STATE OF THE CHESAPEAKE BAY PROGRAM

Summary Report to the Chesapeake Executive Council

July 11, 2011

A MESSAGE TO THE EXECUTIVE COUNCIL

FROM JIM EDWARD, ACTING DIRECTOR

Often times, great history is made over a span of years, rather than in moments. Such is the case with the Chesapeake Bay Program (CBP) partnership, which continues to evolve and grow in its work and understanding. This 2011 State of the Program report offers a summary of some of our focus since the last meeting of the Chesapeake Executive Council in June 2010.

Over the past year, the partnership's efforts have advanced as we make the transition into a new era of clean water for the Chesapeake and its thousands of rivers and creeks. From the CBP signatory partners who are continuing their restoration efforts while also adapting to support the new Bay "pollution diet" (page 3) and the federal agency partners who are now incorporating the Executive Order for the Bay into their work (page 4), to the Advisory Committees for the Executive Council (page 4) and the partnership's Goal Implementation Teams that are constantly working to improve Bay information and science (page 5) – everyone in this collaborative, watershed-wide effort is striving to align the goals of the various and diverse partners (page 9).

You'll find several updates here that illustrate how partners are working together, tracking progress and adapting as we learn. This report begins with a review of 2010 Bay and Watershed Health Indicators on page 2 that give us the good news – that trends in stream health show possible improvements over the last 25 years, and the bad – that in the last year, we lost over 6,000 acres of underwater grasses and saw significant increases in loads of nitrogen, phosphorus and sediment to the Bay.

Understanding the partners' commitments and where we've come since those commitments were made is an important piece as we track our progress, too. The section on page 6, "Interim Progress on 2009-11 Milestones", offers a brief overview on where partners' stand in their progress. The next section offers an overview on ChesapeakeStat, the web tool that shows how we are using what we learn to adapt our management decisions.

On page 7, you'll find that the CBP partners had the foresight to realize the importance of an outside perspective in times of change when, in 2009, we commissioned an independent evaluation of the Program. The results of this study, completed by the National Academy of Sciences (NAS) and issued as a report in May 2011, largely support the program's progress and offer constructive suggestions for improvement.

Finally, there is always the question of funding and budgeting. The articles presented on page 8 outline both the economic work being undertaken to support the TMDL and provide an overview of where the CBP itself stands in the 2011 Federal Budget.

With all these things in mind, clearly, our work is not done. Yet we are moving ahead and we are making a difference. So in closing, on behalf of the entire Chesapeake Bay Program and partnership, I would like to say thank you for your leadership of our collective efforts to restore the Chesapeake Bay and its watershed.

All Images: Chesapeake Bay Program

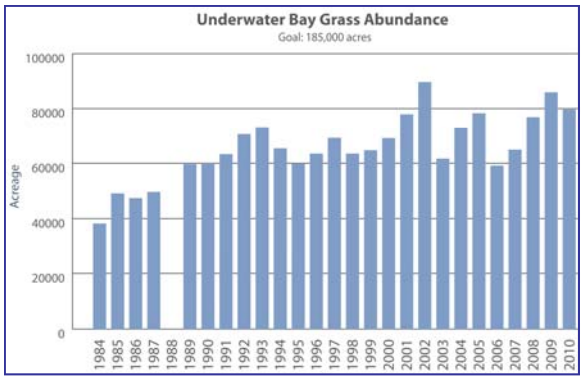
Chesapeake Bay Program
A Watershed Partnership

BAY & WATERSHED HEALTH—2010 INDICATORS

Each year, the Bay Program partners work together to bring together the best scientific data in the region with the intent of providing public information on the health of Chesapeake Bay, its watershed and its tributaries. Following is a summary of 2010 Bay and Watershed Health indicators that have been released to date. Detailed information is available at www.chesapeakebay.net.

UNDERWATER GRASSES (Submerged Aquatic Vegetation - SAV)

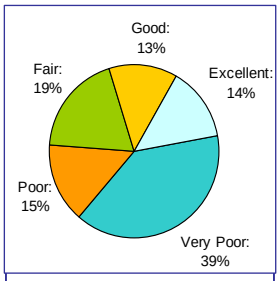
Underwater grasses covered 79,675 acres of the Chesapeake Bay and its tidal rivers in 2010, a decrease of 6239 acres from the previous year. This represents about 43 percent of the 185,000-acre baywide abundance goal. Despite being a 7 percent decrease from the 2009 acreage, these most recent estimates still rank as the 3rd highest since 1984, when the Virginia Institute of Marine Science (VIMS) started its annual aerial survey.



Bay grass acreage decreased in the two geographic zones and remained healthy and abundant in two areas where nutrient pollution was reduced. Of the 93 segments mapped, acreage decreased in 38, increased in 23 and remained unvegetated in 32. The overall condition for bay grasses remains a concern with many areas still having few grass beds.

HEALTH OF FRESHWATER STREAMS

Healthy freshwater streams support a diversity of fish, wildlife and habitats and are intrinsically linked to healthy rivers and a healthy Chesapeake Bay. The average stream health scores in 7,886 of sites sampled (between 2000-08) indicated that 3,584 were in fair, good or excellent condition and 4,302 were in very poor or poor condition. Although sampling densities differ throughout the watershed, generally speaking, streams in areas with more pollution-generating land uses, including urban and some agricultural areas, tend to be in very poor to fair condition, and those in areas with ample natural habitat and low pollution levels tend to be in good to excellent condition. A healthy Bay watershed would have a majority of streams ranked as fair, good or excellent.



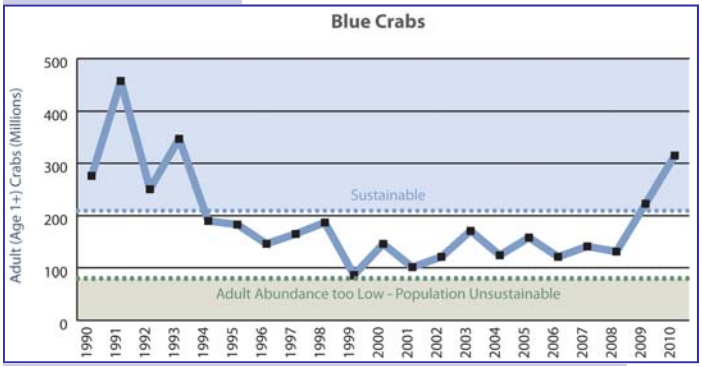
Summary of Stream Health by Monitoring Sites

RIVERFLOW & POLLUTION LOADS

Annual rain and snowfall influence the amount of water in rivers that eventually flow into the Bay. In years of higher river flow, more pollution enters the Bay, while during dry years, fewer pollutants are washed downstream.

In an analysis of flow-adjusted trends over the last 25 years, the majority of long-term stream monitoring sites show improvements in stream health due to decreasing concentrations of nitrogen and phosphorus and sediment, too, at about 40 percent of the sites. However on an annual basis, 2010 saw increases in river flow levels that resulted in more nitrogen, phosphorus and sediment reaching the Bay than in 2009.

- The annual average **river flow** to the Bay during the 2010 water year (October 2009-September 2010) was 52 billion gallons per day (BGD). This is 11 BGD more than the previous year.
- Preliminary estimates show that 278 million pounds of **nitrogen** reached the Bay during the 2010 water year. This is 43 million pounds more than the loads in 2009.
- Preliminary estimates show that 16 million pounds of **phosphorus** reached the Bay during the 2010 water year. This is 7 million pounds more than the loads in 2009.
- Preliminary estimates show that 9 million tons of **sediment** reached the Bay from non-tidal rivers in 2010 water year. This is a 7 million ton increase from 2009. Initial results indicate that two high runoff events in the Potomac River basin combined to generate this load, one of the highest sediment loads in the last twenty years.



BLUE CRABS

Because crabs reproduce by the millions and eat virtually anything, crabs are one of the Bay's most hardy species. Good water quality and adequate habitat are important for the crab's continued health. In 2010, the population of adult blue crabs in the Bay continued to climb, from 223 million in 2009 to 315 million and has exceeded the interim target for the past two years. Regulatory actions from 2008 through 2010 are thought to be the primary factor in the crab's recent recovery.

CBP Partner Restoration Highlights

*The **Chesapeake Bay Commission (CBC)***, with new land conservation goals set for the watershed, partnered with the Chesapeake Conservancy to publish *Conserving Chesapeake Landscapes: Protecting Our Investments, Securing Future Progress*. This report assesses the capacities and needs of the region's land conservation programs and builds upon policy successes to present state-specific recommendations. Following release of the states' draft Watershed Implementation Plans (WIP)s, the Commission identified potential legislative actions. Commission members also successfully sponsored legislation to improve and protect the Bay's water quality, including enhancing state land conservation efforts and incentivizing redevelopment of urban areas to increasing advanced biofuels production.

Delaware made significant progress in 2010 with the creation of its Chesapeake Bay WIP (Phase I). New CAFO and revised Nutrient Management Program Certification regulations took effect, requiring designated farms, livestock and poultry producers to take actions to manage manure, litter and wastewater. Other milestones included: Enhanced Nutrient Removal (ENR) upgrades at the Delmar treatment plant to reduce effluent loads for total nitrogen by 84% and phosphorus by 94%; a stormwater filtration system in Seaford to reduce pollutants from entering the Nanticoke River; and a new Nanticoke Restoration Plan that targets expanding headwater forests, restoring channelized streams, and establishing forest buffers.

*The **District of Columbia*** made progress on green infrastructure, installing 550 rain barrels and providing fiscal incentives to residents for landscaping techniques. A new impervious area-based stormwater fee is helping to reduce polluted runoff, and DDOE is developing a Discount Program to lower fees for properties installing stormwater retention. DDOE is engaging residents in 'green streets' and partnering with nonprofits to build community support. It has initiated a restoration project in Watts Branch, that will reconnect the stream to its floodplain. DC Water's $101 million upgrade will reliably meet Biological Nutrient Removal (BNR) standards of 7.5 mg/l. To comply with ENR, DC Water has a project that capitalizes on features built during the BNR phase, with expected completion by 2014. Under the Clean Rivers Project, construction of a tunnel to manage combined sewer overflows began. Lastly, DC and MD counties have a trash TMDL.

Maryland farmers planted 400,000 acres of cover crops in 2010, preventing an estimated 2.4 million pounds of nitrogen and 80,000 pounds of phosphorus from potentially impacting the Bay and its tributaries. Doubling the cover crop acreage is a prominent feature in the state's ambitious two-year milestones. ENR retrofits were completed on 9 wastewater treatment plants; 5 plants started construction, and 9 plants began feasibility or design studies. By the end of 2010, MD restored almost 40,000 acres of developed land with stormwater retrofits through new MS4 permits. Maryland's poultry farmers transported 46,226 (FY10) tons of poultry litter out of the watershed, exceeding the milestone goal by 168%. The state fully funded Program Open Space for the fourth year and preserved more than 32,643 acres. The blue crab population rebounded due to new regulations, and MD is rebuilding native oyster populations and expanding oyster aquaculture opportunities.

New York established the Dishwasher Detergent and Nutrient Runoff Law in 2010, which reduces phosphorus runoff into the State's waterbodies by prohibiting the sale of phosphorus-containing dishwasher detergents and limiting the use of phosphorus-containing lawn fertilizer. This will reduce costs to local governments and private entities required to remove phosphorus from stormwater and wastewater, while expanding recreational uses of the state's waters. The Upper Susquehanna Coalition, the Natural Resources Conservation Service, and land owners in New York have also made great strides for cleaner water by: restoring 268 acres of wetlands; installing 80,274 feet of stream fencing; planting 273 acres of forest buffers; placing 5,239 acres under comprehensive nutrient management plans and 2,324 acres under grazing.

Pennsylvania developed and worked to implement its Chesapeake WIP in 2010. Erosion and sedimentation (E&S) control regulations were strengthened. The revisions require E&S plans for all plowing and tilling activities as well as Animal Heavy Use Areas, and require additional vegetative cover or Best Management Practices (BMPs) for fields within 100 feet of a stream. They also establish Riparian Buffer requirements for Special Protection watersheds. No earth disturbance is permitted within 150 feet of the intermittent stream, perennial stream, lake, pond or reservoir. For Special Protection waters failing to attain its designated use, a 150 foot wide Riparian Forest Buffer must be established. Whether newly established or an existing buffer, both must be protected in perpetuity. An extensive outreach effort was begun to inform all agricultural operations of these requirements. Pennsylvania also adopted Nutrient Credit Trading regulations in 2010, and created a Nutrient Credit Clearinghouse.

Virginia passed legislation in 2010 that will contribute significantly to the state's effort in cleaning up the Bay. Governor McDonnell added $ 36.4 million to the Water Quality Improvement Fund, which will be used to help implement point and non-point source, best management practices and initiate the James River Chlorophyll study. Also, fertilizer legislation passed that prohibits the sale, distribution and use of lawn maintenance fertilizer containing phosphorus as of 2013. It requires golf courses to implement nutrient management plans by 2017 and requires the Virginia Department of Agriculture and Consumer Services to establish reporting requirements for contractor-applicators and licensees that apply lawn fertilizer to more than 100 acres of nonagricultural lands annually. Lastly, the General Assembly passed legislation allowing farmers who develop management plans to be deemed as being in full compliance with any load allocation in a TMDL.

West Virginia continued its commitment to plant trees and shrubs along creeks in 2010. Over 75,000 feet of buffers were planted, totaling nearly 175 acres (87% of the first 2-year milestone goal), including 26 plantings in the Potomac River watershed through the Conservation Reserve Enhancement Program (CREP). Other projects were completed with diverse partners and funding sources. Cover crop implementation was another great success, boosted by a state-funded cost-share program initiated last year. Local government staff and other representatives of the developed lands sector met throughout the year to develop a model stormwater ordinance for the Eastern Panhandle. WV partners finalized a Phase I WIP, with help from stakeholders.

CBP Federal Partners

In 2010, the U.S. Environmental Protection Agency (EPA) and other federal agencies worked to develop and implement a new Executive Order (EO) strategy for the protection and restoration of the Chesapeake Bay Watershed. Since the issuance of EO 13508 in 2009, EPA and representatives from several federal agencies are sharing expertise, in collaboration with state and local governments, to usher in a new era of leadership, action and accountability for the Bay.

Department of Defense (DOD) completed the Navy's first "green" roof construction project at the Legal Services Building.

National Oceanic and Atmospheric Administration (NOAA) worked with states and other partners to identify prime locations for oyster restoration by mapping and characterizing the bottom habitat in some tributaries. The survey data, combined with water quality and oyster harvest information, are being used to guide oyster reef building projects. www.chesapeakebay.noaa.gov/acoustic-seafloor-mapping-projects

Department of Agriculture (USDA), through the 2008 Farm Bill's Chesapeake Bay Watershed Initiative, helped to provide an unprecedented $33,517,626 in 2010 to assist farmers in implementing conservation practices like cover crops, crop residue management, nutrient management, and vegetative buffers; in addition to assistance provided through other USDA programs. This assistance helps agricultural producers address their resources concerns and simultaneously helps States achieve their TMDL goals. USDA also awarded $2.2 million in Conservation Innovation Grants for innovative agricultural conservation projects to protect the Bay and local waterways. www.nrcs.usda.gov

U.S. Environmental Protection Agency (EPA) released the Total Maximum Daily Load (TMDL) for the Chesapeake Bay and the region's tributaries in December 2010. It was shaped by an extensive two-year-long public and stakeholder involvement process. EPA's "pollution diet" calls for significant reductions in nitrogen, phosphorus and sediment loadings to the Bay by 2025, with at least 60 percent of the reductions achieved by 2017. EPA continues to work with the watershed jurisdictions as they create their Watershed Implementation Plans (WIPs), providing them with resources (grants, technical assistance, contractor support, communication materials, etc.) to aid in implementation. www.epa.gov/chesapeakebaytmdl

U.S. Fish and Wildlife Service (FWS), worked with federal partners to prioritize brook trout and black duck habitats for restoration; provided assistance to private landowners who want to restore habitat; identified shared priorities for land conservation, wetland and stream restoration; and encouraged habitat-based practices to help reduce nutrient and sediment runoff. FWS is constructing a website, www.fws.gov/restorechesbay, that links agency investment with environmental outcomes.

U.S Geologic Survey (USGS) helped to improve urban-land cover data; developed new techniques to assess improvements in nutrients and sediment in the watershed; and supplied information on sediment loads. With other federal agencies, it began to develop land-conservation prioritization tools and collaborate on areas for land conservation; continued sampling fish within the Potomac River basin; and studied factors affecting Bay sea-duck populations. http://chesapeake.usgs.gov

CBP Advisory Committees

Citizens Advisory Committee (CAC)

In 2010, CAC closely followed the development of the Bay TMDL and the jurisdictions' Watershed Implementation Plans. CAC submitted formal comments on the draft TMDL and offered comments for the Department of Interior's Great Outdoors Initiative in support of increased public access to the region's rivers and the Bay, more resources for land conservation, and formal and informal environmental education programs. In addition to meeting with state and jurisdiction representatives, CAC also met with representatives of EPA and USDA to discuss their agencies' program and budget priorities. CAC had the opportunity to tour an innovative dairy farm and manure digestion operation. Looking to the future, CAC will: continue meeting with jurisdiction representatives as it travels throughout the watershed, learn more about the water quality nutrient trading credit programs, continue to follow resource extraction issues and be a voice for accountability in the efforts to restore and protect local water quality.

Local Government Advisory Committee (LGAC)

The Local Government Advisory Committee (LGAC) is chaired by Harford County (MD) Councilwoman Mary Ann Lisanti. This past year, LGAC members played a significant role in assisting EPA with the latest round of TMDL public meetings. The Committee also focused on helping local governments understand the first round of the WIP process and is now gearing up for a major communications effort aimed at local governments for the Phase II WIPs. The Circuit Rider project in York County, PA established a broad based TMDL Working Group and is working closely with the PA Department of Environmental Protection to provide input to the more targeted Phase II plans. LGAC meetings have featured breakout sessions by state delegations where agencies from MD, PA, VA and D.C. are helping inform members of each state's approach to developing their WIPs. LGAC is continuing to work closely with the Scientific and Technical Advisory Committee on a follow up to last year's successful stormwater workshop and with the Citizens Advisory Committee on public and local government involvement in the Phase II WIP process.

Scientific & Technical Advisory Committee (STAC)

In the last year, STAC has continued its efforts to provide innovative solutions and suggest science-informed adaptation of existing programs, policies and institutions to the array of stakeholders in the CBP partnership—from federal agencies to state agencies to local groups. Its initiatives in the last year have included: investigation of innovative roles for the social sciences within CBP policies and programs, discussion on how the CBP might institutionalize climate and vulnerability science, assessment of a suite of emerging hydrodynamic models for future CBP modeling efforts and partnership with the Local Government Advisory Committee (LGAC) to investigate effective urban stormwater management practices.

CBP Goal Implementation Teams (GITs)

GIT 1—The team pursuing **Sustainable Fisheries** focused on four major initiatives in the last year. First, they worked to finalize the Oyster Metric Report and begin selecting tributaries for targeted restoration. Second, they evaluated the blue crab stock assessment to update abundance targets with sex specific numbers. The third, ongoing project is to develop and implement a Bay-wide invasive catfish policy. And lastly, the team is considering ways in which they can make connections between land-use decision practices and their impacts on fisheries.

GIT 2—The team working to **Protect and Restore Vital Habitats** oversees workgroups in four main areas:

- The SAV Workgroup participated in a STAC review of SAV restoration programs and documented and refined their adaptive management planning process using Chesapeake*Stat*.
- The Wetlands Workgroup restored 1,344 acres, and enhanced 14,416 acres of wetlands across the watershed, focusing efforts on projects that benefit species requiring high-quality wetland habitat and incorporating water quality objectives where possible. The workgroup also started a pilot project in MD using the National Environmental Information Exchange Network (NEIEN) to streamline the collection of wetlands restoration data from multiple partners.
- The Fish Passage Workgroup opened 121 stream miles for fish passage and developed a MD Fish Passage Prioritization Framework that will feed into the priority framework being developed for the Bay.
- The Stream Health Workgroup will focus on floodplain connectivity and brook trout habitat restoration.

GIT 3—Over the past year, the team charged to **Protect and Restore Water Quality** worked to get input from its members and all CBP partners, to enable EPA to establish the Chesapeake Bay Total Maximum Daily Load. As part of this effort and their ongoing modeling work, they have conducted reviews of existing and proposed Best Management Practices to help them give credit for effective and innovative nutrient and sediment controls. Finally, they have recently added two new workgroups, one on milestones and the other on water quality trading. The milestones workgroup will help the partnership formalize and implement its accountability framework for cleaning up the Bay and its rivers. The trading workgroup will help facilitate cost-effective pollutant load reduction actions.

GIT 4— The **Healthy Watersheds** team is relatively new with a new focus. In 2010 GIT4 established itself by recruiting members from across the partnership, refining a goal, and developing a work plan for the future. In 2011, the team intends to bring attention to the challenge of protecting streams and watersheds that are healthy today. GIT4's focus is on:

- Crediting Conservation (e.g. forest preservation) in the Bay TMDL context through a STAC Workshop with a follow-up workshop to be held this fall;
- Sharing and promoting working strategies locally using the goal team meetings as a forum;
- Communicating the importance of healthy watershed maintenance using an economic benefits argument; and,
- Applying the best available science and analysis by creating a fish community-based indicator of stream health.

GIT 5—This past year, the **Fostering Stewardship** team established the Chesapeake Conservation Corps Action Team and the Master Watershed Stewards Action Team to develop strategies that aim to significantly increase the number of youth and adults engaging in Bay stewardship activities. The team also launched an initiative to develop a robust Chesapeake Bay Elementary and Secondary Environmental Literacy Strategy that will support and enhance outdoor student environmental education programs, provide professional development, tools and resources for educators, and encourage the creation and maintenance of green schools. Additionally, working with all watershed states and D.C., GIT 5 created and mapped a consistent baseline inventory of currently available public access sites and developed a common language and methodology to assure that tracking of future site development is consistent among all partners. Finally, the team collected and incorporated preliminary priority conservation area locations and existing GIS data layers into an initial prototype land conservation priorities system that will be used to foster collaborative, strategic land conservation priority setting and implementation, including the leveraging of partner resources and capabilities to achieve mutual land conservation goals.

GIT 6—The **Enhance Partnering, Leadership, and Management** team developed numerous enhancements to Chesapeake*Stat* (see p. 6) including helping on a proposed logic-model-based decision framework to be used by the Goal Implementation Teams (GITs). This work positioned the team to utilize the recommendations from a recent National Academy of Science (NAS) report (see p. 7) to advance the implementation of adaptive management practices more comprehensively across the CBP restoration activities. Working with the Alignment Action Team (see p. 9), GIT 6 continues to help to align the federal strategy goals and resources with the existing CBP strategic framework and organizational structure. In the area of technology, the team rolled-out an innovative meeting management tool for use by the GITs, coordinated a Data Enterprise effort related to the Executive Order and is forming a strong partnership between EPA, NOAA and USGS. Finally, in the budget coordination area, GIT 6 is continuing to track and update EPA CBPO budget details and is sharing that information with CBP partners as appropriate and as requested.

Interim Progress on 2009-11 Milestones

In 2009, the Chesapeake Executive Council of the CBP set short-term goals to reduce pollution to the Bay and dramatically accelerate the pace of restoration. The collective jurisdictional commitments will result in reducing nitrogen by 15.8 million pounds and phosphorus by 1.05 million pounds during the three-year period, 2009-2011. A final assessment of load reductions achieved during the entire three-year period will be available next year.

At the 2010 meeting of the Council, members requested information on interim progress toward these goals. As per the most current data, most jurisdictions were on-track to meet commitments for controls to achieve these reductions. The interim assessment as of June 2010, the mid-point of the three-year milestone period, shows results as follows:

- **Agriculture—**Jurisdictions are *generally on track* to implement pollution control practices to achieve nitrogen and phosphorus reductions expected over the three year period. (In 2009, the District of Columbia did not include commitments in the agriculture sector).

- **Wastewater—**Jurisdictions are *generally ahead of schedule* to implement pollution control practices to achieve nitrogen and phosphorus reductions expected over the three year period. (Note: In 2009, Delaware and West Virginia did not include commitments in the wastewater sector).

- **Urban/Suburban—**Jurisdictions are *generally on track* to implement pollution control practices to achieve nitrogen and phosphorus reductions expected over the three year period.

- **Air—**Jurisdictions are *generally ahead of schedule* to implement pollution control practices to achieve nitrogen and phosphorus reductions expected over the three year period.

ChesapeakeStat Update

To meet the needs of the CBP partnership, the ChesapeakeStat website has been re-designed to highlight the program's goal areas and now includes a section "Cross-Goal and Decision Support". This new section provides information for the Management Board (MB) and Principals' Staff Committee (PSC) that relates to more than one goal area, such as monitoring or funding. Additional changes include:

- Content that supports the work of the SAV and Agriculture workgroups;
- The ability to track progress of BMP implementation against jurisdictional commitments in WIPs;
- A TMDL Tracking page in the Water Quality goal area that provides TMDL allocations at the state, basin, and segment scales by sector and, that will, over time, show progress towards those allocations; and,
- More than 100 additional map layers with the ability to combine them in a "Make Your Own Map" feature for export and reuse in other applications.

In addition to website changes, the ChesapeakeStat Action Team, created in 2010, completed their work by recommending a decision framework/adaptive management process that was subsequently adopted by the PSC in May 2011. The Enhancing Leadership, Partnering, and Management GIT (Team 6) will be supporting the process and progress will be reported on ChesapeakeStat. Information on the decision framework is currently found in the Decision Support area of ChesapeakeStat and progress and status toward implementation will be included over time.

http://stat.chesapeakebay.net

ChesapeakeStat

INDEPENDENT EVALUATOR
National Academy of Sciences (NAS) Report Results

In December 2009, the first independent self-evaluation of the CBP began. The purpose of the study was to evaluate CBP's implementation efforts to achieve nutrient reduction goals for water quality in order to accelerate the protection and restoration of the Chesapeake Bay.

The National Research Council of the National Academy of Sciences (NAS) released its results in May 2011 in a report titled: "Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay: An Evaluation of Program Strategies and Implementation." The results are constructive and generally focus on accountability, reinforcing the partnership's work over 2010 including the Bay Total Maximum Daily Load (TMDL), the Bay jurisdiction's Watershed Implementation Plans (WIP), and the two year milestones. The findings also provide suggestions for strengthening processes in the areas of: tracking and accounting of Best Management Practices (BMPs); assessing milestones; adaptive management; and implementation strategies. CBP will evaluate and consider the science-based conclusions and recommendations offered by NAS in its future planning and implementation.

In the process of conducting this study, NAS recognized the complexity of the Bay watershed, the equally intricate tracking systems required to accurately report on progress and the fact that CBP is in the process of better integrating its voluntary and regulatory work. The CBP partnership will provide a written response to all the recommendations in early August 2011.

The NAS evaluation was jointly funded by the US Environmental Protection Agency/Chesapeake Bay Program (CBP), the District of Columbia, Maryland, Pennsylvania, and Virginia.

THE CHESAPEAKE BAY TMDL
Working Together to Clean Local Waters

Graphic courtesy of Choose Clean Water Coalition

A New Clean Up Strategy Is Put In Place

In December 2010, the U.S. Environmental Protection Agency established the Chesapeake Bay Total Maximum Daily Load (TMDL), a comprehensive "pollution diet." The TMDL is the largest ever created, identifying the pollution reductions of nitrogen, phosphorus and sediment that are necessary to fully restore the Bay and its tidal waters.

Phase I Plans

During 2010, each of the six Bay watershed states and D.C. developed a Phase I Watershed Implementation Plan (WIP). These plans estimated the nitrogen, phosphorus and sediment reductions that would be needed in agriculture, wastewater, urban lands and septic systems by state and major river basin, to meet the water quality standards needed to ensure that healthy local waters flow into the Bay.

The plans included broad strategies for ensuring *all* of the necessary pollution reducing practices and controls will be in place by 2025, with at least 60 percent of them in place by 2017. During this Phase I process, EPA reduced and removed most federal backstop measures while still maintaining rigorous accountability and making contingency actions available. Over time, EPA's role will be to track and access progress, verify reports and take actions needed for restoration efforts to continue on schedule.

Planning At the Local Level

EPA developed two guides to help the Bay jurisdictions and the federal agencies affected by the TMDL, to understand their continuing responsibilities under Phase II of the process. In this next step, each jurisdiction will develop a Phase II WIP that outlines how they will achieve the pollution reductions on a more local level. In developing these plans, the States and the District will be reaching out to local governments, conservation districts, watershed organizations, citizens, states and federal agencies and other stakeholders to talk about and facilitate steps to reducing local pollution. Draft Phase II WIPs are due to EPA by December 1, 2011, and Final Phase II WIPs must be submitted by March 30, 2012.

Unique Plans for Unique Waterways

It's not just about the Bay. Countless local rivers, lakes and streams are also impaired by pollution; and for those waters that are not polluted, we need to make sure they stay that way. We know that cleaning up our waterways won't happen overnight and that it will require some tough decisions. Since the establishment of the Chesapeake Bay TMDL, we are already seeing change. State-wide legislation has been passed. Community groups are reaching out to their residents to encourage them to become involved in the Phase II WIP development process, and to do their part in minimizing their watershed footprint. Farmers are implementing more Best Management Practices. Everyone is discovering that all water issues are really local issues – issues that can start in our own backyard and end up in the Bay.

For more information visit: www.epa.gov/chesapeakebaytmdl.

Funding & Budgeting

Chesapeake Bay TMDL Economic Studies

In March 2011, EPA Deputy Administrator Bob Perciasepe committed to the House Agriculture Subcommittee on Conservation, Energy, and Forestry that EPA would develop an estimate of the costs associated with the Chesapeake Bay TMDL. This work was initiated shortly thereafter, with project leadership provided by the Chesapeake Bay Program Office.

EPA believes that the most appropriate means of estimating costs is by analyzing the actions identified in the Chesapeake Bay jurisdictions' WIPs. Moreover, EPA believes that estimating the benefits associated with TMDL implementation will provide important balance to the discussion of costs. EPA Chesapeake Bay Program staff have sought to keep the jurisdictions informed about this work, meeting with each jurisdiction individually to discuss the project and providing briefings and updates to the Water Quality Goal Implementation Team, the Scientific and Technical Advisory Committee, the CBP Management Board, and others.

EPA is considering development of two separate studies:

- EPA's Chesapeake Bay Program Office (CBPO) will develop a study to provide cost estimates at the jurisdictional level and at the watershed level.
- In a separate study, the benefits associated with a clean Chesapeake Bay would be estimated. CBPO would not lead development of this study.

Both studies would review currently available information, including the Bay jurisdictions' Phase I WIPs, but would be updated to reflect the final Phase II WIPs, due in March 2012. The cost study is currently scheduled to be released in June 2012; preliminary results from the benefits study could also be available then.

A number of stakeholder organizations and other agencies are currently conducting or contemplating analyses of costs related to the TMDL. The U.S. Department of Agriculture, the Chesapeake Bay Trust, and the University of Maryland are among the groups engaged in related research. EPA is reaching out to those organizations in an effort to align its own economic work with that of the other organizations. EPA hopes these ongoing conversations will result in expanded cooperation and broad support for the results of EPA's proposed studies.

EPA plans to provide key elements of the studies to Bay jurisdictions before June 2012 as available. Some initial elements may be available in summer 2011. EPA will welcome input from the jurisdictions and expects to design the project so it is of value to all stakeholders as the Phase II WIPs are developed and implemented.

Chesapeake Bay Program Budget

After an extended deliberation process, in April 2011 Congress passed a continuing resolution to fund the federal government through the remainder of the federal fiscal year. Overall, federal spending was reduced by nearly $38 billion as compared to Fiscal Year 2010. The budget for the U.S. Environmental Protection Agency (EPA) was reduced by about $1.6 billion, or 16 percent, to $8.68 billion for Fiscal Year 2011. Many of the Chesapeake Bay Program partner agencies also experienced budget cuts for Fiscal Year 2011.

EPA's Chesapeake Bay Program budget for Fiscal Year 2011 is $54.39 million, which represents a $4.39 million increase over Fiscal Year 2010, but an $8 million decrease from the President's budget request for Fiscal Year 2011. The Fiscal Year 2011 funding for the EPA Chesapeake Bay Program will enable the program to continue its important work to reduce nutrient and sediment pollution in an unprecedented effort to restore this vital ecosystem. The program's rate of progress, however, may not be as rapid as it might have been with funding as envisioned in the President's request.

EPA will continue to place a high priority on providing support to the Chesapeake Bay watershed jurisdictions as they work to implement the Chesapeake Bay Total Maximum Daily Load (TMDL). The agency remains optimistic that it will be able to provide the same level of funding to the Bay jurisdictions as was provided in Fiscal Year 2010 for the Chesapeake Bay Implementation Grants and Chesapeake Bay Regulatory and Accountability Program grants. EPA also hopes to be able to provide the jurisdictions with contractor support for Phase II WIP development at levels comparable to those in Fiscal Year 2010.

The President's budget request for Fiscal Year 2012 includes a request of $67.35 million for EPA's Chesapeake Bay Program. Overall, the President's budget request would provide $9 billion for EPA in Fiscal Year 2012.

Executive Order Update

In response to President Obama's Chesapeake Bay Executive Order (EO) 13508, federal agencies published a first-annual Action Plan detailing fiscal year 2011 funding and activities dedicated to restoration and protection of the Chesapeake Bay and its watershed. As directed in the EO, the Federal Leadership Committee (FLC) agencies must produce annual action plans that detail the actions to be taken in the coming fiscal year, based on the President's annual budget request to Congress. The 2011 Action Plan, published in September 2010, conveys the full scope of on-the-ground and in-the water efforts the federal government will undertake in the Chesapeake Bay watershed. These actions are also intended to support state and local efforts, as well as be an investment in countless communities and local economies throughout the region. To increase accountability, the federal agencies are establishing two-year milestones, through 2025, to ensure progress toward measurable environmental goals.

The 2011 Action Plan follows the structure of the EO *Strategy for Protecting and Restoring the Chesapeake Bay Watershed* (published May 12, 2010). It is organized into four goal areas and four supporting strategy sections. It also includes a brief section on implementation and accountability efforts and further identifies specific activities, lead agencies and completion dates with a summary of funding by outcome and agency in each goal or section.

Federal agencies are well underway in their work on initiatives detailed in the 2011 Action Plan. Among the restoration projects and programs identified: $72 million in financial and technical assistance to help farmers implement voluntary conservation practices in high-priority areas; over $20 million directly to the states and the District to implement stronger regulatory and accountability programs to control urban, suburban, and agricultural runoff; and $30 million dollars for land protection. The Action Plan also includes projects to restore 67 miles of fish passage to streams and design more than 60 acres of oyster reefs.

The actions and initiatives detailed in the Action Plan were based on the President's FY 2011 Budget Request. The final FY2011 appropriations bill passed by Congress in April, however, reduced funding for most federal agencies. The result will likely be a scaling back of some programs or complete elimination of some initiatives. Although the CBP received a $4.5 million increase from FY2010 levels, it was significantly less than the $63 million requested by the Administration. The full impact of these reductions will not be known until later in 2011.

In addition to the annual Action Plan, the EO directs the FLC to publish an annual Progress Report reviewing indicators of environmental conditions in the Chesapeake, assessing implementation of the Action Plan during the preceding fiscal year and recommending steps to improve restoration and protection progress. Because the FY 2011 is the first full implementation year for the strategy, the FLC plans to release the first annual progress report early in 2012.

Aligning the CBP and Federal Partners

The Federal Leadership Committee (FLC) and the Executive Council (EC) have called aligning of the Executive Order Strategy vision, goals, and outcomes, with those of the Chesapeake Bay Program Partnership (Partnership), historically comprised of state and federal agencies, local governments, NGOs, and communities. At the same time, many of the dates and targets associated with outcome-oriented commitments made in the most recent blueprint for the Chesapeake Bay restoration effort - the *Chesapeake 2000 Agreement (C2K)* – have largely expired, whether or not they were fulfilled. Additionally, many partners feel there was insufficient collaboration with the states to develop the Executive Order strategy and outcomes.

The purpose of the alignment process is to: Update/refresh C2K and streamline commitments; ensure a set of shared priorities; clarify governance; design efficient operational structure for collaboration; and, enable effective communication of Partnership's refreshed goals, outcomes and accomplishments. A four-stage path forward to achieve these goals is underway, with Stages 1 and 2 to be completed by the end of 2012. If a new agreement is determined to be necessary, completion of Stage 3 is expected in 2013 and Stage 4 by 2025, along with the TMDL schedule.

- ***Stage 1: Using Goal Implementation Teams (GITs) for Aligning Interests, Priorities, and Efforts—*** Priorities and areas of programmatic and geographic focus for each major goal area are refined by the relevant CBP GITs as guided by key strategies or agreements such as C2K, EC directives, and the Executive Order Strategy. *This work will serve as the foundation for a future Agreement.* The GITs, supported by the standard Advisory Committees and STAR, will be the central element of the operational structure.

- ***Stage 2: Develop Negotiation Protocols for Establishing New Agreement—***A review process to assess the status of existing commitments, subsequent Executive Council actions and future commitments is established during this stage. The results of the review process will be used to determine if negotiating a new agreement would provide added value to the future direction of the partnership.

STAGES 3 & 4—To be pursued by the partnership only if it is determined in Stage 2 that a new agreement is necessary.

- ***Stage 3: Negotiate the New Agreement***—C2K vision and goals will be updated during this stage with refreshed content. The shared priorities of the GITs will the basis for establishing a current set of goals and commitments. The organizational structure and operational framework of the CBP program and partnership will be revisited to ensure full representation of key interests and clarity of roles. This will determine the eligibility and interest of prospective signatories to a new Agreement.

- ***Stage 4: Implement the New Agreement***

LEGISLATION IN THE BAY WATERSHED

Chesapeake Bay Program Reauthorization

Despite passage in the House of Representatives, unanimous committee approval in the Senate and tireless efforts by many program partners, the "Chesapeake Clean Water and Ecosystem Act of 2009," (S. 1816 and HR 3852) introduced by Sen. Benjamin Cardin (D-MD) and Rep. Elija Cummings (D-MD), ultimately fell a few votes short of the 60 needed to overcome the threat of a filibuster at the end of the 2010 legislative calendar. The legislation would have, among other provisions, reauthorized the Chesapeake Bay Program, increased federal funding for restoration efforts, initiated a nutrient trading program for farmers, and held jurisdictions accountable for meeting pollution reduction goals in the Bay and local waters. Legislation authored by Representatives Tim Holden (D-PA) and Bob Goodlatte (R-VA) that would have encouraged environmental services markets and provided a stronger role in Bay restoration efforts for the U.S. Department of Agriculture also failed.

Several members of Congress have introduced bills in 2011 related to the Chesapeake Bay watershed. These include bills intended to reduce storm water runoff (Sen. Cardin) and establish a "Save the Chesapeake Bay Homeowner" designation program (Rep. Sarbanes). Major legislation reauthorizing the Chesapeake Bay Program has not yet been introduced in the 112th Congress.

New Federal Facilities Stormwater Law

On January 4, 2011, legislation authored by Sen. Benjamin Cardin (D-MD) that requires federal facilities to pay local stormwater management fees was signed into law. Sen. Cardin drafted the bill in response to findings by the Government Accountability Office and Government Services Administration that stormwater fees charged by the D.C. Water and Sewer Authority are equivalent to a tax on the federal government, and thus unconstitutional. The bill had the support of the National Governors Association, the National Conference of State Legislatures, the Council of State Governments, National Association of Counties, National League of Cities, the U.S. Conference of Mayors, and the International City/County Management Association. The District of Columbia projects it will collect $2.6 million in stormwater fees from federal facilities in the coming year.

Lawn Fertilizer Legislation in the Jurisdictions

Turf grass is now the largest crop in the Chesapeake Bay watershed according to recent reports by state and non-profit groups. Non-farm use of fertilizer is quickly catching up with farm fertilizer sales and estimates suggest that in Maryland alone, landowners apply approximately 86 million pounds of nitrogen fertilizer to their lawns each year. To reduce pollution from lawn fertilizer, lawmakers in several Bay jurisdictions have taken action to limit the amount and type of nutrients in fertilizer and help ensure that homeowners and lawn care companies apply less fertilizer to the ground. Legislation supported by the Chesapeake Bay Commission and introduced in all three of its member states (Maryland, Virginia and Pennsylvania) is designed to reduce the impacts of fertilizers used to maintain urban and suburban turf. Specifically, the legislation addresses both nitrogen and phosphorus and sought reductions from content reformulation, labeling changes and behavior modification such as application setbacks or winter application restrictions. The legislation was intended to result in a small but meaningful reduction in loads attributed to the urban/suburban sector.

Both Maryland and Virginia enacted laws that eliminate phosphorus in commercial lawn fertilizer by 2012. The Virginia law has low phosphorus provisions and commits to study nitrogen restrictions for possible legislative adoption during the 2012 session. The new Maryland law sets nitrogen limits for commercial and home fertilizer use, requires that 20 percent of the nitrogen in each bag of fertilizer be slow release, bans phosphorus in maintenance fertilizer and establishes training and certification for professional applicators. It also includes provisions for public education. Pennsylvania is expected to take up similar legislation later in 2011.