such a short timeframe.

But, I would say that, with respect to predictability, there are a variety of good efforts going on, including, in the State of Maryland, something called the Blue Crab Design Team, which has been working with industry to try to provide both greater accountability, in terms of what watermen are out there catching, and, in return, provide greater predictability by trying to create some sort of understood allocation or basis for which the fishery is predicated on. In so doing, from an economic standpoint, if you're a crabber, you actually have the better ability to get a more predictable price for your bushel of crabs when you bring it dockside. Right now, we've been in a cycle of boom-bust; whereas, abundance increase, fishing pressure increases, but the price that watermen get at the dock goes down. And so, that's actually not in the interest of watermen in the long term. We'd like to see it become both more accountable and more predictable so that they actually get a much better and consistent price at the dock, and that's going to contribute to their livelihood.

Senator CARDIN: And I suppose the restoration of 185,000 acres of submerged vegetation will be well-received among those who make their living off of the crab crop, so that's a—that's certainly a very positive step.

Mr. ROBERTSON: Certainly, habitat issues out there that we'd love to see——

Senator CARDIN: Yes.

Mr. ROBERTSON:—SAV come back.

Senator CARDIN: Representative Miller, I want to talk about the upstream issue just for one moment. I was—in reading some material for today's hearing, I read a lot about the brook trout. I was fascinated by it. It's a beautiful species. It lives upstream. It lives in cold, clean water, which, to me, is somewhat like the canary in the mineshaft. If we have brook trout, then we've got healthy water. So, how do—I've always been amazed—not amazed, but, I guess, pleased by the leadership in Pennsylvania in understanding the importance of the upstream water supply in the Chesapeake Bay. Yes, the Bay is important to you, but it's not as direct as it is to those of us who live on the shores. So, could you just give us a little bit of your views as to how we deal with the upstream issues which are so critical to the health of the Bay?

Rep. Miller: Absolutely. Of course, trout fishing in Pennsylvania is very, very important. We have seen—actually seen more impact on the smallmouth bass in the Susquehanna River, and we're trying to address those issues. One of the problems that we have is finding the scientific data to identify exactly what is causing the issues. It's difficult to design a program to address anything if you don't know what the cause is. So, there is a lot of study and effort going into finding out exactly what is causing those issues.

But, we go back to the same thing that we've discussed quite often. It's—you need to address it at the local level. I believe Pennsylvania is doing its fair share. One of the things we try to do is inform our decisions based on the data. If you look at it, Pennsylvania provides over 50 percent of the fresh water to the Chesapeake Bay. Our phosphorous loading is 20 percent of the loading to the Bay. Now, some people might make the argument that that's because of the dams acting as the sediment points. But, if you look at a publication put out by the Chesapeake Bay Commission recently, it shows the trends for phosphorous and nitrogen in the States. And if you look at Pennsylvania, the trend for phosphorous at every monitoring point is down. We're doing a good job of reducing the phosphorous loading coming off of the Pennsylvania areas in the watershed. There is one where it is not significant change, increase or decrease. I cannot say the same for all the spots in our neighboring States. But, we all have to address our own issues.

I believe the dam—the issue of the two dams will be addressed as we go forward. But, what has to be realized, that probably without those two dams for the past 80 years or so, we might actually be looking at a Bay that right now is a dead zone. It really did help to save the Bay to the point it is now. We will continue to do our share, but we have to address it on the local watersheds. And you're absolutely right, our fishermen demand it, we'll take care of addressing the issues with the brook trout, even though I think they're doing fairly well. We'll continue to find the answer to address the smallmouth bass, and I think we'll all be better for it.

Senator CARDIN: Well, we very much appreciate the leadership of you in Pennsylvania in this area. It's been——

Rep. Miller: Thank you.

Senator CARDIN:—the Susquehanna is critically important. And New York's also a critical State for us on our freshwater supply. So, it is a huge part of the Bay initiative.

Mr. DiPasquale, I was recently on the Eastern Shore with the Coastal Storage Program at Assateague. I had a chance to meet with some students as they were spending their summer learning about the challenges of the—of water quality in the Bay. And, I'll tell you, it was just encouraging to meet with these individuals. And my thoughts were, you know, how do we capture that, how do we make sure that training is not lost and that we have a better environmental education literacy program? It's part of the Bay Agreement. My colleague in the House, John Sarbanes, has taken a leadership on No Child Left Inside, that we've got to get children much more sensitive. There is no question that the environmental literacy and access to the Bay are two areas that are in the Bay Agreement, the new Bay Agreement, that are aimed at helping future sensitivities to preserving the Bay. Can you just tell us a little bit more how that discussion took place and how the agreement is framed in that regard?

Mr. DIPASQUALE: I'd like to. So, the executive order that was issued in 2009 actually contained a number of goal and outcome areas, environmental literacy and public access. One of the objectives of the new Agreement was to try to better integrate the efforts of the—under the TMDL, under the executive order, and to incorporate those into the new Bay Agreement. So, now we have a separate environmental literacy goal and outcomes. A lot of work has already been done in that area. Maryland certainly has been one of the leaders in environmental literacy and very much supported by the administration here. NOAA has actually led the effort in the work that's been done under the executive order. And public access is the—is a program that the National Park Service has been working on to increase the number of public access sites by 300 sites throughout the watershed. There are some areas in the watershed where there are 50 or 60 miles of shoreline without public access. And so, they're looking for opportunities to site new public access sites.

But, it's important, I think, for citizens, both young and old, to understand the value of the Chesapeake Bay and the water—the tributaries, actually, throughout the watershed, and to try to learn about them and protect them.

Senator CARDIN: And, Mr. Robertson, of course, you have the BWET program. My predecessor, Senator Sarbanes, was critically important in establishing that program. We're very supportive of it. Does the Bay Agreement tie into the work that you're doing?

Mr. ROBERTSON: Yes, I think, directly. I mean, it's really building off the success of that program, the idea of providing a meaningful experience for students at least once—the previous commitment of the Chesapeake 2000 Agreement, to provide that experience once during their high school or entire school career, grade school career. Now, in the new agreement, being, let's try to make sure they have one of those types of experiences in both elementary, middle, and high school. So, I think it's building on the idea that we know those experiences have an impact on students. It sounds like, perhaps, some of the ones that you interacted with. And that if we can continue to expand that, we'll see great results, going forward.

I might also just add that, you know, it's not just taking them out to a place, it's not just what they learn, it's now they learn it,

and that this sort of integration of literacy—environmental literacy into school systems and into the curriculum is really becoming a way of teaching that I think is understood to have a bigger impact than just teaching the subject, so to speak.

Senator CARDIN: Thank you.

I should point out, as I did a little bit earlier, there are many different programs that feed into the work of the Chesapeake Bay—in the Water Act and recently in the farm bill with the Regional Conservation Partnerships—and we're very interested to see how that is moving along, since that is brand new. The Bay was, of course, designated as one of the critical areas in the country, so they'll be allowed to qualify for two sets of funds under that program. So, that's—gives us another source of funds that go into the Bay.

I will be talking with—I already talked to Secretary Jewell in regards to the designation under the Land and Water Conservation Fund. We think it is absolutely wrong that there is no waters on the East Coast, other than the Everglades, that have been designated under that program. So, we are going to push hard to try to get funding.

The State Revolving Funds, of course, are used to help deal with this. The President included in his budget $70 million for the Bay Agreement. The markup in Senator Mikulski's committee includes that $70 million. So, there are funds that are available to try to help deal with these problems.

So, let me, finally, ask about one area in the agreement that seems like it could consume every dollar you have there and then some, and that's resiliency, dealing with the realities of the challenging climate that we have.

So, I just really want to know, To what degree to you expect resiliency to be advanced in regards to this chapter of the partnership among the States? What can we expect? I—again, I—the challenges of dealing with the unpredictable has been very, very difficult for all of us. So, how is that worked into the agreement?

Mr. DIPASQUALE: I'll take the first shot at it and then turn to Peyton. NOAA has a specific role in that effort.

So, you're aware that there is a separate goal and two outcomes dealing with climate resiliency and adaptation. And I think there's been a recognition over the last several years that needed to be front and center in all of our efforts because of the impact that climate change can have on the work we're doing to try to restore the Bay. So, if we have higher temperatures in water, for example, that could actually reduce dissolved oxygen, which is an important part of the TMDL. It's all really connected.

A lot of the States have already started moving ahead with adaptation plans. We've seen Hurricane Sandy have a tremendous impact, and the Corps has done a—along with NOAA—has done a terrific job in identifying opportunities to make waters more resilient to those kinds of impacts. We're going to be hiring a climate change coordinator, in fact, in the next few months, and that individual not only is going to be responsible for assisting us in updating the Bay model to deal with climate change impacts, but also working across all of the goal implementation teams to show them areas that potentially could be impacted by the effects of climate

change. And NOAA is at the front and center of that. In fact, we'll be executing an interagency agreement with NOAA to bring on that coordinator.

Senator CARDIN: Peyton.

Mr. ROBERTSON: So, I think that's one piece of it, is bringing a focal point to it, right, is an issue that's so pervasive, is to try to create a point of contact and a means for which the issue can be addressed across all of these goals. Climate is understood to be a factor that's going to affect our ability to achieve every one of these goals. And so, it's a crosscut that way, and we're going to take a look at it that way.

My full written testimony includes some specific examples of the kind of work NOAA's doing. But, in essence, you know, as has been referred before, we're really a science agency with service built in, in terms of the ways we can bring that science to bear for other decisionmakers. And so, that's effective, because what we're trying to do is both understand what's happening here with respect to change and setting up a sentinel site cooperative to look at that, look at monitoring sites, and actually see what's happening to sea level and coastal inundation over time, looking at things like frequency of severe storms and the impacts that has on, not just the environment, but on coastal communities, and ultimately make that information and tools available to local communities, because, as you've heard on this panel, that's where the action is. So, we really want to make sure the preparedness and the resilience is housed at that level, and the ability to drive decisions is there where the action is.

Senator CARDIN: I appreciate your response. So, it seems like what you are suggesting is that it'll be informational so that we understand what is happening in the risk factors. Obviously, there are two ways to deal with this. One is to try to deal with the causes of climate change, which is not in the Bay Agreement. I understand that. That's a separate debate that's taking place in this country and globally. The other is dealing with adaptation, which is an area that we can deal with. And it is a real challenge, because we've looked at some of the cost issues on infrastructure, for example, or for beach renourishment or—you could just go through the different areas. And they are pretty—it's pretty steep, the cost in regards to dealing with adaptation. The truth is, we have to deal with both. And it's—I—it's important that it's part of the agreement, because there's no question it has a direct impact on the future and quality of the Chesapeake Bay. So, I'm pleased to see that is part of the agreement, but I—it's—you're just starting us down that path. We're going to have a much more serious discussion on those issues.

I don't know if anyone else wants to make any comments before we wrap up.

Ms. LISANTI: If I may, Senator. I just want to leave you—you asked some of the—you asked how do we—what would be advice for moving forward? And I think that, very often—we were talking just a few minutes ago about environmental literacy, and we always focus that on our children, which is very, very important, because it is their lifestyle that changes and their connection with na-

ture that will help these policies move forward in future generations.

But, for the immediate short term, one of the things that I think is lacking—and we talk about this a lot in our Local Government Advisory Committee—is boiling all of this down to very simple steps, very simple outcomes. I—particularly the Chesapeake Bay Program, NOAA does a fantastic job of doing, you know, major reports on each one of these sectors and their effect. But, how we communicate that—I think Senator Hershey said that—as local government—I know, Representative Miller, you've had the same—you have the issue—we are the people that meet Main Street. And to explain some of these very highly technical matters to the average person, or us, as lay people—you know, as elected officials, we're expected to know a little bit about everything in—we think we do. We try, as—and some do it better than others. But, it—these are very difficult times, these are very difficult concepts. This is very difficult science. So, to have that global education is so important.

I think back, as a child, to programs that the Federal Government did, advertising, like Smokey the Bear. Smokey the Bear is something that I connected with as a child and guided my decision-making without me even realizing it. I also remember there was another national—I think it was a National Park Service advertisement that showed an American Indian on the—on a riverbank with debris and litter floating by, and they went to him, and he had a tear in his eye. That was—that impacted me as a child, that made me think of the world in a different way. And I think we get so bogged down in all of the details and, you know, in all of the science, but we forget to communicate to the average person on the street what this is about.

You know, that's why we have issues like—you know, in the State of Maryland, we have a debate on whether we tax the rain, or not. Taking that issue, as a legislator, and explaining to the people that I was federally required to impose a tax on, and explain to them, "We have a stormwater fee that you are paying out of your general fund." We are now, in our county—we were different than a lot of the jurisdictions, but we removed that from our general fund and made an enterprise fund so the—so it was a direct cost for direct service. We also allowed people to opt out. In Harford county, you don't have to pay the fee if you take care of your own stormwater. It was a very simple step, but it took a lot to be able—for all of us to be able to explain that.

So, I can't let environmental literacy on a global level go without emphasis.

Senator CARDIN: Thank you.

Well, let me thank you all. This hearing has been, I think, very helpful in trying to understand the new Chesapeake Bay Agreement. As President Obama joined a list of Presidents who have declared the Chesapeake Bay a national treasure, this is of importance to our entire country, not just the States and the region in which it is physically located, because of its richness and its biological diversity. So, this is a national issue.

But, also, what's being done in the Bay is being looked at nationally for other great water bodies, which my—the subcommittee I

chair has jurisdiction over. So, whether we're talking about Naragansett or we're talking about the Great Lakes or we're talking the San Francisco Bay or Puget Sound or the Gulf of Mexico, they're looking at what worked in the Chesapeake Bay and trying to duplicate that so that they can also have a game plan that will help future generations.

So, this hearing has been helpful, not only in better understanding of our committee in the U.S. Senate on the Chesapeake Bay and the evolution of the agreements to where we are today, a voluntary agreement that is consistent with the actions under the Clean Water Act to try to bring it in a consistent way. It is also helpful for us to look at what works and doesn't work in our country so that we can have the most cost-effective, efficient, scientific-based plans so that we can lead the Bay in a better State to our children and grandchildren. That's our goal.

And we know that this is a long-term effort. When we started this 35 years ago, we knew it would be—need the attention for a long time. And it has had that attention, and, in part, because of the people that are here testifying today.

And we thank all six of you for your being here today, but, more importantly, for the role that you have played in the Chesapeake Bay.

And, with that, the subcommittee will stand adjourned. Thank you all very much.

[Whereupon, at 2:40 p.m., the hearing was adjourned.]

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