# Vilestones 25 Pears of Policy for the ay

CHESAPEAKE BAY COMMISSION . ANNUAL REPORT 2005

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CHESAPEAKE BAY COMMISSION - ANNUAL REPORT 2005

**milestone:** 1. A stone post at the side of the road to show distances. 2. An important event, as in a person's career, the history of a nation, or the advancement of knowledge in a field; a turning point.

ver the past 25 years, thousands of individuals have dedicated their time, intelligence, resource-fulness and passion to restoring our nation's largest estuary. The Chesapeake Bay Commission has been a determined catalyst — seeking the best science, the most inventive strategies, and the most productive legislative approaches to reverse the decline of the Chesapeake Bay. This annual report highlights our most significant efforts. It is offered with thanks to the many citizens who have entrusted us with this task.

# Milestones

CHESAPEAKE BAY COMMISSION · ANNUAL REPORT 2005

Introduction The Role of the Commission · 5

Roster of Members · 7

Chapter 1 The Commission's Work in 2005 · 9

Chapter 2 The Commission's First 25 Years · 25

Chapter 3 Bridging the Funding Gap · 31

Chapter 4 Seeding Change: The 2007 Farm Bill  $\cdot$  35

Chapter 5 Manure Matters · 39

Appendix I The Members: 1980–Present · 44

Appendix II 25 Years of Legislative Accomplishments · 46

Follow the history of the Chesapeake Bay Commission from before its founding to the present day through the timeline that runs in the margins of the pages throughout this report.

U.S. Senate
Appropriations
Committee charges
EPA "to conduct an
in-depth study of the
Chesapeake Bay which
shall be applicable
to other areas of the
country."



Chief Sponsor U.S. Senator Charles "Mac" Mathias, Jr. (Md.)



wenty-five years ago, the declining health and productivity of the Chesapeake Bay prompted the General Assemblies of Maryland and Virginia to create the Chesapeake Bay Commission (CBC) in order to coordinate their joint efforts to restore the ailing estuary. In 1985, acknowledging the vast role the Susquehanna River plays in the well-being of the Bay, Pennsylvania joined the Commission to form the tri-state legislative body as it stands today.

The Chesapeake Bay Commission is made up of 21 members. Under their leadership, the Commission is not only an active partner in the Chesapeake Bay Program, but also a coordinator of regional policy for the Bay. Fifteen of the members are legislators, with five each from Maryland, Virginia and Pennsylvania, representing an aptly diverse cross-section of localities within the Bay watershed. The governors of each of the three states are also represented by cabinet members who are directly responsible for managing their states' natural resources. Three citizen representatives complete the membership, one from each state. Each contributes their own unique perspective and expertise.

In 2005, the Commission celebrated its 25th anniversary. With a quarter century of work behind it, and today's roster of 72 distinguished members (see Appendix I), the

Via legislation,
Maryland and Virginia
form the Commission's
precursor, the
Chesapeake Bay
Legislative Advisory
Commission, to begin a
2-year study.





Co-Chairmen
Senator Joseph V.
Gartlan, Jr. (Va.) and
Eugene Cronin, Ph.D.
(Md.)

The bi-state Chesapeake Bay Commission is established by law in Maryland and Virginia.



First Chairman Senator Joseph V. Gartlan, Jr. (Va.)

Commission has solidified its role as a regional, bi-partisan leader. Its members have made remarkable strides in understanding the ecology of the nation's largest estuary, determining the Federal and state actions that are needed to sustain its water quality and living resources, and persuading their colleagues in the state legislatures, the executive branches, and the Congress to take action.

Today, despite 25 years of effort, poor water quality and loss or degradation of habitat threatens a majority of the Bay's living resources. Much has been accomplished, however, including the crafting of *Chesapeake 2000* and the establishment of new water quality standards and regulations. There is indeed a clear vision of "what we must do." But if real progress is to be made, if we are to restore the Bay to its tipping point — the point at which it can begin to heal itself — then sustainable funds must be garnered and political will amassed.

Through an array of partnerships, the Commission has generated a wealth of information and experience, technical knowledge, public understanding and political savvy. Most importantly, its members have contributed substantially to the body of law throughout the three states that addresses the Bay's health. This silver anniversary annual report highlights the work that has been accomplished during the Commission's 25th year, and in the more than two decades of strategic policy making that preceded it.

# Members and Staff of the Commission

The Hon. Michael L. Waugh, <i>Chairman*</i>			
The Hon. John F. Wood, Jr., Vice-Chairman*			
The Hon. John A. Cosgrove*	Virginia House of Delegates		
The Hon. Russell H. Fairchild	. Pennsylvania House of Representatives		
The Hon. Bernie Fowler*	. Maryland Citizen Representative		
The Hon. C. Ronald Franks	. Secretary of Natural Resources, Maryland		
The Hon. Brian E. Frosh	. Maryland State Senate		
The Hon. Arthur D. Hershey	. Pennsylvania House of Representatives		
The Hon. Irvine B. Hill	. Virginia Citizen Representative		
The Hon. James W. Hubbard	. Maryland House of Delegates		
The Hon. L. Scott Lingamfelter	. Virginia House of Delegates		
The Hon. Kathleen A. McGinty	. Secretary of Environmental Protection, Pennsylvania		
The Hon. W. Tayloe Murphy, Jr.	Secretary of Natural Resources, Virginia		
The Hon. Albert C. Pollard, Jr.	. Virginia House of Delegates		
The Hon. Nick Rerras	y and the second		
The Hon. J. Lowell Stoltzfus			
The Hon. Michael H. Weir, Jr.	. Maryland House of Delegates		
The Hon. Noah W. Wenger	. Senate of Pennsylvania		
The Hon. George B. Wolff			
The Hon. Peter J. Zug*	. Pennsylvania House of Representatives		
Rear Admiral Stephen A. Turcotte	Naval Liaison (through October 2005)		
Rear Admiral Frederic R. Ruehe	Naval Liaison (since November 2005)		
* Members of the Executive Committee			

# Staff

Ann Pesiri Swanson	 	Executive Director
Suzan Bulbulkaya	 	Virginia Director
Marel A. Raub	 	Pennsylvania Director
Patricia G. Stuntz	 	Maryland Director
Paula W. Hose	 	Administrative Officer

Commission works to resolve the exclusion of watermen from fishing across state lines, and sponsors reciprocity legislation one year later in both Maryland and Virginia.

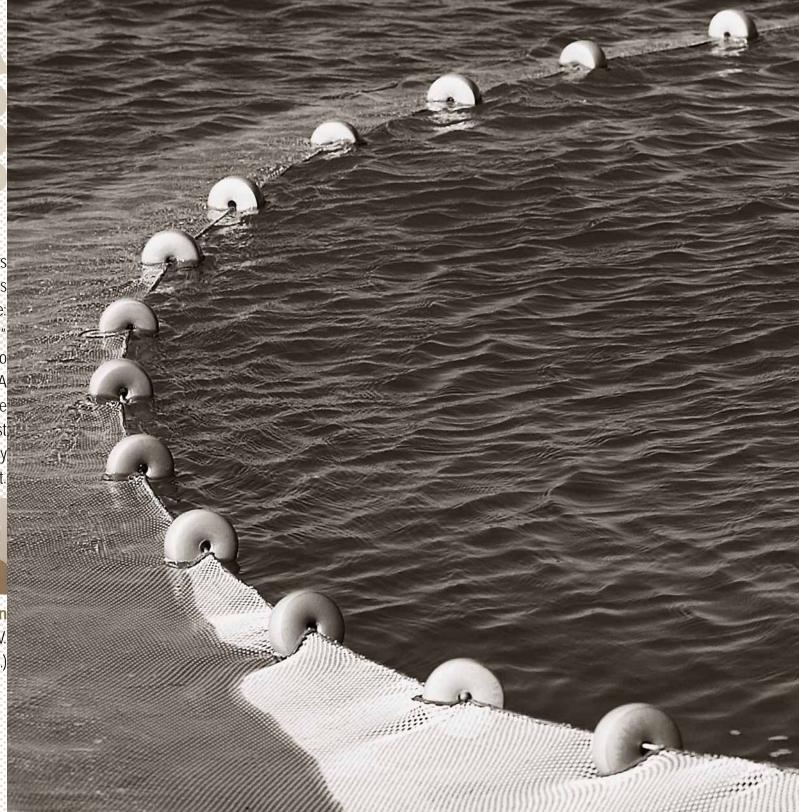


Chairman Catherine I. Riley (Md.)

Commission sponsors
the historic "Choices
for the Chesapeake:
An Action Agenda"
conference to
receive the EPA
study, prompting the
signing of the first
Chesapeake Bay
Agreement.



Chairman Senator Joseph V. Gartlan, Jr. (Va.)



arking 25 years of achievement is not difficult for the Commission. Its contributions to the Bay's protection have been steady. The timeline that wends its way through this report is testimony to this fact. Yet claiming these accomplishments as our own would be disingenuous since so much of the Commission's work is aimed at forging consensus. Its members and staff work strategically, stepping in and out of the limelight of the news, seeding ideas and working with large and diverse groups to develop commonly held policy agendas.

Still, the members know what they have accomplished. In fact, they describe their role in deceptively simple terms: use the best available facts to understand the needs of the Bay; bring recommendations to the member-state General Assemblies, each with its own politics and challenges; provide continuity despite ever-changing political climates; and never stop looking for new solutions. The mantra: discover what is doable.

In 2005, the Commission's work largely focused on two prime sources of nutrient and sediment pollution: wastewater treatment plants and agriculture. Together, these two sources contribute 64 percent of the nitrogen, 69 percent of the phosphorus and 62

Maryland
Delegation supports
four financial
authorization and
assistance acts that
enhance funding for
Bay water pollution
control programs.



Maryland
Delegation
Chairman
Delegate Thomas A.
Rymer



Chairman Senator Joseph V. Gartlan, Jr. (Va.)

# 10 Chapter 1

percent of the sediment pollution loads to the Bay.

The Commission's assumption is straightforward: restore the water quality by reducing the nutrients and sediment and the living resources will rebound. In 2005, its work logically traveled parallel tracks, one analyzing where existing funds could be best directed to achieve the most cost-effective reductions in nutrients and sediments, while the other laid the seeds for new programs and enhanced (and sustainable) funding at both the state and Federal levels.

The activities reported in this chapter and in more detail throughout this report highlight the Commission's work over the course of the year. While we cannot declare the

Bay saved or our work complete, we can offer a concise summary of a number of activities that moved the Bay restoration incrementally in the right direction.

# **ADMINISTRATION**

Each calendar year, the chairmanship of the Commission rotates among the states. In January 2005, Maryland turned the gavel over to Pennsylvania with the election of Senator Mike Waugh as Chairman. In 2006, the chairmanship will rotate to Virginia.

The Commission met four times during 2005. The individual state delegations met in conjunction with each quarterly meeting and more frequently in their own jurisdictions, as state-specific issues warranted. Leadership of the Commission is noted in the Roster of Members on Page 7.



ΠΔΥΕ ΗΔΡΕ

Walter Boynton, Ph.D., of the University of Maryland's Chesapeake Biological Laboratory, counsels members on the best strategies for reducing nutrient pollution.

The Commission maintains its headquarters in Annapolis, Maryland, with additional staff located in Richmond, Virginia and Harrisburg, Pennsylvania. Financial support for the Commission is provided via the general funds of each member state.

# STATE LEGISLATIVE ACTIVITIES

The Commission serves as the legislative liaison of the Chesapeake Bay Program partnership, helping to ensure that the policies adopted by the Program have the complement of Federal and state policies and budgets needed to support them. In partnership with colleagues in the General Assemblies and the U.S. Congress, the Commission has helped to pass more than one hundred state and Federal laws to promote the Bay's well being (see Appendix II).

# Passage: Maryland Phosphate Detergent Ban.



Maryland Delegation Chairman Delegate Thomas A. Rymer

# Maryland

The Maryland Delegation has consistently been a strong advocate for land conservation. The General Assembly approved an increase of \$88 million in Fiscal Year 2006 for land conservation programs, bringing total expenditures for local and state land conservation programs to \$124.6 million. This action helped to temper the impact of prior year diversions of Program Open Space funds to the General Fund.

A Critical Farms Program will be created that will provide interim or emergency financing for agricultural conservation easements on farms that would otherwise be sold for nonagricultural uses. The Maryland **Agricultural Land Preservation** Foundation and the Department of Planning must first explore options for funding the program and submit a report with proposed legislation by January 1, 2006.

The Maryland Delegation also addressed the issue of non-native oysters this session, supporting legislation which specifies research and reporting requirements that must be met before the Maryland Department

of Natural Resources can introduce a non-native oyster into state waters. An independent oyster advisory panel will review and approve specified data and assessments and identify any additional research needs.

Beginning in 2008, farmers who plant small grains



JEJE MOORE

The Commission's public speaking engagements run the gamut from international forums on ecosystem management to a riparian land-use lab offered by Ann Swanson to a fourth-grade class.

> for production of ethanol and biodiesel will receive credits which could total up to \$4 million annually. The small grains envisioned as a source of ethanol can be used as winter cover crops, which serve to reduce nutrient runoff to the Bay.



Chairman Delegate Thomas A. Rymer (Md.)

# 12 Chapter 1

Finally, in anticipation of the 2006 General Assembly session, the joint House and Senate Agricultural Stewardship Commission worked to develop new state proposals for agricultural conservation funding and policy. Executive Director Ann Swanson and Maryland Director Pat Stuntz served as expert witnesses, advising the Commission on the most cost-effective options for agricultural conservation.

# Pennsylvania

Delegation members were instrumental in securing \$300,000 for the first year of the Commonwealth's Chesapeake Bay Education Grant Program. The program provides grants of up to \$5,000 per school for out-of-classroom "meaningful watershed experiences" as outlined in the *Chesapeake 2000* agreement.

House Resolution 296 was introduced by Delegation House members Russ Fairchild, Art Hershey and Peter Zug and adopted by the full General Assembly in May. This resolution supports legislation in the U.S. Senate to begin a feasibility study of the Captain John Smith National Historic Water Trail. A corresponding resolution, SR 138, was introduced by delegation members Senators Mike Waugh and Noah Wenger and adopted in the Pennsylvania Senate. The successful passage of the Federal legislation is discussed in further detail later in this chapter.

Senators Mike Waugh and Noah Wenger introduced the "Farmers First Agenda," an initiative that would result in the enhancement of Pennsylvania's Farmland Preservation Program, as well as the investigation of alternative uses of manure.

In February, the Delegation submitted comments to the Pennsylvania Public Utility Commission on implementation of the Advanced Energy Portfolio Standards passed by the legislature in 2004. The Delegation's comments focused on the importance of net metering provisions to facilitate on-farm generation of electricity, including manure-to-energy projects.

A \$625 million environmental bond issue was approved by voters in May. The first round of "Growing Greener II" grants total \$65 million, including \$3 million for sewer and water infrastructure. About \$90 million is available to counties for eligible projects including wastewater treatment infrastructure and enhancement.



Representative Pete Zug shares good news with Pennsylvania colleague Representative Russ Fairchild.



DAVE HARP

Citizen Representative George Wolff (left) and Senator Noah Wenger, both Pennsylvania farmers, discuss the Commission's draft report proffering recommendations for the 2007 Federal Farm Bill.

Through amendments to the First and Second Class Township Codes and the Boroughs Code, local governments were authorized to fund watershed associations.

The Agriculture, Communities, and the Rural Environment (ACRE) Act established buffer areas of 100 feet from streams, lakes, or ponds where no animal manure from regulated farms may be applied. Buffer areas may be 35 feet if they are vegetated. Best management practices (BMPs) to control odor will be required for new or expanding Concentrated Animal Feeding Operations, and a process was created to provide Attorney General review of local ordinances that restrict agriculture.

Finally, the Farmland Preservation Program was expanded to allow land used for "commercial equine activity" to be eligible for enrollment in an agricultural

security area and an agricultural conservation easement.

# Virginia

In 2005, Virginia's efforts to clean up the Chesapeake Bay were bolstered by bicameral legislation committing \$50 million to the Virginia Water Quality Improvement Fund. The money will be used to modernize sewage treatment plants to reduce nutrient pollution and lessen nonpoint source nutrient and sediment pollution from agriculture and urban lands. The legislation also requests recommendations for a permanent source of funding dedicated to cleaning up Virginia's polluted waters, including the Chesapeake Bay and its tributaries.

In a related move, a study resolution was passed creating a joint subcommittee to develop recommendations for a longterm funding source dedicated to water

quality improvements, both for the Chesapeake Bay and Virginia's southern rivers. The resolution acknowledges Virginia's polluted waters and seeks possible solutions to fund their cleanup. The Commission assisted Legislative Services staff with background and cost information. Ann Swanson provided expert testimony. She stressed the importance of establishing an adequate and consistent long-term funding source dedicated to cleaning up Virginia's waters in order to remove them from the Federal Impaired Waters List and restore the Bay.

The Chesapeake Bay Watershed Nutrient Credit Exchange Program was also established in 2005. This is the first watershed-based nutrient trading program in the Bay region, allowing sewage treatment plants and Commission signs the 1987 Chesapeake Bay Agreement, to extend and expand upon the 1983 compact.



Chairman
Representative
Kenneth J. Cole (Pa.)

Congress makes

EPA's participation

in the Bay Program

a statutory

responsibility.

other nutrient pollution point and nonpoint sources to buy and sell credits from each other to meet the state's water quality goals. It is anticipated that the program will accelerate the reduction of nutrients going into Virginia's rivers and the Bay and reduce facilities' compliance costs.

Nutrient trading may be especially helpful in Virginia, because point sources are the greatest contributor of nitrogen pollution. In fact, point sources contribute approximately 33 percent of the nitrogen loadings going into the Bay, while agriculture in Virginia contributes about 29 percent of the state's total.

Two bills were passed and signed into law that affect the Bay's living resources. First, the Virginia Marine Resources Commission (VMRC) was authorized

Just how short are we? Maryland Senator Lowell Stoltzfus considers the difference between Bay restoration needs and available cash.

to allow the placement of non-native *Crassostrea ariakensis* oysters on state-owned bottomlands. However, before fertile *C. ariakensis* oysters are to be placed in state waters, the VMRC must hold at least one public hearing to receive information and review concerns over the placement of such oysters.

The second bill addresses the management of the menhaden fishery in Virginia. Traditionally, the General Assembly has managed the fishery. To address times when the Atlantic States Marine Fisheries Commission requires a change in management of the fishery and the General Assembly is not in session, the Governor is now authorized to issue a proclamation to manage the menhaden fishery. Before issuing such a proclamation, the Governor, in consultation with the Secretary of Natural Resources and the Commissioner of the

VMRC, must determine whether the measures are both necessary for the conservation of the fishery and in accordance with scientific, biological and social data.

# **U.S. CONGRESS**

DAVE HARP

## 2007 Farm Bill Recommendations

At its January 10, 2005 meeting, the Chesapeake Bay Executive Council issued three directives aimed at further reducing nutrient and sediment runoff to the Chesapeake Bay. One of them, Directive #04-2, Meeting the Nutrient and Sediment Reduction Goals: Next Steps, heavily influenced the Commission's focus and workload in 2005.

Specifically, the Council called for

**9** 

the development of a set of regional recommendations to improve the 2007 Federal Farm Bill and called on the Commission for help. The Council recognized the Farm Bill, scheduled for reauthorization in 2007, as the best opportunity to improve Federal agricultural conservation policy and funding for the region.

Launched in February, the Federal Farm Bill Reform Project became the primary focus of the Commission's work in 2005, resulting in a set of regional recommendations shaped by the ideas and guidance of the stakeholders themselves.

During the nine-month drafting process, Commission staff held more than 40 outreach sessions — with farmers, government officials, conservationists, and academics — and met routinely with U.S. House, Senate and Committee staff. The Commission published a comprehensive set of white papers along with a full report, endorsed by five governors and the Mayor of the District of Columbia.

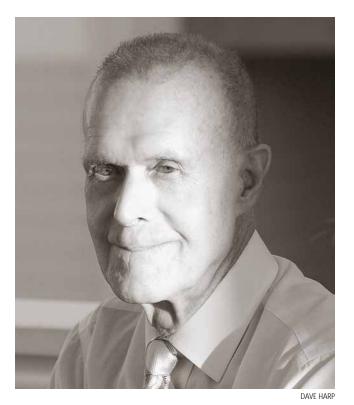
Whether measured by time, attention or resources, no other issue came close in demands made upon the Commission staff and its members in 2005. The details of the Project are outlined in Chapter 4.

# Chesapeake Bay Targeted Watersheds Grants Program

Clearly, our focus today must be to reduce the millions of pounds of nutrient and sediment pollution going into the Bay. In 2004 and continuing into 2005, the Commission worked with the U.S. Congress to establish an extraordinary EPA program intended to provide large-scale financial grants (\$750,000 to \$1 million each) and technical support for reducing excess nutrient pollution to the Chesapeake Bay. Eight to 12 projects that expand collective knowledge on the most innovative, sustainable and cost-effective strategies — including market-based approaches — will be funded. Under the Chesapeake Bay Targeted

Watershed Grants Program, \$7,936,000 in funding was secured for FY05.

The Commission now serves on the Grant Advisory Committee, which selected the National Fish and Wildlife Foundation (NFWF) to manage the grant program. The Committee will review the projects submitted in a competitive application process. Those selected in late spring of 2006 must reflect diverse conditions (e.g., urban, rural, suburban) and the array of sources of nutrients and sediment (e.g., agricultural, stormwater,



For many, retired Maryland Senator Bernie Fowler remains the champion of the Patuxent River and the "Conscience of the Bay."

Passage: Pennsylvania Phosphate Detergent Ban.



Pennsylvania
Delegation
Chairman
Representative
Kenneth J. Cole

Commission chairs

Bay Program's Year 2020 Panel report

drafting efforts for the

— Population Growth and Development in

the Chesapeake Bay

Watershed to the

Year 2020.

other nonpoint sources) that exist throughout the Chesapeake watershed.

During an October grant workshop in Washington, D.C., the Commission was instrumental in shaping the request for proposals process (RFP). Each applicant is now required to translate their proposal into potential pounds of pollutants reduced.

NFWF received 32 proposals requesting \$25.8 million, vastly over-subscribing the program. Notably, the proposed projects also leverage approximately \$17.7 million in non-Federal matching contributions. The Commission will work with the Congress in 2006

to continue funding and possibly expand the Targeted Watershed Grant Program.

# Capt. John Smith National Historic Water Trail

Passages from John Smith's journals documenting his voyages on the Bay speak of enormous productivity and splendor. Together with The Conservation Fund and the National Geographic Society, the Commission successfully pursued Congressional authorization for the National Park Service (NPS) to explore the desirability of a Captain John Smith water trail. If approved as the nation's first history-based water trail, it would

# **Delegations and Staff**

# **Maryland Delegation**

**Back row from left:** Deputy Secretary Ron Guns (representing Secretary Ron Franks); Senator Lowell Stoltzfus; Senator Brian Frosh; Citizen Representative Bernie Fowler. **Front row:** Delegate John Wood, Jr.; Maryland Director Pat Stuntz; Delegate Mike Weir, Jr. **Not pictured:** Delegate Jim Hubbard.



Chairman
Delegate W. Tayloe
Murphy, Jr. (Va.)





# **Virginia Delegation**

**From left:** Senator Nick Rerras; Delegate Albert Pollard, Jr.; Delegate John Cosgrove; Assistant Secretary Russ Baxter (representing Secretary Tayloe Murphy); Citizen Representative Irv Hill; Virginia Director Suzan Bulbulkaya. **Not pictured:** Senator Emmett Hanger, Jr.; Delegate Scott Lingamfelter.

provide a unique window into America's maritime roots.

From 1607–09, Smith and his men traveled more than 1,700 miles through the Chesapeake and its tributaries, reaching present-day Maryland, Washington, D.C., and Delaware, as well as the border of Pennsylvania.

In order to ensure a timely study, the Commission also collected a total of \$75,000 from Maryland, Virginia, Pennsylvania and the District of Columbia to augment the \$150,000 in Federal funding provided to the Park Service. The 400th anniversary of Jamestown's founding, in 2007, offers a chance for Congress to establish the trail while the early Virginia colony is in the spotlight.

In addition, the Commission worked closely with Congress to appropriate \$500,000 to the National Oceanic and Atmospheric Administration (NOAA) to develop a set of electronic information buoys for canoeists, kayakers and boaters. Staff will serve on the Advisory Committees of both NPS and NOAA.

# Congressional Visits and Briefings

In May 2005, the Commission members met with their

Passage: Chesapeake Bay Preservation Act.



Virginia Delegation Chairman Delegate W. Tayloe Murphy, Jr.

# of the Commission

# **Pennsylvania Delegation**

From left: Representative Art Hershey; Representative Pete Zug; Pennsylvania Director Marel Raub; Senator Mike Waugh; Representative Russ Fairchild; Senator Noah Wenger; Deputy Secretary Cathy Curran-Myers (representing Secretary Kathleen McGinty); Citizen Representative George Wolff.





# Commission Staff

From left: Executive Director Ann Swanson; Maryland Director Pat Stuntz; Administrative Officer Paula Hose; Virginia Director Suzan Bulbulkaya; Pennsylvania Director Marel Raub.

Passage: Virginia **Phosphate Detergent** Ban.



Virginia Delegation Chairman Delegate W. Tayloe Murphy, Jr.

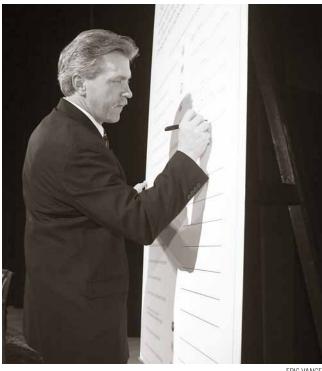
U.S. Senators, the Chairman of the House Committee on Agriculture and a handful of Bay-region House members to discuss the best options for agricultural policy reform. The Commission also provided briefings to "Hill" staff along with the Congressional liaisons for the region's governors. The briefings reviewed agricultural policy needed to support Bay water quality goals and examined both funding gaps and Federal funding needs.

Twice in 2005, the Chesapeake Bay Advisory Council — made up of the governors' Congressional liaisons — met to review Farm Bill opportunities and determine the interests of both the governors and their stakeholders. The Council is chaired by Commission staff.

The Commission staff worked with the [House] Congressional Bay Task Force to prepare Federal budget requests based, in part, on the findings of the Commission's 2004 cost-effectiveness report. These requests received the bipartisan support of Governors Edward Rendell (Pa.), Mark Warner (Va.), and Robert Ehrlich, (Md.), Mayor Anthony Williams (D.C.), and CBC Chairman Mike Waugh (Pa.) and were conveyed to the Chairmen of the House and Senate Appropriations Committees.

During 2005, the Commission staff worked with both Senate and House members to craft The Chesapeake Bay Program Reauthorization and Environmental Accountability Act of 2005 (S. 1490) and the Chesapeake Bay Restoration Enhancement Act of 2005 in the House. These bills, which reauthorize the Federally funded Chesapeake Bay Program at the \$40 million mark and respond to the Government Accountability Office (GAO) report by enhancing reporting and accountability, will be debated in 2006.

Finally, the Commission assisted the GAO with an audit of the EPA Chesapeake Bay Program. The audit was requested by U.S. Senators from the region



ERIC VANCE

Chairman Mike Waugh adds his support to the Executive Council's policy statement on watershed education.

to determine if the EPA Bay Program was accurately reporting progress and effectively managing Bay restoration. The GAO relied heavily upon CBC as a key information source. The audit suggests a number of measures to improve both management and communications, which the Commission is now helping the Program to address.

# Chesapeake Bay Program Leadership

The Commission is one of six members of the Chesapeake Bay Program's top leadership — the Chesapeake Executive Council. As such, it is involved in all aspects

knowledgeable source of leadership and restoration information. More than 100 speeches and workshops were offered by Commission members and staff, including a number of keynote and plenary session presentations.

The very structure of the Commission is often of

The very structure of the Commission is often of interest to others seeking to improve their restoration efforts or to start new ones. In 2005, the Commission served as a lead witness in the Little Hoover Commission's review of the CALFED Bay-Delta Program. The staff also provided briefings to the Great Lakes Commission, the Mid-Atlantic Chapter of the Audubon Society and Rhode Island General Assembly.

Visitors from across the globe travel to our region to examine how the Chesapeake effort has achieved all that it has. Despite the fact that we have not reached our goals, our efforts remain unmatched at the national

of the Program's policy development and restoration activities. The Commission brings an inter-jurisdictional, bi-partisan perspective to the Bay Program that balances the more specific interests of the states' Executive Branch agencies. Its broad-based nature makes it an excellent forum for building consensus on challenging regional policy issues.

In November 2005, the Council met in Washington, D.C. at the headquarters of the National Geographic Society. On behalf of the Council, Chairman Mike Waugh publicly released the 2007 Farm Bill Report and took the lead in discussing its recommendations with U.S. Department of Agriculture Secretary Mike Johanns in a private meeting with the Council members.

In 2005, Commission staff held positions on all leadership committees within the Bay Program, contributing substantial policy direction and budget guidance to the Program.

For more than two decades, the Commission has supported periodic reviews of both policy and process in order to maintain the vigor of the restoration campaign. In keeping with this conviction, the Commission worked with the GAO, the EPA and USDA Inspector General's Offices, U.S. Senator Paul Sarbanes (Md.) and Representative Wayne Gilchrest (Md.), journalists and authors in their independent, critical reviews of the Bay clean-up effort and the work of the Chesapeake Bay Program.

# National and International Relations

The Commission continues to play a prominent role on the national and international level, serving as a



DAVE HARP

Virginia Senator Nick Rerras and his colleagues trace the voyages of Captain John Smith as they work to establish the nation's first historic water trail.

Following extensive stakeholder involvement, the Commission issues a report on recreational boat pollution which results in revisions to

state and Federal law.



**Chairman**Kenneth J. Cole (Pa.)

and international scale. In 2005, Commission members and staff provided overviews and briefings on Bay issues to visitors and consultants representing the Dominican Republic, Brazil, Korea and Australia.

# **KEY ISSUES**

# Agricultural Conservation Funding and Policy

The Commission, working with colleagues in state government and the private sector, submitted a revised proposal to USDA entitled The Chesapeake Bay Working Lands Nutrient Reduction Pilot Project. This proposal requests \$20 million under the current Farm Bill to pilot five innovative nutrient and sediment reduction techniques across the Bay watershed. Extensive monitoring will allow an assessment of the effec-

tiveness of these measures in reducing nutrient and sediment loads from agriculture.

Improvements in agricultural policy in the three member states, as well as at the Federal level, and the provision of reliable, substantial, long-term funding sources are central to the Commission's work.

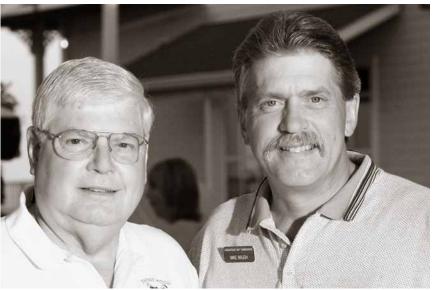
# Blue Plains Wastewater Treatment Plant

The Commission formed a subcommittee in 2005 to investigate partnership opportunities with the Blue Plains Wastewater Treatment Plant in Washington, D.C. As the largest advanced wastewater treatment facility of its kind in the world, Blue Plains offers the



DAVE HAR

Maryland Senators Bernie Fowler and Brian Frosh compare notes.



DAVE HARP

Commission colleagues for over ten years, Delegate John Wood, Jr. (Md.) and Senator Mike Waugh (Pa.) have both taken their turn as chairman.

Commission hires scientists to study the genetic composition of shad in the Bay; findings result in resolutions in all three states pressing the hydroelectric plants to install fish passage at their dams on the lower Susquehanna River.



Chairman
Delegate W. Tayloe
Murphy, Jr. (Va.)

greatest single opportunity in the Bay watershed to reduce nutrients being discharged into the Bay.

Since Blue Plains services Washington, D.C., Montgomery and Prince George's counties in Maryland and Fairfax and Loudoun counties in Virginia, it presents a unique opportunity for the jurisdictions within the Commission to work cooperatively with the nation's capital toward a common water quality goal.

This is not to say that laudable progress has not been made. When the 1987 Chesapeake Bay Agreement was signed, it called for a reduction in nutrient loading of 40 percent. By 2004, with the implementation of nutrient-removal technology, the plant was operating under full scale Biological Nutrient Removal (BNR) technology and had reduced its nitrogen discharge by 8 million pounds, or 56 percent, to just over 6 million pounds per year.

Blue Plains now faces a new goal:

nitrogen delivered to the Bay.

to further reduce its annual average total nitrogen discharge concentration from 7.5 mg/l to roughly 4 mg/l, as called for in both the Maryland and Virginia Tributary Strategies developed under the Chesapeake 2000 agreement. Each one mg/l reduction in nitrogen from Blue Plains results in about a one million pound reduction in annual

In April and again in September 2005, the Commission met with the plant managers, engineers and technical directors of the Washington Area Sanitation



2005 Chesapeake Executive Council meeting at National Geographic Society headquarters. From left: Pennsylvania Governor Ed Rendell; EPA Administrator Steve Johnson; Maryland Governor Robert Ehrlich, Jr.; Virginia Governor Mark Warner; D.C. Mayor Anthony Williams and Chesapeake Bay Commission Chairman Senator Mike Waugh.

> Authority (DC-WASA) to zero in on funding and technical issues associated with upgrading Blue Plains to 4 mg/l nitrogen removal. Work will continue with DC-WASA, the jurisdictions and the U.S. Congress to find the dollars needed to pay for upgrades to the plant.

# Blue Crabs

The Commission continued its role in coordinating bistate scientific and policy activities centered on managePennsylvania Delegation investigates the use of phytase as an animal feed additive in the Netherlands, and later petitions USDA to register its use in the United States.



Pennsylvania Delegation Chairman Representative Jeffrey W. Coy

ment of the blue crab. Meetings of the Commission's Bi-State Blue **Crab Technical Advisory Committee** (BBTAC), held in June and October, were attended by scientists, fisheries managers, legislators and interested public. The 2004 Blue Crab Status Report was released in the spring and new data on the status of the crab population was the subject of a November 2005 meeting of the BBTAC.

# **Cost Effectiveness**

The Commission's two reports on the cost of the Bay cleanup — The Cost of a Clean Bay (2003) and Cost-Effective Strategies for the Bay: Smart Investments for Nutrient and Sediment Reduction (2004) — continued to serve as the underpinning for the Commission's work. Briefings were provided to Congress, state legislative committees, citizens and stakeholders to promote the most cost effectivepractices to reduce nutrient and sediment pollution in each of the three member states.

# Non-Profit Partnerships

In order to encourage the financial nered with the Chesapeake Bay Trust and an advisory panel of private philanthropic foundations to launch the Bay Area Funders' Network in 2002. Since that time, the Network has met twice a year to review grant strategies and collaborate on projects. The Commis-

College of Agricultural Scien Forums

Sharing the region's ideas for agricultural conservation at the USDA Farm Bill Forum in Pennsylvania. From left: Keith W. Eckel, President, Eckel Farms, Inc., Commission member Representative Arthur D. Hershey; USDA Secretary Mike Johanns, Executive Director Ann Swanson and Robert Steele, Dean of Penn State's College of Agricultural Sciences.

support of the private sector, the Commission part-

sion continues to serve as an information source and advisor to the group. In 2005, the Commission helped the Funders to develop a solid understanding of agricultural needs and identify possible funding niches for Bay area philanthropists. The Commission will continue to work closely with this group to complement its efforts

drafting effort to develop the 1992 Amendments to the Chesapeake Bay Agreement, calling for basin-specific nutrient and sediment reduction strategies for the Bay's major tributaries.

Commission chairs



Chairman Senator Bernie Fowler (Md.)

to secure funding at the Federal and state levels.

Pat Stuntz, Maryland Director, served on the Chesapeake Bay Trust's Advisory Committee to develop Maryland-specific Targeted Watershed Initiative. Staff is also serving on the state of Maryland's Chesapeake Bay Recovery Partnership, which is currently focused on restoring the Corsica River on Maryland's Eastern Shore.

In September, one of the region's largest non-profits, the Alliance for the Chesapeake Bay, presented Citizen Representative George Wolff with the Frances Flanigan Award, recognizing his leadership in cooperative Bay restoration efforts.

The Commission has always recognized effective communication and education as central to the Bay's restoration. To further this commit-

ment, the Pennsylvania Delegation supported the production of a one-hour documentary "Looking to the River," produced by public television station WVIA Channel 44, Pittston, Pennsylvania. The documentary focuses on the Susquehanna River's history in the settlement and economy of the region, as well as its future as a cultural, recreational, and economic resource and its connection to the Chesapeake Bay. Both Representative Russ Fairchild and Pennsylvania Director Marel Raub appear in the program.

# Reflecting on Our Work

Twenty-five years is a long time to be doing anything. For many of the Commission members, Bay restoration



George Wolff and Deputy Secretary Cathy Curran-Myers mull over the enormous volumes of sediment stored behind the legacy of mill pond dams in the watershed.

has not come soon enough or fast enough. Financial constraints are mounting while the clock is ticking. And we, as policymakers, are confronted with the unknown, needing to consider voluntary, regulatory and technical approaches that have never been tried.

We know that we are, for the most part, doing the right thing. We simply are not doing enough of it. The challenge now is to close the funding gap, to target our expenditures to maximize cost-effective investments, and to find the political and public will to expand Bay restoration efforts — this Commission will not give up.

Commission supports Congressional effort to authorize creation of a NOAA Chesapeake Bay Program Office.

Passage: Nutrient Management Act.



Pennsylvania
Delegation
Chairman
Representative
Jeffrey W. Coy



t was 1980, many years since the infamous oyster wars, but even so, the new bi-state partnership between Virginia and Maryland got off to an inauspicious start. Representatives from both states — almost all unknown to each other — were gathered at the first meeting of the Chesapeake Bay Commission when one man staggered in drunk, put his head down on the meeting table, and began to snore. The Virginians fumed, and so did the Marylanders.

Tensions had always been high. Lord Baltimore had barely started his colony when the two neighbors nearly came to blows after a Virginia trader, ignoring Maryland sovereignty, set up a trading post on Kent Island. The states had also argued, sometimes fought, over fishing rights and control of the Potomac River.

Now, they were meeting for the first time as partners in a new legislative Commission that would determine how to respond to a comprehensive, multi-year EPA study to be released in 1983 on the alarming decline of the Chesapeake Bay. Fortunately, the mystery man picked up his notebooks and left before the meeting's first break, when it was finally

Passage: Forestry Bad Actor Law.



Virginia
Delegation
Chairman
Delegate
S. Wallace Stieffen

Commission adopts a resolution calling for the Bay Program to develop a riparian forest buffer policy, leading to one of the most successful restoration initiatives to date.



Chairman Senator Elmo Cross, Jr. (Va.)

discovered that he was not even part of the Commission, and had simply come to the wrong room for another conference in the same hotel.

"This certainly solidified the relationship between Maryland and Virginia," recalled Torrey Brown, former Maryland General Assembly member who helped create the new Commission. "We all wanted to know who this guy was. Nobody knew each other. They thought he was one of us, and we thought he was one of them."

Twenty-five years later, "us versus them" is a thing of the past. Joined by Pennsylvania in 1985, the Commission has spurred some of the most significant steps forward in Chesapeake restoration, becoming an internationally respected model for a regional partnership dedicated to reviving a vast, shared waterway. Finding the right model was no easy task.

Once the EPA study was under way, leaders began to realize that there was no interstate forum to receive it — each state would have to respond in its own way. Fortunately, in 1977, Senator John Caroll Byrnes of Maryland wrote to Senator J. Harry Michael of Virginia, suggesting a bi-state partnership, and thus began a two-year intensive debate about how such an arrangement might work. Not everyone was convinced it would, but after models from around the country were examined, it was finally determined that what the Bay region needed was an entity focused on legislative policy — laws and budgets. It's a pragmatic approach that has achieved results.

"Not only has the Chesapeake Bay Commission played a part in our successes over the last 25 or 30 years, it has been at the center of every major achievement that has been made, whether it was born here, or hatched and nurtured," said Will Baker, president of the Chesapeake Bay Foundation, at a recent Commission meeting.

Commission members have pushed for legislation that is responsible for major nutrient reductions in the states, including the phosphate detergent ban, and laws requiring nutrient management plans for most farms in the watershed. They have led efforts to improve fisheries management, including the first bi-state agreement to regulate Baywide blue crab harvests. They tallied the cost of the Bay cleanup — and analyzed how it could be done most cost effectively.

The Commission itself has no regulatory power. Its membership includes seven representatives from each state including five lawmakers, a cabinet-level secretary, and a citizen representative. Its power comes from bringing members from various jurisdictions together to identify common problems. When they take that information home, they can encourage their legislative colleagues to take action.

"We recognized from the beginning that each state has its own set of economic and social conditions that have an impact on the Bay," said retired Virginia State Senator Joseph Gartlan, who was the first Commission chairman. "In the end, each legislature can do what it wants to do, within the constraints of its own constitution, its own relationship with local governments, and its existing programs and policies. We never seek to dictate to one another. And as a result, I think we are more successful in forging common approaches."

Without the Commission there might not be a coordinated cleanup effort. In 1983, when the EPA wrapped up its study identifying problems facing the Bay, the Commission hosted a conference that brought together the governors of Maryland, Virginia and Pennsylvania, the EPA administrator and the mayor of the District of Columbia to consider the report's findings. The conference culminated in the signing of the original Chesapeake Bay Agreement, which created

**66** There are no Democrats. There are no Republicans. In fact, when I look around the table, I'm not sure that I could tell you the party affiliation of each and every member. And that speaks volumes. We don't get into those discussions on this Commission. 99

> 2005 Commission Chairman Sen. Mike Waugh of Pennsylvania

the cooperative state-federal Bay Program partnership.

"If it had not been for that conference, we wouldn't have had the Bay Program," said Tayloe Murphy, who served 22 years on the Commission, first as a Virginia lawmaker, and later as the state's Secretary of Natural Resources. "Without the Commission, we would never have had the 1983 Bay Agreement."

The Commission, along with the governors, the mayor and EPA administrator, has a seat on the Chesapeake Executive Council, which guides the Bay restoration effort. But it often flies under the public's — even the media's — radar screen. When the Council meets each year, the Commission rarely gets attention — eclipsed by the presence of the governors.

Nonetheless, it was again called upon to be a signatory to the second Bay Agreement in 1987, which included the first commitments to reduce nutrients, control growth and development, and improve fisheries management. Thirteen years later, it was a leader in the development of the Chesapeake 2000 agreement, with its more than 100 commitments, including a promise to clean up the Bay by 2010.

Yet it has often been in the forefront of issues. Members took the lead in developing laws restricting use of the pesticide TBT in boat paints when studies showed it was harmful to aquatic life. They sought federal approval for the use of phytase in animal feed, an enzyme that dramatically reduces phosphorus concentrations in chicken and hog waste. The Commission has brought issues to the forefront that were overlooked by others, such as the threat to the Bay posed by sediment buildup behind Susquehanna River dams, and risks posed by releasing non-native invaders in ship ballast water — issues that have garnered Federal attention.

Unlike many other panels, the Commission's quarterly meetings are well attended by the members, rather than their aides. Members gather in various locations around the watershed, typically convening Thursday afternoons and wrapping up around noon on Friday. The host member often highlights issues and activities going on in their district or state.

"For the legislators, having meetings all over the Bay was a fun thing to do," said Margaret Johnson, the commission's first executive director. "It really led to collegiality and a lot of people wanting to host the meeting and show off their area. There is a camaraderie that occurs when people become friends. They want to work together better. You can't demonize somebody."

The Introduction of Nonindigenous Species to the Chesapeake Bay via Ballast Water is published by the Commission. spurring state and Congressional legislation.



Chairman Delegate Michael H. Weir (Md.)

Commission convenes the Bi-State Blue Crab Advisory Committee (BBCAC), an eight-year interstate effort to develop scientifically based targets and thresholds Baywide.





Co-Chairmen
Delegates John F.
Wood, Jr. (Md.) and
Robert Bloxom (Va.)

Through the meetings, Commission members become, in effect, the legislative branch experts on the Bay. They can educate their counterparts on Chesapeake initiatives without having to rely on the state executive branch, which may have different priorities. In fact, they can prod executive branch agencies to advance Commission concerns.

For instance, when Commission members were unhappy with the lack of fisheries cooperation between the states in the mid-1980s, they summoned representatives from the Maryland Department of Natural Resources and the Virginia Marine Resources Commission. Not wanting to be taken by surprise, Verna Harrison, then working in DNR's fisheries division, called Bill Pruitt, head of the VMRC — whom she had never previously spoken to — in order to coordinate their presentations. When they gave their talks to the Commission, members seemed pleased.

"When I think about that, the Commission accomplished exactly what it wanted to accomplish," Harrison said. "Because from then on, Pruitt and I had a very good relationship. We didn't always see eye-to-eye on everything, but what the Commission did was begin convening people to work together. It is hard not to work with someone you have a relationship with."

The Commission still weighs in on fishery issues. In the late 1990s, amid concerns about declining crab populations, the Commission took the lead in forming the Bi-State Blue Crab Advisory Committee, made up of scientists, fishery stakeholders, fishery managers and others.

It forged a far-reaching consensus about how the Baywide crab population should be managed, and adopted the first ever management thresholds and targets for the Chesapeake's most valuable commercial species — the amount of crabs that could be caught or die of natural mortality without threatening the

**66** We recognized from the beginning that each state has its own set of economic and social conditions that have an impact on the Bay. In the end, each legislature can do what it wants to do, within the constraints of its own constitution, its own relationship with local governments, and its existing programs and policies. We never seek to dictate to one another. And as a result, I think we are more successful in forging common approaches. 99

> Retired Virginia State Senator Joseph Gartlan, the first Commission chairman.

overall population. All jurisdictions took action to curb fishing pressure in order to meet those targets, which was credited with stabilizing the Bay's overall crab population.

"It had a remarkable impact," said Dr. Donald Boesch, president of the University of Maryland Center for Environmental Science. "Blue crab management was hopelessly hung up in jurisdictional issues among the states and federal government. It brought some coherence to that. It had a remarkable impact."

In recent years, the Commission has been taking the Bay's case to a larger stage: Congress. As far back as 1985, its members were seeking increased support for the region in the federal Farm Bill. But its liaisons with Congress have been ratcheted up in recent years. Each year, the Commission's spring meeting now takes place in Washington, where members meet with their Federal counterparts to push Bay measures.

That involvement was driven in part by a Commission report in 2003, The Cost of a Clean Bay, which put the first-ever price tag (\$18.7 billion) on meeting the major objectives of the Chesapeake 2000 agreement (C2K). "As soon as we attached some real numbers to C2K, we knew that we had to reach into far bigger coffers," said Ann Swanson, the Commission's executive director. "Logically, in addition to state budgets, it sent us toward the Federal government for help."

More recent reports from the Commission have identified the six most cost-effective nutrient and sediment control practices, five of which were agricultural. That led to more attention on the Farm Bill, including a new report, based on broad stakeholder input, which outlined potential changes that could benefit the Bay. "It's not all about dollars," Swanson said of the Commission's work with Congress. "We know that we must also change the policies that

drive decision making, so that we can use what money is available to its absolute best advantage."

Though its stage has widened, the Commission remains a modest operation. It has five staff members, and operates on a \$570,000 budget that is covered by contributions from each member state.

What has changed is that, unlike that first 1980 meeting where their counterparts were nearly total unknowns, members of the Commission now know each others' names, what states they are from and what issues they deal with. What they often don't know — remarkable for an era of political polarization — is what political party their colleagues are from.

"There are no Democrats. There are no Republicans," said 2005 Commission chairman Sen. Mike Waugh of Pennsylvania, who served as the Commission's chairman last year. "In fact, when I look around the table, I'm not sure that I could tell you the party affiliation of each and every member. And that speaks volumes. We don't get into those discussions on this Commission."

It is that type of partnership that will be critical if the problems that still face the Bay are ultimately to be solved, said Gartlan, the Commission's first chairman. "We can make the political decisions with this kind of cooperation, with this kind of understanding, and this kind of joint action," he said. "To save the Bay, we must believe we can save it together. And if we don't — if we are not together — the effort is senseless." ■

The Chesapeake Bay Progam's Chesapeake **Executive Council** adopts long-term, quantifiable goals for the restoration of forested buffers along the streams of the watershed



Chairman Senator Noah W. Wenger (Pa.)

U.S. Congress adopts the National Invasive Species Act, providing ballast water management measures to prevent the introduction and spread of exotic species into Chesapeake Bay.



ince the 2003 release of the Chesapeake Bay Commission's Cost of a Clean Bay report, attention to the daunting cost of meeting Bay cleanup goals has intensified. In 2004, a Blue Ribbon Finance Panel was created to develop recommendations for securing long-term funding enhancements at the local, state and Federal levels. Concurrently, the Commission conducted a major study to maximize the benefit of existing dollars by identifying the most cost-effective measures to reduce nutrient and sediment pollution throughout the watershed.

Political and natural events in 2005 conspired against optimism that major new Federal monies would be directed toward the Bay watershed. But the promise of a revised Farm Bill in 2007, with a potential shift in emphasis from commodities to conservation, spurred many in the region to develop recommendations that could benefit Bay region farmers. With nationwide conservation funding levels topping \$3 billion, this effort, spearheaded by the Commission, is seen by many as the best hope for increasing Federal support for our water quality and agricultural stewardship goals (see Chapter 4).

At the state level, there is reason to applaud leadership and public commitment: the legislatures and Governors have worked to ensure that substantial new dollars are in the

With the advice of the Commission, **EPA's Small** Watershed **Grants Program** is established by the Congress to support grassroots restoration projects.



Chairman Delegate W. Tayloe Murphy, Jr. (Va.)

Passage: Virginia Water Quality Improvement Act.



Virginia
Delegation
Chairman
Delegate W. Tayloe
Murphy, Jr.

pipeline from Maryland's Bay Restoration Fund, Pennsylvania's Growing Greener and PENNVEST programs, and Virginia's enhanced Water Quality Improvement Fund. But there is general acknowledgement that a much larger infusion of funds is needed, in a very short period of time, if the tributary strategies outlined by the states are to be successfully translated into action.

The year 2005 marks the halfway point in meeting the *Chesapeake 2000* agreement's 2010 water quality goals. Are we on track to meet the 2010 deadline? At a major meeting of the Chesapeake Bay Program in October 2005, this issue was a central topic of discussion, and the impetus behind the Bay Program's re-evaluation of the indicators used to assess our progress.

The bottom line, as presented to the Commission at its November meeting by the Bay Program's Director of Science Rich Batiuk, was clearly communicated: "The partners are implementing a wide array of nutrient and sediment management practices and upgrading wastewater treatment technologies . . . but at rates that will likely yield achievement of our nutrient and sediment cap loads decades from now."

Not all the news was bad, particularly the signs that nutrient concentrations in tidal waters in much of the Bay are showing improving trends. When might these improving trends reach an ecological "tipping point," stimulating a more rapid and synergistic improvement in the Bay's health? From the standpoint of living resources, this is a critical question, for the Commission members were apprised that current water quality conditions in most of the Bay remain at degraded levels which are "inadequate to support the Bay's fish, crabs, oysters and underwater grasses."

What is the appropriate policy response to these ecological conditions and budget constraints? Is it

possible to "jump start" the restoration in the face of multi-billion dollar funding gaps? Can available funds be used more creatively and strategically to deliver greater pollution reductions? The Chesapeake Bay Commission believes that the answer to the latter two questions can be "yes," but only if we take a broad perspective, gathering advice and assistance from leaders at every level and within every discipline. Some general observations can be offered here, based on our discussions during 2005.

## Maximize Benefits

In the past, lack of coordination among the multitude of programs and jurisdictions allocating cleanup funds has led to a piecemeal approach that has not optimized available dollars. Targeting critical geographic areas and concentrating the most effective control measures in thos e areas is a concept that is gaining momentum, and offers the ability to maximize nutrient and sediment reductions for the benefit of both the local tributary and the larger Bay ecosystem. An example is the EPA's Targeted Watershed grants program.

## Minimize Losses

The rate of resource loss — be it forest buffers, wetlands, urban tree cover or undeveloped land — is largely unknown and unaccounted for in the states' and the Bay Program's measures of progress. This severely compromises the efforts of citizens, state and local governments, and the private sector to replace, re-plant and restore these vital resources. Preventing the loss of the watershed's natural resources and the ecosystem services they provide is among the most cost-effective actions that can be taken, but it requires a concerted effort to strengthen enforcement of existing regulations, as well as tracking, planning and zoning and other protection tools.

# Use the Power of the Market

Whether it be turning excess poultry litter and manure into marketable products or growing small grain crops in the fall to be harvested for fuel, there are numerous efforts underway to make environmental goals compatible with economic gain. Researchers are improving our ability to establish market values for ecosystem services, such as carbon sequestration or wetlands water filtration. Nutrient trading, whereby reductions are achieved at the least cost and sold to polluters with higher control costs, is a concept that has gained great attention this past year and will be closely watched by the Commission in 2006.

# **Grow Wisely**

The urban sector is the fastest growing source of nutrient pollution. It is also associated with the most expensive environmental control measures. Therefore, if urban growth does not occur with environmental impacts in mind, our financial need will skyrocket. Design techniques that minimize the environmental toll are available and offer long-term economic benefits. Education and outreach to local governments and decision makers will be critical to the adoption of these low-impact techniques.

The Commission has increased awareness of the dire consequences facing the Bay due to lack of funding. Their voices have been heard. Yet anticipated state and Federal funding across the six-state watershed pales in comparison to the cost, amounting to less than one quarter of the total need. Translated: if we are to make headway, we must be sure all dollars spent are maximizing results. Strategic geographic targeting and costeffective choices must maximize pollution reduction while minimizing cost. The politics of choice is always difficult, and yet if the Bay is to be restored, progress in this regard is a must. ■

# Capitalize on Lessons Learned

Building upon lessons learned from the now multidecade restoration effort is essential if we are to make wise budget and funding decisions. Restoration projects are focusing greater emphasis on long-term monitoring and reporting in order to track results and determine those factors that lead to successful oyster, wetlands, stream or seagrass restoration. This data can be used to improve the design, location and timing of restoration projects in order to maximize sustainability and environmental improvements. Widespread communication of this data, both within and outside the scientific community, is critical.

# Maintain Public Confidence and Support

The total cost of the tributary strategies developed by the six jurisdictions in the watershed is estimated at \$4.8 billion per year. Communicating the details of these costs, and the benefits to be derived by Bayrelated expenditures, is essential if we are to maintain public support. In reality, many of the most expensive elements of the strategies are actions that would be taken, regardless of Chesapeake Bay considerations, to address local water quality conditions or to meet existing state or Federal regulations, such as costly stormwater regulations that apply to urban development. Virginia, for example, has estimated that the state's financial burden for activities prescribed under their tributary strategies is only 18 percent of the estimated total restoration cost of \$10 billion. As the public demands more accountability and asks ever tougher questions about our assumptions in gauging success, it behooves the Bay partners to continually reassess their approaches. Now, more than ever, we need the public's confidence in our work.



The first of 14 Chesapeake Bay Watershed boundary highway signs is erected, marking the furthest reaches of the watershed in Maryland, Pennsylvania and Virginia.



Chairman Delegate John F. Wood, Jr. (Md.)



Lessening the impact of these pollutants is critical in removing the Bay from EPA's list of "impaired waters" — so much so that the six states within the watershed have developed complex tributary strategies that rely heavily on agriculture to achieve their water quality goals. Overall, the Bay states are relying on agriculture to provide 68 percent of the nitrogen reductions, 64 percent of the phosphorus reductions, and 90 percent of the sediment reductions (see Figure 1). As the Bay states increase support for their agricultural conservation programs, the Federal government's investments must grow proportionately.

Marking the conclusion of an 18-month drafting process, the Commission signs the *Chesapeake 2000* (C2K) agreement and immediately launches an effort to find financial support for its implementation.



**Chairman**Senator
Bill Bolling (Va.)

Recognizing the Federal Farm bill as a direct route to improving water quality, the Chesapeake Executive Council called upon the Commission, via Directive #04-2, to identify opportunities to further nutrient and sediment reduction through the 2007 Farm Bill. The U.S. Farm Bill, passed roughly every five years since the 1930's, now provides more money to control nonpoint sources of pollution than any other government program in the world.

In its directive, signed on January 10, 2005, the Council challenged the partners to work closely with agricultural, conservation and government leaders to develop a set of recommendations that would enhance our ability to control pollution while substantially increasing overall funding for agriculture and forestry. With this direction, the Commission began an intensive nine-month process.

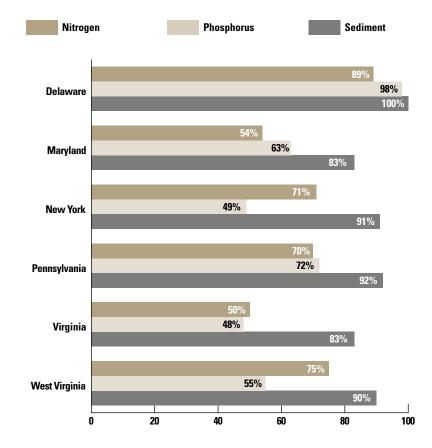
Gathering the facts was the logical place to begin. For the region to emerge as advocates, it first needed to understand the degree to which the Farm Bill currently provides support to farm and forest landowners in our

watershed. How does agriculture define our economy? Which of the countless Federal farm programs — with names like EQIP, WHIP, AMA, CRP, and CREP — are particularly important to the region? How much funding and technical assistance do our landowners currently receive? And, how can these programs be improved?

FIGURE 1

# Percentage of State Tributary Strategy Reductions Assigned to Agriculture

(2003–2010 Tributary Strategy delivered load reduction)



Engaging the stakeholder community from the outset was key. Before any pen was to hit pad, the Commission needed to know what the people in the field were thinking. Over 40 listening sessions were held to gather information and hear local concerns. Throughout the process Congressional staffers and Federal practitioners offered their counsel. Meetings

Commission launches the Bay Funders' Network, connecting grant-makers across the watershed to foster collaborative funding.



Chairman Senator Brian E. Frosh (Md.)

spanned the watershed, reaching into Maryland, Pennsylvania, Virginia, the District of Columbia, Delaware, New York, and West Virginia.

Overwhelmingly, the stakeholders did not call for a wholesale overhaul of the Farm Bill. The programs are working. Instead, it became clear that strategic "tweaks" could improve the bill's ability to deliver the programs that are already in place. Increases in funding to at least reach the authorized levels, if not well beyond, are critical. Participants focused on several key issues including improving current conservation funding levels and the regional distribution of funds, widespread implementation of nutrient management plans, management of surplus animal manure and poultry litter, erosion control, and farmland preservation. Beyond all, the need to strengthen the economic viability of agriculture by reducing risks to farmers and expanding market opportunities was repeated over and over again. Without thriving farms, discussing agricultural conservation practices becomes a moot point.

The Commission's final report, 2007 Federal Farm Bill: Concepts for Conservation Reform in the Chesapeake Bay Region, was adopted by the Chesapeake Executive Council in November, 2005. It details the funding needed to support agricultural conservation in the region, and outlines five top priorities for 2007 Farm Bill reform. It offers programby-program legislative revisions that will improve agricultural conservation in our watershed and across the nation.

Though the recommendations contained in the report were developed for the Chesapeake Bay watershed, their application may well prove to be nationwide. Watersheds across the country face similar challenges in dealing with declining water quality. Farmers are facing immense development and economic pressures everywhere. The Commission's report recommends actions that will directly improve the outlook for both.

# Summarized, The Five Top Recommendations Are:

- 1. Establish a new nationwide program of "Regional Stewardship Funds," to increase flexibility in the use of Federal funds for state, or multi-state-based, water quality and stewardship initiatives in threatened or degraded watersheds.
- 2. Reauthorize and implement the Conservation Security Program throughout the Chesapeake Bay watershed and in other regions.
- 3. Target funds to maximize environmental benefits.
- 4. Provide increased support for the viability of agriculture by providing farmers with assistance in market development, renewable energy applications and risk management.
- 5. Increase funds and technical assistance for conservation-related programs.

Congressional deliberations for the next Farm Bill are expected to begin early in 2006, with final action in 2007 or 2008. This legislation may well be the primary funding source for agricultural conservation measures in the watershed for years to come. The Commission is now working side-by-side with the states, the agricultural community and Congressional colleagues to advocate for reforms to the Farm Bill that will result in cleaner water for the Chesapeake Bay and a vibrant farm economy. With these reforms in place, the Commission believes that the reductions in agricultural pollution outlined in the six states' tributary strategies can be achieved.

Commission outlines land preservation policy options in Keeping Our Commitment: Preserving Land in the Chesapeake Bay Watershed. The region's goal: to preserve 20 percent of the land mass in the watershed by 2010.

How much will the Bay restoration cost?
The Commission launches its effort to estimate the actual price tag for implementing C2K. The Cost of the Clean Bay is published the following year.



Chairman Representative Russ Fairchild (Pa.)



Manure Matters

anure matters. It matters globally, it matters nationally, and it most certainly matters to the Chesapeake Bay. The watershed is overloaded with animal waste and the magnitude of the problem not only threatens the Bay, but agriculture itself.

Chickens, turkeys, cattle, and hogs in the Bay watershed generate roughly 44 million tons of manure each year, producing a nutrient pollutant load that nearly equals that of all waste treatment plants in the region combined. Altogether, animal manure is responsible for about a fifth of the nitrogen and phosphorus entering the Bay. The pressing question is, "What can we do about it?"

Dare we say that manure is not a new topic of conversation among the Chesapeake Bay Commission members? Take a quick scan of the Commission's 25 years of annual reports, and you will find discussions of manure beginning early in the 1980s, just a few years after the Commission's creation. Early discussions focused on mitigating manure's impact and avoiding its concentration. The questions were: "Could we ensure that manure was applied to the fields in the proper amounts? Could we share the excess with other farmers in need?"

The Commission agrees to "allocation loads," which define the amount of nutrient and sediment pollution permissible in each of the 20 major river basins across six states and the District.



Chairman Delegate Robert S. Bloxom (Va.)

From there, the Commission shifted to innovation.

Was there a way to change the feed of the animal to increase nutrient absorption in food and reduce manure production? Could manure be used as a source for biofuel? How could manure become a resource rather than a waste?

Phytase, a remarkable feed additive that increases an animal's ability to absorb nutrients (thereby lessoning).

animal's ability to absorb nutrients (thereby lessening both the nutrient content and amount of manure produced), was pioneered in the Netherlands. In 1997, the Pennsylvania Delegation invited Wenger Feeds, Inc. to join them on a scoping trip to the Netherlands to talk to Dutch farmers and scientists and learn the benefits of phytase, first hand. Shortly thereafter the full Commission joined forces with Wenger Feeds, Inc. to petition the USDA to register phytase for use in the United States.

Coupled with nutrient management planning legislation in all three member states, the region began to make headway. Rising farmer and industry interest, along with increased technical assistance and Federal and state dollars, led many to hope that solutions were within reach.

Still, the problem has not gone away. Nearly two decades later, farmers, farm and government agencies, Bay advocates and this Commission are still trying to figure out what to do with the excess manure produced by farm animals within the watershed — imagine a train yard with 38 trains, each 100 cars long, all filled to the brim with manure every year.

Fortunately, the management of manure is undergoing a sort of paradigm shift, nationwide. It is no longer looked at as a waste to be conveniently disposed of but rather a rich nutrient and energy source that can and must be utilized. For the Bay, this shift could not be timelier. To understand the challenges and opportunities, one must understand the recent past.

Since the earliest days of agriculture, manure has been used as a nutrient source for crops. But, as the availability, affordability and predictability of commercial fertilizers grew during the second half of the 20th century, manure as a source of fertilizer was at a competitive disadvantage. Consequently, it was viewed as a waste to be disposed of, and land application was the preferred method of disposal.

At the same time that commercial fertilizer use became widespread, animal agriculture began to respond to market demands. Economies of scale forced high concentrations, especially in the poultry and swine sectors. More animals were grown on the same or fewer acres, exacerbating the manure disposal situations for individual farmers. Livestock now outnumber people in the watershed 11 to 1.

To make matters worse, livestock operations have increasingly concentrated in a few small geographic locations of the watershed: south central Pennsylvania, especially Lancaster County, which has the fifth largest animal production of any county in the nation; the Shenandoah Valley, including Rockingham County, which is the largest turkey producer in the nation and the largest dairy and chicken producer in Virginia; and the lower Delmarva Peninsula, including Sussex County, Delaware, which produces more chickens than any county in the nation.

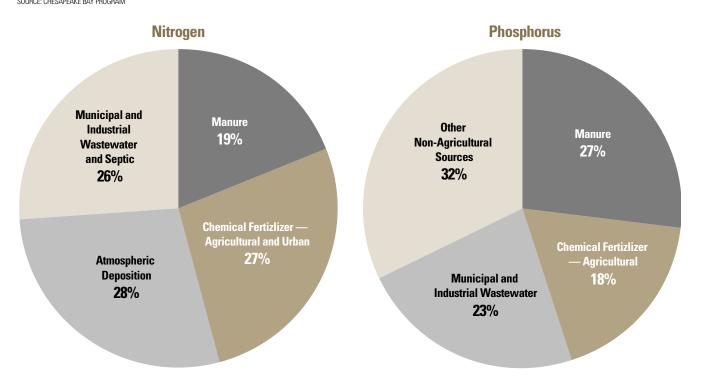
Within the Bay watershed, the nutrient balance is now significantly compromised. In the past, farmers supplied nutrients to their animals in the form of locally grown corn and grain. When the animal manure produced was then spread on the fields, nutrients were recycled to the crops. Now however, with ever increasing concentrations of animals, farmers must import corn and grain from other regions in the country, and the manure produced, with its high nutrient content, still remains here. Combined with the

Recognizing a huge shortfall in funding, the Commission publishes Cost-Effective Strategies for the Bay: Smart Investments for Nutrient and Sediment Reduction.



Chairman Senator J. Lowell Stoltzfus (Md.)

FIGURE 2 **Sources of Nitrogen and Phosphorus Loads to the Chesapeake Bay 2004** SOURCE: CHESAPEAKE BAY PROGRAM



import of commercial fertilizers, these excess nutrients inevitably find their way into local streams and the Bay.

The Commission-driven effort to enact nutrient management legislation throughout the region, beginning with Pennsylvania in the early 1990s, did magnify the problem of excess manure and provided the stimulus to look for its alternative use. The region's view of manure shifted from one of liability to opportunity, both as fertilizer and fuel.

But today, while progress had been made, the problems have yet to be replaced with opportunities.

Nearly 20 percent of the nitrogen and more than one quarter of the phosphorus loads entering the Bay are estimated to be from manure (see Figure 2). Several challenges remain:

- Commercial fertilizer has distinct advantages for the farmer over manure: It is odorless, dry, easy and inexpensive to handle and transport, and is uniform and certified as to its nutrient content.
- In contrast, manure odor has the potential to cause conflicts with non-farm neighbors.

Recognizing the need for enhanced Federal support, the Commission petitions for a Presidential **Executive Order** declaring the Bay a "National Treasure."

Passage: The Bay Restoration Fund, establishing a dedicated fund for advanced wastewater treatment.



Maryland
Delegation
Chairman
Senator J. Lowell
Stoltzfus

# 42 Chapter 5

- The water content of manure, especially the slurries produced in modern swine and dairy operations result in a low concentration of nutrients per unit of manure. This significantly increases transportation and handling costs.
- Manure is not uniform in its nutrient content. Variation can occur even within the same storage facility on a single farm. As a result, the frequent nutrient testing required to match manure nutrients with crop needs can add significant time and cost to farm management.
- Unlike commercial fertilizer, which can be placed after a crop starts growing, standard practice is to apply manure before there is any plant growth to absorb nutrients.

Compounding the problem is the loss of agricultural acreage on which to apply manure. The region has lost a stunning 750,000 acres of farmland since 1994, and 10 percent of the nation's fastest-growing counties are located within the watershed. Not only does development directly reduce the number of acres on which manure can be applied, but the growing proximity of farms to residential areas discourages farmers from applying odiferous manure on otherwise available acres.

With both a personal interest as a farm owner and a professional interest as Chairman of the Pennsylvania Senate Agriculture and Rural Affairs Committee, Pennsylvania Senator Mike Waugh identified reduction of excess nutrients from manure as a priority when he assumed the Chairmanship of the Commission in January 2005.

Declaring 2005 the "Year of Manure," the Commission and its staff focused on manure in several key ways. First, Commission staff worked actively with

### FIGURE 3

# Top Prospects for Better Manure Management\*

- Reduce surplus animal manure and poultry litter nutrients by adjusting animal diets.
- 2 Foster alternative uses for animal manure and poultry litter nutrients by building markets and technologies for manure and litter products that can be used for energy, fertilizers, soil amendments or compost on a variety of lands.
- **3** Develop a comprehensive inventory of manure and litter nutrient surpluses in the watershed.
- Coordinate manure management programs throughout the watershed to address the regional imbalances of manure and poultry litter surpluses.
- \* From Strategy for Managing Surplus Nutrients from Agricultural Animal Manure and Poultry Litter in the Chesapeake Bay Watershed, adopted by the Chesapeake Executive Council, 2005.

Chesapeake Bay Program staff to convene meetings, identify key leaders who could provide input, and personally participate in policymaking discussions, convened by the Bay Program's leadership. The results were transformed into a Strategy for Managing Surplus Nutrients from Agricultural Animal Manure and Poultry Litter in the Chesapeake Bay Watershed, adopted by the Program's Chesapeake Executive Council late in the year (see Figure 3).

Second, as part of its outreach efforts, Commission staff worked to identify opportunities to promote innovation in manure management in the 2007 Farm Bill.

Third, Pennsylvania Delegation members Senators Mike Waugh and Noah Wenger included identification of "alternative uses of manure" in their Farmers First Agenda legislative initiative. To further this initiative, several hearings of the Pennsylvania Senate Agriculture and Rural Affairs Committee, were held. One hearing was dedicated to the issue of alternative uses of manure and testimony was received from both agriculture and conservation groups.

The Pennsylvania Delegation also submitted comments to the Pennsylvania Public Utility Commission (PUC), encouraging the facilitation of net metering in regulations being developed to implement the Commonwealth's Advanced Energy Portfolio Standards legislation. The lack of net metering has been identified as a significant hurdle to feasible implementation of on-farm energy generation, such as manure-to-energy projects.

Finally, at its November quarterly meeting, the Commission hosted Part I of a 2005-2006 series on implementation of the "Manure Strategy." The speakers summarized the latest research and provided policy recommendations regarding precision dairy feeding, promising manure management technologies, and a patent-pending substance to reduce soluble phosphorus in poultry litter.

The full potential of manure is only beginning to be understood. As the consideration of manure matures from waste to marketable product, the prevalence of this substance in the watershed may paradoxically emerge as the "silver lining" to the cloud that currently exists.

The Commission leads an effort with five of the region's governors to recommend improvements to conservation programs supported by the 2007 Federal Farm Bill.



Chairman Senator Mike Waugh (Pa.)

# Appendix I

# The Members: 1980 – Present

Maryland	Delegate Elizabeth S. Smith
Senator Peter A. Bozick1980-82	Senator J. Lowell Stoltzfus 1996–present
Secretary Torrey C .Brown	Secretary Sarah J. Taylor-Rogers 1999-2001
Senator John A. Cade	Delegate W. Henry Thomas1980–82
Secretary James B. Coulter	Delegate Michael H. Weir
Senator/Citizen Representative Bernie Fowler	Delegate Michael H. Weir, Jr 2003–present
	Senator Gerald W. Winegrad
Secretary J. Charles Fox2001-2002	Citizen Representative Jack F. Witten
Secretary C. Ronald Franks 2003–present	Delegate John F. Wood, Jr 1991–present
Senator Brian E. Frosh	
Secretary John R.Griffin	Pennsylvania
Delegate Ronald A. Guns	Senator Michael E. Bortner
Delegate James W. Hubbard 2003–present	Representative Kenneth Cole1985–92
Senator Joseph J. Long, Sr	Representative Jeffrey W. Coy
Delegate James E. McClellan	Secretary Arthur A. Davis
Delegate Charles A. McClenahan 1995-2002	Secretary Nicholas DeBenedictis
Delegate Alfred W. Redmer, Jr 2003	Representative Russell H. Fairchild1995–present
Delegate Catherine I. Riley	Representative Arthur D. Hershey 1995–present
Delegate Thomas Rymer	Secretary David E. Hess
Senator James C. Simpson	Secretary Kathleen A. McGinty 2003–present

Representative Robert W. O'Donnell1985–86	Secretary John W. Daniels
Secretary James M. Seif	Secretary Betty J. Diener
Representative John Showers	Delegate Thelma Drake
Representative Stephen H. Stetler	Senator Joseph V. Gartlan, Jr
Representative P. Michael Sturla	Secretary Ronald Hamm2001–02
Senator Richard A. Tilghman 1985–92; 1995-2001	Senator Emmett W. Hanger, Jr 2003–present
Representative Peter C. Wambach	Secretary Elizabeth H. Haskell
Representative/Senator Michael L. Waugh	Citizen Representative Irvine B. Hill 1980–present
	Delegate Jerrauld C. Jones
Senator Noah W. Wenger	Delegate L. Scott Lingamfelter 2004–present
Citizen Representative George B. Wolff1985-present	Delegate Theodore V. Morrison, Jr
Representative Peter J. Zug	Delegate/Secretary W. Tayloe Murphy, Jr
Virginia	Secretary Becky Norton Dunlop
Delegate L. Ray Ashworth	Delegate Albert C. Pollard, Jr 2002–present
Delegate Robert S. Bloxom 1980-2003	Senator Nick Rerras
Senator Bill Bolling	Secretary Maurice B. Rowe
Delegate Howard E. Copeland1994–95	Delegate S. Wallace Stieffen
Delegate John A. Cosgrove 2004–present	Senator Martin E. Williams2000–02
Senator Elmo G. Cross, Jr1980–95	Secretary John Paul Woodley, Jr

# Appendix II

# 25 Years of Legislative Accomplishments

Perhaps no other activity better defines the work of the Chesapeake Bay Commission and its role as a Bay Program partner than its efforts to advance legislation at the state and Federal levels. Since its inception, the Commission has recognized that each Bay state must devise its own approach to the problems facing the Chesapeake Bay in order to address the cultural, financial and ecological conditions of its jurisdiction. It also recognizes that to do so, the legislative branches of each jurisdiction must be fully engaged in devising that approach.

The list provided in this appendix reflects both the breadth of subject and the diversity of approaches that have been used. In many cases, a watershed-wide approach has been achieved, as with the passage of the phosphate detergent bans throughout the region. In other instances, such as the management of fisheries whose habitats extend beyond the waters of the Bay, Federal legislation has been the appropriate vehicle.

Regardless, the list stands as testimony to the dedication of the state General Assemblies and the U.S. Congress in the protection of the Bay. Together, they have laid a strong foundation of environmental law in the region that has contributed sizably to the restoration of the Bay. The Commission has played an active part in this effort.

## **Nutrient/Sediment Pollution**

Water and Sewer Assistance Authority (VA 1984)

Water Facilities Revolving Fund (VA 1986)

Phosphate Detergent Ban (MD 1985, VA 1987, PA 1989)

Erosion and Sediment Control (MD, VA & PA – mid to late 1980s)

Sewage Treatment Plant Compliance (MD 1990)

Stormwater Control (VA 1991, MD 1982 & 1985)

Agricultural Nutrient Management (PA 1993, MD 1988 & 2004)

Forestry "Bad Actor" (VA 1993)

Nutrient Management Certification (VA 1994, MD 1993)

Agriculture-Linked Investment Program (PA 1994)

Agricultural "Bad Actor" (VA 1996)

Water Quality Improvement (VA 1997)

Tributary Strategies (VA 1997)

Poultry Waste (VA 1999)

Animal Waste Technology Fund (MD 1999)

Sewer Overflow and Treatment Plant Bypass Reporting (MD 2001)

Chesapeake Bay Restoration Fund (MD 2004)

Water and Wastewater Treatment Bond (PA 2004)

Manure Hauler and Broker Certification (PA 2004)

Agriculture, Communities, and the Rural Environment (PA 2005)

# **Living Resources**

Striped Bass Management (Fed. 1988)

Clean Vessels (Fed. 1991)

Susquehanna River Fish Passage Resolutions (MD, VA & PA 1992)

National Invasive Species (Fed. 1996)

Fisheries Management Planning (MD 1997 & 1998, VA 1992, 1995 & 1996)

Prohibition on Hydraulic Clam Dredging (MD 1998)

Bi-State Blue Crab Strategy Development (MD & VA 1999)

Recreational Watercraft Study — SAV (MD 2000)

Recreational Crab License (MD 2001)

SAV Protection Zones (MD 2002)

Requirements for Non-Native Oysters Introduction (MD 2005)

# **Land Stewardship**

Critical Area Protection (MD 1984 & 1985)

Chesapeake Bay Lands Preservation (VA 1988)

Growth Management Commission (VA 1989)

Farmland Conservation & Agricultural Security (PA 1989 & 2005)

Consolidated Lands Preservation (MD 1990)

Wetlands Enforcement (VA 1990)

Land Conservation Foundation and Fund (VA 1992)

Income Tax Credit (VA 1991)

Forest Conservation (MD 1991)

Economic Growth, Resource Protection and Planning (MD 1992)

Land Recycling & Environmental Remediation Standards (PA 1995)

Phragmites Control (MD 1996)

Smart Growth Legislation (series of three bills): Brownfields, Rural Legacy, Smart Growth (MD 1997)

Open Space Lands Preservation (VA 1997)

National Forest Buffer Initiative – NRCS (Fed. 1997)

Supplemental Agricultural Conservation Easement Purchase (PA 1999)

Municipalities Planning Code Omnibus Amendments
– Sustainable Growth (PA 2000)

### **Others**

Clean Water Act (Fed. 1987)

Oil Spill Prevention, Liability and Compensation (MD 1990, VA 1991)

Chesapeake Bay Trust (MD 1985 & 1989)

Chesapeake Bay License Plate Fund (MD 1990, VA 1992)

Environmental Education (PA 1993)

Vehicle Emissions Control (PA 1992, VA & MD 1993)

Recreational Boat Pollution (MD 1992, 1994 & 1999)

Farm Bill (Fed. 1996 & 2002)

Chesapeake Bay Partnership Council (VA 1996)

Water Quality Toxics (VA 1997)

Small Watershed Grants (Fed. 1997)

Clean Water Action Plan (Fed. 1998)

Chesapeake Bay Gateways (Fed. 1998)

"Growing Greener" – Environmental Stewardship and Watershed Protection (PA 1999 & 2005)

Clean Energy Incentive Act (MD 2000)

Marine Habitat and Waterways Improvement Fund (VA 2000)

Environmental Standing – Air Permits (MD 2002)

Water Resources Planning (PA 2002)

Advanced Energy Portfolio Standards (PA 2004)

Chesapeake Bay Watershed Education Program (PA 2004)

State Government Energy Efficiency Standards (MD 2005)

### **CREDITS**

The 25th Anniversary Edition of the Chesapeake Bay Commission's Annual Report was prepared by Commission staff with the writing and editorial assistance of Pat Herold Nielson. Many thanks to Pat for sharing her extraordinary talent.

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Cover Photo: South Marsh Island, Chesapeake Bay, Maryland © David Harp



TOM HORTON

### **ABOUT THE PHOTOGRAPHER**

Dave Harp has shared his photographic talents with the Commission for the past seven years. Harp is no stranger to the outdoors. A native Marylander, he saved to acquire his first camera at the age of 12 and has been taking pictures ever since. In a photographic career that takes him from the wilds of Alaska to the reefs of Australia, the Chesapeake Bay remains Harp's favorite subject. He has produced three books on the Bay and is widely known for his support of protection and restoration initiatives.

#### CHESAPEAKE BAY COMMISSION

The Chesapeake Bay Commission is a policy leader in the restoration of the Chesapeake Bay. As a tri-state legislative assembly representing Maryland, Virginia and Pennsylvania, its mission is to identify critical environmental needs, evaluate public concerns, and ensure state and federal actions to sustain the living resources of the Chesapeake Bay.

The Commission maintains offices in Maryland, Virginia and Pennsylvania. Commission staff is available to assist any member of the General Assembly of any signatory state on matters pertaining to the Chesapeake Bay and the Chesapeake Bay Program.

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