

# For the Resources

CHESAPEAKE BAY COMMISSION · ANNUAL REPORT 2002

The living resources that inhabit the lands and waters of the Chesapeake Bay watershed are icons of nature’s richness and prosperity. Their abundance, resilience, and beauty define our relationship with the Bay itself. **For the Resources** is dedicated to all the living resources of the Chesapeake Bay, and to the financial resources that will be necessary to sustain them for generations to come.



Chesapeake Bay Commission  
*Policy for the Bay*

# For the Resources

CHESAPEAKE BAY COMMISSION · ANNUAL REPORT 2002

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GREAT BLUE HERON IN BREEDING PLUMAGE - PHOTO © DAVID HARP

The Chesapeake Bay Commission is a tri-state legislative commission created in 1980 to advise the members of the general assemblies of Maryland, Virginia and Pennsylvania on matters of baywide concern. Issues addressed by its members are as wide-ranging and complex as the Bay itself, delving into matters of air, land, water, living resources and the integrated management of all of them.

Twenty-one members from three states define the Commission’s identity and its workload. Fifteen are legislators, five each from Maryland, Virginia and Pennsylvania, who are responsible for identifying the needs of the Bay, hearing the wishes of their constituents and determining actions that make better stewards of all of us. Completing their ranks are the governors of each state, represented by cabinet members who are directly responsible for managing their states’ natural resources, as well as three citizen representatives who bring with them a unique perspective and expertise.

The Chesapeake Bay Commission was created to coordinate Bay-related policy across state lines and to develop shared solutions. The



catalyst was EPA’s landmark seven-year study on the decline of the Chesapeake Bay. With nearly a quarter-century of work behind it, the Commission has earned its reputation as a regional, bi-partisan leader. It has made remarkable strides in learning the complex workings of an enormous estuary, determining the federal and state actions that are needed to sustain its living resources, and persuading their colleagues in the general assemblies and executive branches to take action.

Today, the Chesapeake Bay restoration faces daunting fiscal challenges. Having shepherded *Chesapeake 2000* to its successful adoption during more financially solvent times, the Chesapeake Bay Commission must now help to ensure that sufficient resources are committed to keep the restoration effort on track.

The following pages provide a glimpse of the diverse activities of this unique assembly of legislators and resource policy makers, and the long-term commitment that they each hold to restoring the Chesapeake Bay. All are sustained by their vision of a clean and healthy Bay. All believe that productive partnerships at the federal, state and local level are a fundamental step in attaining that vision.

Members and Staff of the Commission

The Hon. Russ Fairchild, <i>Chairman</i> *	Pennsylvania House of Representatives
The Hon. Martin E. Williams, <i>Vice-Chairman</i> *	Senate of Virginia
The Hon. Charles A. McClenahan, <i>Vice-Chairman</i> *	Maryland House of Delegates
The Hon. Robert S. Bloxom*	Virginia House of Delegates
The Hon. Bill Bolling	Senate of Virginia
The Hon. Thelma Drake	Virginia House of Delegates
The Hon. Bernie Fowler	Maryland Citizen Representative
The Hon. J. Charles Fox	Secretary of Natural Resources, Maryland
The Hon. Brian E. Frosh	Maryland State Senate
The Hon. Arthur D. Hershey	Pennsylvania House of Representatives
The Hon. David E. Hess	Secretary of Environmental Protection, Pennsylvania
The Hon. Irvine B. Hill	Virginia Citizen Representative
The Hon. W. Tayloe Murphy, Jr.	Secretary of Natural Resources, Virginia
The Hon. Albert C. Pollard, Jr.	Virginia House of Delegates
The Hon. J. Lowell Stoltzfus*	Maryland State Senate
The Hon. Michael Waugh	Senate of Pennsylvania
The Hon. Michael H. Weir	Maryland House of Delegates
The Hon. Noah W. Wenger*	Senate of Pennsylvania
The Hon. George B. Wolff	Pennsylvania Citizen Representative
The Hon. John F. Wood, Jr.	Maryland House of Delegates
The Hon. Peter J. Zug	Pennsylvania House of Representatives
* Members of the Executive Committee	

Staff

Ann Pesiri Swanson	Executive Director
Russell W. Baxter	Virginia Director (through November)
Thomas W. Beauduy	Pennsylvania Director
Melanie D. Davenport	Virginia Director
Patricia G. Stuntz	Maryland Director
Patsy S. Cress	Administrative Assistant





ORB WEAVER'S WEB CAPTURES CRYSTALS OF LIGHT - PHOTO © DAVID HARP

There are scores of partners at the federal, state and local level working together, all sharing the responsibility and financial burden of implementing *Chesapeake 2000* (c2k). The Commission is unique among them, representing all three states, urban, suburban and rural interests, and both political parties. Its policy-making responsibilities span the full breadth of restoration activities, demanding the Commission's skills as analyst, integrator, catalyst, negotiator and dealmaker.

Unquestionably, funding c2k eclipsed all other focuses of the Commission in 2002. The year delivered staggering financial blows, with the states each reporting current and projected deficits far in excess of one billion dollars. Finding new sources of money and non-traditional finance mechanisms became critically important. Targeting of expenditures and phasing of implementation also took priority as the Commission worked to identify the most effective use of those funds projected to be available for the remainder of the decade.

In general, the Commission selected issues to work on that capitalized on its analytical capabilities, consensus-building skills, and direct



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ties to the state general assemblies and the U.S. Congress. Identifying the cost of implementing *Chesapeake 2000* was combined with aggressive efforts to also identify new sources of federal funding for water quality, land conservation and environmental education.

This chapter illustrates the broad diversity of activities undertaken by the Commission in 2002. It is organized according to the sections of *Chesapeake 2000* in order to demonstrate how the activities of the Commission support the work of our regional partners — the states, the federal agencies, the local governments, and the citizens and businesses of the region — in seeking solutions to the Bay's many challenges.

### The Officers

Each calendar year, the chairmanship of the Commission rotates among the states. In January 2002, Maryland turned the gavel over to Pennsylvania with the election of Representative Russell H. Fairchild (R-Pa.) as Chair. Delegate Charles A. McClenahan (R-Md.) and Senator Martin E. Williams (R-Va.) served as Vice-Chairmen. In 2003, the chairmanship will rotate to a delegate from Virginia.

### The Meetings

The Commission met four times during 2002: January 3–4 in Annapolis, Md.; May 9–10 in Gettysburg, Pa.; September 5–6 in Bethesda, Md.; and, November 14–15 in Hampton, Va. The Executive Committee of the Commission met, as needed, to review administrative and funding matters, while the individual state delegations met in conjunction with each quarterly meeting of the full Commission, and more frequently as state-specific issues warranted.

### Administration

The Commission maintains its headquarters in Annapolis, Md., with additional staff located in Richmond, Va., and Harrisburg, Pa.

- Each of the three member states contributed \$160,000 in 2002 in support of the operations and baywide programs sponsored by the Commission. Pennsylvania also provided additional special funding to support the projects sponsored by the delegation that are listed throughout this chapter.
- The Commission provided grants to the Susquehanna River Basin Commission,

Maryland Sea Grant, Lycoming College, U.S. Geologic Survey, Alliance for the Chesapeake Bay and the SEDA Council of Governments.

- An audit of the Commission's activities conducted in FY 2002 found the operations in conformity with generally accepted accounting principles.
- The Commission maintains its website at [www.chesbay.state.va.us](http://www.chesbay.state.va.us).

### State Legislative and Congressional Activities

Each year, either individually or as state delegations, the members work with their legislative and Congressional colleagues on Bay-related legislation. In many instances, the members play a coordinating role, ensuring that legislative initiatives mesh among the states.

- The Commission members sponsored, amended and supported legislation and budget initiatives in all three states improving the management of water, land and living resources. The reduction of nutrients, improved management of blue crabs, and the protection of resource and open space lands demanded special attention in 2002. A

summary of these activities is offered in Chapter 2.

- Commission staff provided briefings and drafting assistance to legislative committees, regional delegations and individual members in all three jurisdictions and the Congress.
- The Commission worked with its federal, state and private sector partners, through its interstate Lego Work Group, to capture new revenues supporting conservation practices and farm preservation available under the 2002 Farm Bill. It also submitted *The Chesapeake Bay Working Lands Nutrient Reduction Pilot Program*, a watershed-wide effort to provide assistance and incentives for farmers who implement innovative farm practices expected to greatly reduce nutrient losses while maintaining financial security. The proposal, worth \$100 million over a five-year period, remains under USDA consideration.
- Agriculture, urban stormwater and wastewater treatment plants contribute the majority of the pollution impairing the water quality in the Chesapeake Bay. The Commission worked towards the adoption of the *Chesapeake Bay*

### The Commission's Work in 2002



The 2002 leadership of the Commission included (from left to right): Vice-Chairman Delegate Bob Bloxom (Virginia), Chairman Russ Fairchild (Pennsylvania) and Vice-Chairman Delegate Charlie McClenahan (Maryland).



Senator Brian Frosh (Maryland) thanks Assistant Secretary Verna Harrison for her many years of service to the Commission representing Maryland's Secretary of Natural Resources.

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*Nutrient Removal Act* (CBNRA), a bill that will provide \$120 million per year in grants for Advanced Nitrogen Removal Technologies for the next five years. Congress did not complete its consideration of the initiative in 2002; it will be reintroduced early in 2003.

- Laying the groundwork to incorporate stormwater management in the 2003 Surface Transportation Act (TEA-3) commanded much staff attention in 2002. A white paper outlining the impact of urban stormwater to the region and presenting policy options was developed and shared with key members of Congress.
- The Commission provided briefings to the Maryland Congressional Delegation on federal funding and policy priorities. Staff also partnered with EPA to provide a briefing for Congressional staff of key members or committees. Briefings of this type were also provided throughout the year to individual members upon their request.
- In May, the Commission published a *2002 Legislative Update* reporting the legislative actions of Maryland, Virginia, Pennsylvania and the federal government. The staff also prepared an

abbreviated summary for publication in the *Bay Journal*. A summary, updated through December 2002 is provided in Chapter 2.

### Cooperation with Executive Branch Initiatives

The success of the Commission's work is grounded in its close working relationships with the Executive Branch agencies. In 2002, this relationship further evolved as staff was invited to participate in the meetings of the Maryland Bay Workgroup, the Virginia Chesapeake Bay Inter-agency Work Group and the Pennsylvania Chesapeake Bay Advisory Committee. Each of these groups is composed of high-level representatives of agencies who participate in the Chesapeake Bay Program.

### National and International Relations

The Commission has played a prominent role in the region's environmental policy for the last quarter century and is widely valued for its institutional memory and leadership of the process. As such, it is frequently called upon to share its knowledge.

- The Commission worked with representatives of the country's five largest environmental projects to summarize the lessons learned in managing large-scale ecosystem restoration efforts. The project included representatives from the Cal-Fed Delta, Upper Mississippi River, Platte River, Everglades and Chesapeake Bay. The University of Miami's Center for Ecosystem Science and Policy will be summarizing the results in 2003.
- The Commission's international work in 2002 took on an Asian focus with the Commission hosting delegations visiting the United States from China, the Philippines and Thailand. The groups came to study examples of successful efforts to control water pollution and engage elected officials and citizens in the process.
- In September, Executive Director Ann Swanson traveled to Thailand to assist in developing regional environmental goals and policies and building an inter-jurisdictional partnership to promote restoration of the Thaicin River, Thailand's most polluted body of water. The Thaicin River Partnership, funded by grants to Maryland Department of the Environment and Thailand's Pollution Control Department, is ongoing.

### Chesapeake Bay Program Management

The Commission is one of six members of the Chesapeake Bay Program's Executive Council. As such, it is involved in all aspects 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 December 2002, the Chesapeake Executive Council (EC) met in Washington, D.C. Commission Chairman Russ Fairchild provided an estimate of the cost of implementing C2K and highlighted opportunities to pursue federal support over the next three years. The EC adopted a resolution communicating to the U.S. Department of Agriculture its funding and policy priorities under the new Farm Bill.
- Commission staff held positions on all leadership committees within the Bay Program, contributing policy direction and budget guidance to the Program.
- Commission Executive Director Ann Swanson chairs the Lego Work Group,

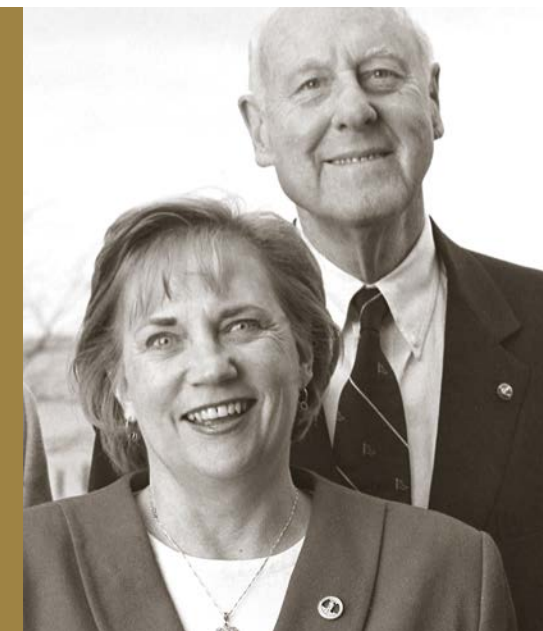
### The Commission's Work in 2002



Delegates Bob Bloxom (Virginia) and John Wood (Maryland) have adeptly chaired the Commission's Bi-State Blue Crab Advisory Committee since its inception in 1996.



In 2002, Secretary of the Department of Natural Resources Chuck Fox represented Maryland Governor Parris N. Glendening on the Commission.



Delegate Thelma Drake and Citizen Representative Irv Hill represent the interests of thousands of Virginians who live within sight of the Bay.



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an offshoot of the Bay Program that is tasked with identifying and pursuing federal policy and funding that will support the water quality, land preservation and education goals of c2k. These efforts, combined with our fiscal analysis, are summarized in Chapter 3.

- As a member of the Gateways Working Group, Maryland Director Pat Stuntz participated in a yearlong National Park Service Special Resource Study to assess the potential for a National Park or Water Trail designation in the Bay region.
- 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 assisted Dr. Howard Ernst, Ph.D., a political science professor at the U.S. Naval Academy, in his critical examination of the Bay clean-up effort. His book, *Chesapeake Bay Blues*, will be published in the spring of 2003.

## Water Quality Restoration and Protection

Nutrient management continues to be a major focus of the Commission's work. The goal of reducing the Bay's nitrogen and phosphorus by 40 percent by 2000 has not yet been met, and there is now clear recognition that to restore the waters to a "clean Bay" status, reductions closer to 50 percent will be needed. Current estimates suggest that we will need to double, if not triple, the reductions already achieved since 1985 in order to remove the Bay from the EPA list of "Impaired Waters."

- Commission staff participated in the Water Quality Steering Committee, a Bay Program effort to develop criteria that will ensure attainment of the water quality necessary to de-list the Bay. The criteria will be applied to shallow, mid-, and deep-water zones, using improved clarity and dissolved oxygen levels as two of its measures of success. Once issued in April 2003, the criteria will trigger the promulgation of water quality standards in all six states that comprise the watershed: Maryland, Pennsylvania, Virginia, New York, Delaware and West Virginia. If the region does not adequately improve its

water quality conditions by 2010, a federal Total Maximum Daily Load (TMDL) will be imposed the following year.

- The Pennsylvania Delegation to the Commission cooperated with the Pennsylvania Departments of Environmental Protection and Agriculture in co-sponsoring the Nutrient and Sediment Control Innovative Technology Forum, held in February 2002. The Forum focused on energy-efficient, cost-effective solutions to nutrient and sediment control problems, primarily for local governments and agriculture.
- The Commission also continued to pursue federal funding for a sediment feasibility study related to sediments behind the dams on the lower Susquehanna River. At issue is the accumulation of more than 300 million tons of sediment behind the four hydroelectric dams on the lower river. As the dams reach their maximum capacity sometime over the next 20 to 30 years, the sediment transported by the river's flow will simply pass undiminished downstream, further contributing to the Bay's nutrient over-enrichment and water clarity problems. Pennsylvania Director Tom Beauduy

continues to serve as Chairman of the Susquehanna Sediment Task Force.

- The Commission continued to monitor development and implementation of the Tributary Strategies in each of the jurisdictions. The tributary strategies are designed to take a river-specific approach to reducing nutrients and supporting habitats necessary for the proliferation of living resources.
- Virginia Director Russ Baxter served as a member of the Department of Environmental Quality's Water Resources Committee. The committee, which includes representatives from a broad range of organizations with interests in water quality, serves as an advisor to the Department of Environmental Quality. Baxter focused his efforts on Virginia's implementation of the TMDL requirements of the Clean Water Act.

## The Commission's Work in 2002

## Living Resource Protection and Restoration

While nutrient reduction and improvement in water quality are important, restoration of the Bay's living resources — crabs, oysters, migratory fish and native waterfowl — will be our clearest indicators of success. The Commission contin-



Interstate collaborators: Senator Brian Frosh (Maryland), Secretary Tayloe Murphy (Virginia), Secretary Chuck Fox (Maryland) and University of Maryland's Dr. Don Boesch.



At the end of 2002, Russ Baxter left the Commission after more than 10 years on staff to become Assistant Secretary to Virginia Secretary of Natural Resources Tayloe Murphy.



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ued to work to improve habitat conditions and to identify opportunities to refine the management of our fisheries. Foremost in the effort was the Commission's work to address improved management of the blue crab.

- The Commission continued its sponsorship of the Bi-State Blue Crab Advisory Committee (BBCAC), now in its seventh year. Delegates John F. Wood, Jr. (D-Md.) and Robert S. Bloxom (R-Va.) co-chair the Committee. Six additional members of the Commission serve on the Committee. Ann Swanson chairs the Technical Work Group, which advises the BBCAC.

In January 2002, the BBCAC published a *Review of the Soft Peeler Fishery for the Blue Crab in the Chesapeake Bay*. The report summarizes the findings of the BBCAC Technical Work Group Charrette of August 2001, including recognition that the impact of the expanding peeler fishery cannot be determined without improved catch and effort data. The Commission worked with the three fisheries management agencies to implement improvements in data reporting and collection that will begin in 2003.

- As a product of the BBCAC Technical Work Group economic survey, the Commission worked with Virginia and Maryland's fisheries agencies to incorporate collection of economic and socio-economic data as part of standard crab catch reporting forms.

- Unfortunately, efforts to secure funding were unsuccessful to continue the work of BBCAC. Thus, while the Commission continued to coordinate the BBCAC, it was unable to sponsor research to track the ecological or economic effects of the recent crab harvest restrictions or to analyze alternative management approaches.

- Staff coordinated panels on crab-related issues for the general assemblies, the management agencies and the interested public. Seminars were provided at the Maryland Watermen's Annual Convention and Expo to address the concerns of stakeholders and to begin the process of developing bio-economic zones.

- In August, the Commission partnered with the Maryland General Assembly's Eastern Shore Delegation to convene a "Crab Summit" on Kent Island to facilitate an inter-jurisdictional dialogue

among Maryland, Virginia and the Potomac River Fisheries Commission to identify common goals and to enhance the coordination of crab harvest regulations.

- The introduction of exotic species continues to be a concern of the Commission. The Commission advised both the Maryland and Virginia general assemblies and the U.S. Congress on legislative initiatives intended to reduce the threat of non-native species introduction from the ballast water discharge of ships. It also monitored efforts to control other non-native species detected in the watershed, including zebra mussel, Rapa whelk and snakehead fish.

- The Commission continues to support the efforts of the Virginia Oyster Heritage Program and the Maryland Oyster Recovery Partnership to restore the native oyster, *Crassostrea virginica*, through the development of oyster reefs and adjacent sanctuaries.

- The Commission secured state and federal contributions needed to initiate a \$300,000 National Academy of Sciences study of the ecological and economic implications of introducing

the non-native oyster species, *Crassostrea ariakensis*.

- The Commission also participated in a Bay Program ad hoc panel review of the Virginia Seafood Council proposal for industry trials of *C. ariakensis*. The panel, which is required under the *1991 Chesapeake Bay Program Policy on the Introduction of Non-indigenous Aquatic Species*, is charged with reviewing and making recommendations to the decision-making authority, in this case the Virginia Marine Resources Commission (VMRC), on the acceptability of an exotic species introduction. Details are provided in Chapter 4.

## The Commission's Work in 2002

### Vital Habitat Protection and Restoration

The flowing rivers, meandering creeks and hidden coves of the Chesapeake Bay watershed contain the habitats needed to support the Bay's prolific living resources. Wetlands, forests, sea grass beds, bottom reefs and tidal pools each contribute to the web of life that defines the region's productivity. It is the ongoing challenge of the Commission to ensure that these habitats are protected and restored in order to sustain the Bay's creatures and enrich the lives of its people.



Commission partners include both state and federal agencies: Delegate Albert Pollard (Virginia) and Senator Bernie Fowler (Maryland Citizen Representative) with the CBC's Naval Liaison, Rear Admiral David Architzel.



Taking a break: Representative Art Hershey (Pennsylvania), Senator Bill Bolling (Virginia) and Representative Pete Zug (Pennsylvania).

## Chapter 1

- The Maryland Delegation successfully sponsored legislation to improve the identification and enforcement of seagrass protection zones.
- As follow-up to the Commission-sponsored 1999 report, *Forests for the Bay*, the Commission participated in state forums conducted by the Environmental Law Institute to identify policy options for the further conservation of the Bay region's forest base. Each of the forums highlighted state legislative and budgetary initiatives that would promote the conservation of working forestlands and riparian buffers. A companion examination of tax policy is also underway.
- The Virginia Delegation continues to develop policy options to address the use of subaqueous bottomlands. The Delegation is particularly focused on solving conflicts that arise between the practice of aquaculture and the natural growth of sea grasses. In 2003, the Delegation will address the state system for leasing bottomlands and the water column and for collecting rents and royalties for their use. The Delegation expects to develop legislative proposals for the 2004 session of the General Assembly.
- Following the Commission's 2001 tour of the Big Bear Creek Watershed Restoration Project, the Pennsylvania Delegation provided funding in 2002 to Lycoming College to continue the monitoring of biological changes resulting from the restoration work. Funding for the project, which incorporates state-of-the-art natural stream channel design concepts, allows two years of post-construction monitoring in 2002 and 2003.
- The Pennsylvania Delegation also provided funding to the U.S. Geological Survey to develop regional channel geometry curve models. The models incorporate the unique runoff characteristics of different physiographic provinces in Pennsylvania and should enhance the success rate of natural stream channel restoration efforts in the Commonwealth.

### Sound Land Use

There is an undeniable link between the health of Bay waters and the stewardship of the huge area of land that comprises its watershed. The land-to-water ratio is larger than any other estuarine body of water on earth. With a water surface for

the tidal Bay of only 4,000 square miles and a watershed of 64,000 square miles, land surface exceeds water surface by more than 16 times. How we treat the land profoundly influences the quality of the water. The Commission continues to seek opportunities at both the state and national levels to promote sound land use and engage the decision-makers at the local level.

- In his last year as an elected official and member of the Commission, Delegate Michael H. Weir successfully sponsored legislation to restore the effectiveness and original intent of one of Maryland's key land use laws, the Chesapeake Bay Critical Areas Protection Act.
- The Commission provided guidance to the Chesapeake Bay Program as it developed an approach to measure progress in achieving the c2k goal of reducing the rate of "harmful sprawl" by 30 percent.
- The Commission organized Maryland legislators to serve as official witnesses to the adoption of the Land Trust Pledge. The Pledge, signed by more than a dozen private land trusts in the state, recognized the need to double the number of public/private partnership

efforts to conserve open space and pledged their concerted partnership in reaching the goal of preserving 20 percent of the watershed by 2010.

### Individual Responsibility and Community Engagement

The Chesapeake Bay is dependent upon the actions of every citizen in the watershed, both today and in the future. The cumulative sum of each individual's pollutant load can be staggering. There is, therefore, an immeasurable benefit derived from individual and community-based watershed efforts to reduce pollution and habitat degradation. The Commission is committed to nurturing this stewardship by engaging our citizens, supporting local efforts, offering our technical and political expertise, and bolstering environmental education in our school systems.

- Commission members and staff participated in numerous events focused on rivers and watersheds. These activities included recognitions, proclamations and speeches. Notable among them is a Pennsylvania House Resolution, co-sponsored by CBC members Representatives Arthur D. Hershey, Russell H.

### The Commission's Work in 2002



Pennsylvania members Senator Noah Wenger and George Wolff (Citizen Representative) are constant advocates for innovation in agriculture.



Executive Director Ann Swanson drafts the Commission's policy calling for the timely development of the new Bay water quality standards in April 2003.



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Fairchild and Peter J. Zug, which recognizes the efforts of local watershed organizations and the need for continued awareness of watershed protection and restoration.

- In order to encourage the financial support of private philanthropists, the Commission is working with the Chesapeake Bay Trust and an advisory panel of private foundation representatives to launch a *Bay Area Funders' Network* in 2003.
- The Commission worked with the region's state education departments to assess the funds needed to accomplish the education commitments for C2K and identify Congressional opportunities to enhance funding for environmental educational.
- As a result of the aforementioned effort, U.S. Senator Paul S. Sarbanes (D-Md.) secured continued funding for NOAA's Chesapeake Bay Environmental Education Grants. The annual appropriation of \$1.2 million provides grants to schools and non-profit organizations to provide meaningful outdoor experiences. The Senator also unsuccessfully pursued a \$6 million amendment to the Primary and Secondary Education Act

to support Chesapeake Bay Environmental Education Initiatives. Effort will continue in 2003.

- The Commission assisted in obtaining baywide Congressional support for the EPA Small Watersheds Grants Program for the third year. This program provides \$1.75 million in 50:50 matching grants to support local community-led restoration and protection projects throughout the Bay watershed.
- Commission Chairman Russ Fairchild represented the Commission at a kick-off event for the Susquehanna Greenway Partnership project, a multi-year planning effort to establish a greenbelt along the full length of the river corridor. On behalf of the Delegation, he presented a check in the amount of \$50,000 to the SEDA Council of Governments, which, along with private contributions, matched a \$200,000 Growing Greener grant from the Pennsylvania Department of Conservation and Natural Resources.
- The Pennsylvania Delegation to the Commission cooperated with the Pennsylvania Department of Environmental Protection and the Susquehanna River Basin Commission

by providing funding support for the Susquehanna River Basin Stream Signage Project. The project funded nearly 1,100 stream crossing signs installed throughout the basin by local governments with cooperation from many local watershed organizations. The signs are both informational and intended to raise local watershed awareness, and are a logical extension of the Commission's work in the early 1990s to mark the boundaries of the larger 64,000 square mile watershed with informative signs.

- The Pennsylvania Delegation to the Commission cooperated with the Pennsylvania Department of Environmental Protection, the Alliance for the Chesapeake Bay and the Susquehanna River Basin Commission in co-sponsoring the 2002 Susquehanna Sojourn, a weeklong, river-awareness journey involving over 140 canoeists.
- Commission staff participated in the selection of sites for inclusion in the

Gateways Network and assisted in selection of "Gateways and Watertrails" grant recipients. As a member of the advisory group, the Commission is also exploring the potential for a Chesapeake Bay National Park designation.

- Commission members and staff offered keynote addresses, conference and symposium presentations, led community group discussions and media briefings and submitted written reports throughout the year.

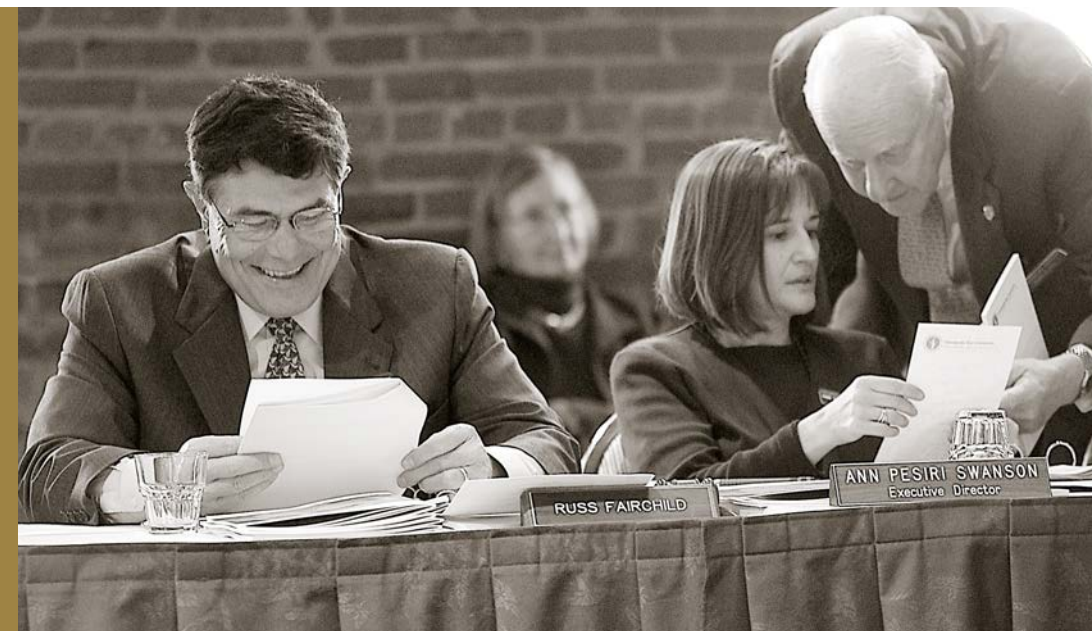
## The Commission's Work in 2002

### A Final Note

The challenge of restoring the Bay must be viewed in its entirety, with no single project addressed in isolation of the others. The activities listed above are testimony to the Commission's recognition of the fact that each activity is inextricably connected to the next. These challenges are constantly changing and always ongoing.



Virginia Delegate Albert Pollard weighs the decision to introduce a non-native species of oyster into the Chesapeake Bay to revive the region's fishery. (See Chapter 4)



Chairman Representative Russ Fairchild (Pennsylvania) presides over a quarterly meeting while Virginia Citizen Representative Irv Hill confers with Executive Director Ann Swanson.



BALD EAGLE DEFENDING ITS PREY - PHOTO © DAVID HARP

Chapter 2      *Bay-Related Legislative Initiatives*

Perhaps no other activity better defines the work of the Chesapeake Bay Commission than its efforts to advance legislation at the state level. Since its inception in 1980, the Commission has recognized that each Bay state — Maryland, Virginia and Pennsylvania — must devise its own approach to the problems facing the Chesapeake Bay. The objective then becomes to reach consensus on the scope of the challenge and create watershed-wide policies that will guide legislators as they confront the Bay’s problems in their own states.

This chapter outlines how the general assemblies tackled this challenge in 2002. Members of this Commission championed many of these initiatives. The chapter headings mirror the sections of Chesapeake 2000, to permit the reader to better understand how the legislative actions taken support c2k. The structure allows the reader to compare the approaches of each state, and to appreciate the complexities of a multi-jurisdictional restoration effort.



## Living Resource Protection and Restoration

### Fishing

The Virginia legislature created a fishing guide license for operators of recreational headboats or charterboats. The license will be required in addition to the existing saltwater fishing license and mirrors a requirement that currently exists in Maryland. It will only become effective if it is reenacted during the 2003 session.

After several unsuccessful attempts, the Maryland General Assembly removed the “seaside” (Atlantic coast) exemption from its tidal saltwater recreational fishing license. The bill contains certain exemptions for fishing from one’s own property or from federal property. Funds generated from license sales can now be used for recreational fishing enhancement projects on the seaside. Previously, only projects in the Bay or tidal tributaries could be funded. (HB 613)

### Crabs

A crab pot-tagging program will be established in Virginia if the General Assembly reenacts the bill during the 2003 session. The Virginia Marine Resources Commission would require all crab pots to be

marked with individual identification. Pot marking, which has been reviewed extensively by the Commission’s Bi-State Blue Crab Advisory Committee, is widely recognized as an important tool to measure and control fishing effort. (HB 975)

Also, a bill that makes the catching or marketing of egg-bearing females crabs (“sponge crabs”) illegal in Virginia waters was carried over by a Virginia Senate committee and will be considered in 2003. (SB 297) Appropriate protection of reproductively mature crabs, both male and female, continues to receive considerable legislative attention.

### Oysters

The non-native oyster species, *Crassostrea ariakensis*, has been studied in experimental aquaculture facilities in Virginia since 1997. While its potential for cultivation has shown promise, a number of uncertainties remain. In 2002, the Commission kept a close watch on the issue.

The Virginia General Assembly weighed in on the debate over the production of non-native oysters by adopting a resolution supporting the revitalization of the Virginia oyster industry based on both the native oyster and the commercial production of genetically-sterile *C. ariakensis*. The resolution calls for the assess-

ment of the ecological impacts of introduction and goes on to state that if research fails to prove within three years that *C. ariakensis* will be harmful to the Bay, the General Assembly supports the introduction of reproductively capable oysters. (HJ 164)

Legislation passed in 2002 in Maryland directs the Department of Natural Resources (DNR) to authorize studies and establish biosecurity measures to enable research and experimentation in Maryland waters. The study will include an analysis of the ecological benefits and risks associated with the introduction of both sterile and reproductively capable non-native oyster species, and should incorporate the findings of the NAS review. DNR is also directed to study the current condition of the native oyster and consider new measures to protect and increase its health and survival rate. The final report is due in December 2004. (HB 353/SB 493)

Penalties for the intentional and unlawful harvesting of oysters from a designated oyster sanctuary or reserve in Maryland were established. The legislation imposes a fine of not more than \$3,000 and immediate suspension of a person’s tidal fish license for a period of six months to one year. (HB 469)

### Invasive Species

Modifying Virginia’s ballast water reporting law, the Hampton Roads Maritime Association is now the Virginia Marine Resources’ agent for collection of report forms from ship operators. The bill also clarifies that an operator who files a report within the U.S. Exclusive Economic Zone prior to arriving in a Virginia port is not required to file a separate state report. (SB 115)

Maryland’s program to control the burgeoning, non-native mute swan population was put on hold due to a ruling by the U.S. Fish and Wildlife Service that protects the swans under the federal Migratory Bird Act. A joint resolution passed by the House and Senate calls upon the Service to expedite review of the ruling and craft regulations that will allow effective control of the population. The rapid population increase and their voracious consumption of Bay grasses is the primary concern. (SJ 15/HJ 12)

## Vital Habitat Protection and Restoration

### Wetlands

To streamline its permitting process, Virginia passed legislation to ensure that

## Bay-Related Legislative Initiatives



Senator Bill Bolling (Virginia) expounds upon the region’s fiscal challenges as Delegate Charlie McClenahan (Maryland) and Secretary Chuck Fox consider the Commission’s options.

Chesapeake Futures: Range of Possible Nitrogen Loading



University of Maryland Dr. Donald Boesch helps the Commission understand the future condition of the Bay under various policy scenarios.

once the federal Army Corps of Engineers State General Permit is approved, only a state permit will be required for activities in nontidal wetlands. The Commonwealth established a nontidal wetlands program two years ago and received delegation of authority from the Corps in 2002. (HB 1002)

Chapter 2

Submerged Aquatic Vegetation

Reconsidered in Maryland for the third year, the legislature approved a bill to improve the identification and enforcement of SAV protection zones. DNR is directed to use buoys or other visible landmarks to mark SAV areas where clam harvesting equipment is prohibited. Adjustments to the protection zones, based on aerial surveys, will be made every three years, instead of annually, to ensure that an area affected by a severe water quality or storm event is not prematurely removed from protection. (HB 536/SB 195)

Forests

In an effort to promote permanent protection of forested stream buffers, Maryland established a two-year pilot program designed to use federal Conservation Reserve Enhancement Program (CREP) funds to establish Forest Stream Buffer

[Mitigation] Banks. Easements will be credited at a rate of 2.5 acres for each acre of mitigation required due to forest destruction. A report evaluating the effectiveness of the pilot program is due by December 31, 2004. (HB 895)

Water Quality Protection and Restoration

In order to close a budget gap in the water permit program at the Virginia Department of Environmental Quality, a bill was passed that triples the statutory caps on water permit fees. There is a July 1, 2004, sunset on the new fee structure. (SB 592)

Nutrients and Sediments

To help local communities finance upgrades to their wastewater treatment facilities, the Maryland legislature approved a bill calling for a study of the inflow and infiltration problems of every wastewater treatment system in the state. This study, to be conducted in FY 2002, will help determine priorities for infrastructure improvements. In FY 2006, the state will sponsor a utility rates study to determine whether utility rates levied by each local government are sufficient to cover the locality's portion of the capital improvements needed. (SB 643/HB 1051)

The Maryland Delegation

By Delegate Charles A. McClenahan

If my years in the General Assembly have taught me anything, it is that any legislation worth pursuing is worth sponsoring more than once. For the Maryland Delegation, that lesson proved true in 2002 when, after three years of trying, our legislation to improve the protection of the state's submerged aquatic vegetation (SAV) beds finally passed. Watermen in my district and across the Bay have long recognized the sea grasses to be vital blue crab habitat and natural filters of the sediment-laden waters. The law will improve both the identification and enforcement of the state's SAV Protection Zones.

These zones are complementary to the Delegation's efforts to work with Virginia to cooperatively manage the Chesapeake Bay blue crab across state lines. Since 1996, Delegate John Wood and I have served on the Bi-State Blue Crab Advisory Committee (BBCAC), with John serving as co-chair alongside a fellow Eastern Shoreman, Virginia Delegate Bob Bloxom. Many of our delegation meetings debated how to equitably implement phased reductions during the 2002 crabbing season.

When not distracted by blue crabs, a number of the Maryland members worked to defend the original intent of one of Maryland's key land use laws, the Chesapeake Bay Critical Areas Protection Act. A series of decisions by the Maryland Court of Appeals resulted in a weakening of the law's ability to restrict development in the sensitive 100-foot buffer zone. Adjustments to the law, championed by Mike Weir in the House and Brian Frosh in the Senate, now reinforce that specific criteria must be met before a variance can be approved.

With last summer's drought on everyone's mind, Senator Lowell Stoltzfus won passage of a bill that will increase the use of reclaimed water for irrigation purposes. In addition to its water conservation benefits, the legislation will reduce



Seated: Senator Bernie Fowler, Administrative Assistant Patsy S. Cress. Standing: Maryland Director Patricia G. Stuntz, Secretary J. Charles Fox, Delegate Charles A. McClenahan, Delegate John F. Wood, Jr., Delegate Michael H. Weir. Missing: Senator Brian E. Frosh.

run-off, which will lessen nutrient loadings to surface waters and encourage the recharge of groundwater.

It is with mixed emotions that I bring the year 2002 to a close. For both Mike Weir and me, it marks the end of our service on both the General Assembly and the Chesapeake Bay Commission. As members of the Commission, our combined tenure tallies nearly 30 years, during which we have sifted through volumes of information in search of workable solutions. Sometimes you get lucky and zero in on an approach that works . . . and that's a reward in itself.

*Charles McClenahan*

The issues are complex, encompassing land, air, water and wildlife. Tom Beauduy (Pennsylvania Director), Rear Admiral David Architzel and George Wolff (Pennsylvania) concentrate on the facts.





In 1998, Maryland lawmakers approved the Manure Transportation Pilot Project, which establishes a cost-share program to assist in the transportation of poultry or livestock manure from farms in areas experiencing phosphorous over-enrichment. The goal is to remove litter produced by at least 20 percent of the poultry in the four lower Eastern Shore counties. The program encourages alternatives to land application in over-enriched areas, while encouraging its application in areas that can hold additional phosphorous. The 2002 termination date was also repealed, making it a permanent versus pilot program. (HB 468)

Governor Glendening's Task Force on Upgrading Maryland Sewerage Systems delivered its final report to the legislature in December 2001, calling for the creation of a State Advisory Council on Water Security and Sewerage Systems. In creating the Council, the legislature mandated that it evaluate innovative technologies relating to water security and sewerage systems. A final report that includes a funding system for implementing these new technologies is due December 1, 2004. An Interagency Technical Assistance Committee on Wastewater Treatment Systems was also established to

advise local jurisdictions. This new committee will report to the State Advisory Council by November 1 of each year. (HB 659)

### Water Use

Pennsylvania passed the Sewage Treatment Plant and Waterworks Operators Certification Act, which brings the Commonwealth into compliance with the federal Drinking Water Operator Certification Program. (Act No. 11-2002)

Increased use of reclaimed water for irrigation will be promoted due to the efforts of Maryland Senator Lowell Stoltzfus. Alternatives to discharging wastewater effluent to surface waters include its use for irrigation of farmland, golf courses and athletic fields, and for landscaping purposes. Ancillary benefits include reduced nutrient loading to surface waters as well as indirect recharge of groundwater. (SB 726)

Legislation establishing the Pennsylvania Water Resources Planning Act was adopted. The act calls for an update of the State Water Plan every five years, creates a new Statewide Water Resources Committee and creates six water resources committees to develop its regional components. The act also calls for the identification of critical water planning areas where

\$18.7 billion to restore the Bay is a big number, but Delegate Mike Weir (Maryland), an avid outdoorsman, knows that it will be money well spent.

## The Pennsylvania Delegation

### By Representative Russ Fairchild

For 2002, perhaps no single environmental issue garnered more interest and involvement from the full delegation than passage of Act 220, Pennsylvania's Water Resources Planning Act. For the previous 20 years, efforts had been made in the General Assembly to pass comprehensive resource management legislation. Over that period of time, the Commonwealth's State Water Plan gradually became outdated and ineffective in guiding the myriad water management decisions being made, whether they related to water quality or water quantity.

Passage of Act 220 now sets the stage for a major rewrite of the State Water Plan over the next five years, a process that will involve both statewide and regional advisory committees. During this time, a comprehensive quantitative and qualitative inventory of the Commonwealth's water resources will be developed, taking into account both resource demands and management obligations.

Key among them will be the commitments made by the Commonwealth as a signatory to *Chesapeake 2000* (C2K). The nutrient and sediment load allocations anticipated in the spring of 2003 will drive the need for an updated tributary strategy for the state, an activity that will have to be well-coordinated with the planning process being undertaken with Act 220. At long last, water quality and water quantity will be more directly linked, not an insignificant fact when one considers that the Susquehanna River alone provides 50 percent of the fresh water to the Chesapeake Bay.

I am indebted to my delegation colleagues for their commitment to the work of the Commission. It was with their full support that I proposed, in my capacity as both chair of the delegation and the Commission, that we undertake an ambitious financial analysis of C2K. The results of our work are outlined in Chapter 3. But regardless of our



Seated: Senator Noah W. Wenger and Representative Russ Fairchild. Standing: Pennsylvania Director Thomas W. Beauduy, Representative Peter J. Zug, Patricia Buckley, (representing Secretary David E. Hess), Citizen Representative George B. Wolff, and Representative Arthur D. Hershey. Missing: Senator Michael H. Waugh.

accomplishments in 2002, there is much more to be done to meet the goals of *Chesapeake 2000*. On behalf of my delegation colleagues, please know that our commitment continues into 2003 and beyond.

*Russ Fairchild*



the demand for water exceeds or is expected to exceed available supplies and requires the reporting of all water use of 10,000 gallons per day or more, and establishes a formal program to promote voluntary water conservation. (Act 220-2002)

Chapter 2

Other

Water conservation efforts of public water systems and sewage treatment plants will improve under the new Maryland Water Conservation Act. Best management practices that improve water conservation and the efficiency with which water or wastewater is used, treated and stored are now to be part of the permit review process. The application of these practices will improve eligibility for state financial assistance for drinking water and wastewater treatment improvements. It is anticipated that efficient use of water will reduce the cost of providing public water and wastewater treatment, while also reducing impacts on aquatic life due to changes in surface and groundwater withdrawal and wastewater discharge. (SB 549/HB 693) New legislation was passed in 2002 authorizing the Maryland Department of the Environment to develop new primary drinking water regulations for contaminants not addressed by federal regulation.

A cost-benefit analysis of the proposed standard must be conducted. (SB 246/HB 350)

Sound Land Use

Land Conservation

*Chesapeake 2000* established a goal of preserving 20 percent, or an additional 1.1 million acres, of the land in the watershed by 2010. In an effort to encourage local dedicated funding sources, the Maryland General Assembly approved a bill to allow local governments to develop and implement land preservation programs. It also directs the departments of the Environment and Natural Resources to examine viable new funding mechanisms to enhance state funds. (HB 1131)

Representative Russell H. Fairchild introduced legislation calling for a Pennsylvania constitutional amendment to establish a special state and local tax credit for donations of land or easements for conservation purposes. The amendment is necessary because the Commonwealth's Constitution contains a "Uniformity Clause," which requires that all taxes be uniform (i.e., without any special deductions, exemptions or credits), unless authorized constitutionally. The

The Virginia Delegation

By Delegate Robert S. Bloxom

There is one word to describe the Virginia Delegation's focus in 2002, and that word is *budget*. Our work has been overshadowed by the largest budget deficit in the history of the Commonwealth — \$2.1 billion dollars for the 2002–2004 biennium. As a result, moving forward with the implementation of C2K has become all the more challenging.

Our successes this year were tempered by a major disappointment when we lost funding for the Commission's Bi-State Blue Crab Advisory Committee (BBCAC). We are hopeful that the \$150,000, split equally between Virginia and Maryland, will be restored in the future so that the work of the Committee can continue. In the meantime, the Commission intends to keep the basic operations of the Committee intact. Once BBCAC funding is restored, we will be better able to measure the economic and ecological impacts of the 2001/2002 harvest reductions and to develop strategies to manage the fishery based on bio-economic zones. These zones could improve our ability to more equitably manage a geographically and economically diverse fishery.

The Commission has also been a key player in the debate over the deployment of the Suminoe oyster, *Crassostrea ariakensis*, an animal that could be critical to the survival of Virginia's oyster fishery. At the heart of the discussion is the question of whether a non-native species can be safely introduced into the waters of the Chesapeake Bay. The Delegation continues to work closely with our scientific, industry and state partners to answer this complex question.

The Delegation is also investigating the proper management and use of the Commonwealth's shallow waters and subaqueous bottomlands. In concert with the Virginia Institute of Marine Science and the Virginia Coastal Resources Management Program, the Delegation has begun



Seated: Delegate Robert S. Bloxom and Citizen Representative Irvine B. Hill. Standing: Secretary W. Tayloe Murphy, Jr., Delegate Albert Pollard, Virginia Director Russ Baxter and Senator Bill Bolling. Missing: Delegate Thelma Drake

to formulate proposals that will protect key aquatic resources while ensuring the continuation of private economic use, such as aquaculture. We will finish our analysis in 2003; legislative proposals will be expected for the 2004 session.

It has been my pleasure to serve alongside my colleagues in the Virginia Delegation during such a challenging time in the Bay restoration. All of us represent constituents who understand that Virginia's future depends on a healthy Bay.

Robert S. Bloxom



Senator Mike Waugh (right) brings the interests of the Bay home to his colleagues in the Pennsylvania General Assembly.



legislation was reported from committee but failed to be considered before the session ended. It will be re-introduced in the 2003 session and, by law, must be adopted in two successive sessions. The voters in a statewide referendum must then approve it.

The Task Force to Study the Maryland Agricultural Land Preservation Foundation was extended for another two years. The task force will continue to develop guidelines for farmland preservation goals for each county and evaluate funding opportunities targeted to priority preservation areas. The possible creation and funding of a statewide critical farms program and improved easement valuation systems will also be reviewed. A report is due June 1, 2004.

Maryland's rural landscape is rapidly disappearing, with an estimated 18,000 acres of farmland converted annually to urban, commercial or other nonagricultural use. Concerned by this trend, the legislature passed a joint resolution establishing the goal of tripling the number of productive agricultural acres to be preserved by the Maryland Agricultural Land Preservation Foundation, Green-Print, Rural Legacy and local preservation programs. (SJ 10/HJ 22)

A bill passed that allows Virginia to issue bonds for state agency projects, including \$20 million to the Department of Conservation and Recreation for parkland acquisition. (SB 673)

The Commonwealth also authorized, upon approval of voters, the issuance of \$119 million of general obligation bonds for park and recreational facilities. Thirty million dollars is to be used for acquisition of parks and natural areas, with an additional \$6.5 million to acquire in-holdings and properties adjacent to state

parks. On November 5, 2002, Virginia voters overwhelmingly approved the bond issue. (HB 1144)

Legislation passed that allows a Virginia taxpayer entitled to a land preservation tax credit to transfer the credit to any other taxpayer. (HB 1322)

To preserve open space, local governments in Virginia may now create a "service district" to acquire real property, adding yet another tool to their conservation programs. The bill is the direct result of a study conducted by the Chesapeake Bay Commission, Trust for Public Land, and the Commission on the Future of Virginia's Environment. (HB 344)

Virginia's next biennial budget includes the expected revenues from an optional \$2 motor vehicle registration fee with some of the proceeds potentially going to the Virginia Land Conservation Foundation (VLCF). The first \$5 million generated will support the commemorative license plate and promotional activities for the Jamestown 2007 Anniversary. Additional money collected will go to the VLCF.

A bill establishing "by right" cluster development ordinances in order to preserve open space passed the Virginia General Assembly. Localities have until July 1, 2004, to establish the criteria. (HB 346) Furthermore, resolutions adopted by the Virginia House and Senate request the Secretary of Natural Resources to examine options for providing a stable source of funding for conservation of open space and report to the next session. (HJ 255)

Legislation was successfully sponsored by Pennsylvania Delegation member Representative Michael H. Waugh authorizing the deposit of \$16.5 million into the Agricultural Conservation Easement Purchase Fund in fiscal year 2005, with revenues generated by the \$4 Growing

Greener disposal fee. The act further reiterates that the full \$100 million earmarked for farmland preservation under the original 1999 Growing Greener Act should be provided, despite budget deferrals during the two most recent fiscal years. (Act 233-2002)

### Transportation

A controversial transportation project, the proposed intercounty connector (ICC) between Maryland's Montgomery and Prince George's counties, has been strongly opposed on environmental grounds. A joint resolution calls upon the Maryland Governor to direct the Department of Transportation to complete an environmental impact statement on the ICC, including the study of at least one alternative using advanced environmental design and mitigation techniques. (SJ 8/HJ 10)

### Development, Redevelopment and Revitalization

Maryland's Chesapeake Bay Critical Areas Protection Act was restored to its original intent under legislation that reinforces the criteria that must be met before a variance can be approved. Concerns had been raised that recent decisions by the Maryland Court of Appeals had seriously weakened the ability of the law to restrict development in the sensitive 100-foot buffer zone. (HB 528)

Reclamation of former industrial sites will be easier now due to Virginia legislation that creates the Brownfields Restoration and Economic Redevelopment Assistance Fund, from which grants can be made to restore and redevelop brown-field sites. (HB 463)

Legislation was enacted authorizing certain Virginia counties and towns of the "Middle Peninsula," the land mass flanked by the Rappahannock River, the James River and Chesapeake Bay, to create a Public Access Authority that will work to improve public access to the Chesapeake Bay and its tidal tributaries. (HB 619)

The Virginia Commission on Growth and Economic Development was continued for another year. It has been examining issues related to growth and development, protection of open space, and revitalization of urban areas. The Commission will work on uniform regulation of land application of sewage sludge and examine Virginia's stormwater management programs. (HJ 156)

### Stewardship and Community Engagement

A bill passed that requires the Virginia Department of Environmental Quality to establish a citizen water quality-monitoring program and authorizes the agency to provide grants in support of these efforts. (HB 497)





SAM JACKSON - PHOTO © DAVID HARP

The significance of the Chesapeake Bay as an economic engine is immense, driving property values, supporting resource-based industries, and attracting tourism and recreation dollars. A 1989 study by the Maryland Department of Economic and Employment Development put the Bay’s annual “worth” to the economies of Virginia and Maryland at \$678 billion. Taking into account all of the benefits and values we recognize today, its worth is vast, reaching far beyond the decade-old estimate. Its value is in some ways immeasurable.

Fifteen billion dollars is the price attached to the restoration of South Florida’s Everglades. Nearly \$7 billion will cover the upgrades needed for Chicago’s O’Hare International Airport. Three billion dollars is needed to expand Washington’s Woodrow Wilson Bridge. Large projects with important benefits require large investments. For a restored Chesapeake, encompassing three states, 40 million acres of land and 18 trillion gallons of water, the investment approaches \$19 billion.



Upon initial consideration, the cost of a restored Bay seems daunting. But first, consider that the cost is spread over an eight-year period and shared by three states and the federal government. Second, remember that roughly one-third of this cost, or \$5.9 billion, is projected to be forthcoming from existing sources over the next eight years. Third, there are many creative and untried means to derive new financial support from other sources, including the 16 million people that reside in the watershed, more than 2,300 local governments, and the private sector.

Finally, take into account that this massive effort targets the largest and most productive estuary in the United States, providing benefits and services to 16 million residents. In contrast, the \$15 billion Everglades project affects less than a third of the land area and only a third of the Bay’s population. In purely economic terms, the annual return on investment of \$18.7 billion is likely to exceed a trillion dollars (based on the current dollar value of the 1989 study cited above). Clearly, it will be money well spent.

Developing a Fiscal Plan

*Chesapeake 2000* (c2k) sets forth specific, measurable actions needed to preserve, protect and restore the Bay. It is a document that can be viewed as the “strategic business plan” of the Bay Program partners, committing the signatories to more than 100 actions needed to restore the Bay. As a policy document, it is extraordinarily complete.

This past year, under the leadership of Chairman Russ Fairchild (R-Pa.), the Commission added more precision to the business plan by carrying out a comprehensive fiscal analysis of c2k. In launching

the effort, Chairman Fairchild set forth this guiding principle: “Understanding our financial obligations should not compromise our efforts or diminish our progress. In fact, it is a timely reality check that will only help us attain our goals.”

The Commission’s charge was to quantify the investment needed to fully implement c2k for the rest of the decade and to communicate that financial need to both the state general assemblies and the U.S. Congress. The full investment of \$18.7 billion over the 2003–2010 time frame is itemized in the CBC report, *The Cost of A Clean Bay*. A projected income of \$5.9 billion in Maryland, Pennsylvania and Virginia leaves a baywide funding gap of \$12.8 billion, or \$1.6 billion per year.

Commission staff has been actively communicating the results of our cost assessment to a wide audience: legislative committees, the Bay Congressional Delegation, Bay Program subcommittees, tributary teams, private foundations and citizen groups. A key message is that two parallel efforts must be accelerated: 1) identifying and pursuing opportunities to enhance income to close the estimated \$12.8 billion funding gap; and 2) ensuring the judicious use of all available funds.

Compiling the Data

The CBC analysis organized cost and income by commitment categories in order to better understand the mix of funding sources and the associated funding gaps for specific actions needed. Since the focus of the analysis was state-specific, state funds were broken down by capital, general, special and reimbursable funds. Funding coming to the states from federal, local and non-government sources were also factored in.

Pennsylvania and Virginia provided cost and income data during the summer and fall of 2002. Because Maryland had already published a financial analysis in February 2002, these findings were incorporated in their entirety, with some changes to reflect more recent information.

Every projection was based on the states’ assumptions of the steps needed to achieve, and the funds necessary to accomplish each goal. The resulting analytical assumptions, while not identical among the states, are similar and comparable.

The CBC fiscal analysis revealed that, while the costs of meeting c2k are fairly consistent across the states, projected income over the 8-year period varies considerably (Table 1). All of the states face significant shortfalls, ranging from \$2.9 billion in Maryland to \$4.8 billion in Pennsylvania and \$5.1 billion in Virginia. This results in an especially large funding gap for Virginia and Pennsylvania, where 84 percent and 77 percent, respectively, of projected c2k costs are unfunded.

Federal income accounts for about one-fifth of all anticipated revenue, but this is far from evenly distributed across the states, with Pennsylvania receiving three times, and Maryland seven times, the Virginia share. Findings such as these raise policy questions that must be unraveled in the short term.

This new knowledge provided, for the first time, a comprehensive understanding of the sources of money used by each of the states. It helped to highlight key funding opportunities that had been pursued by one state, but not another. It offered a glimpse of policies needed and possible sources of funds to close the funding gaps.

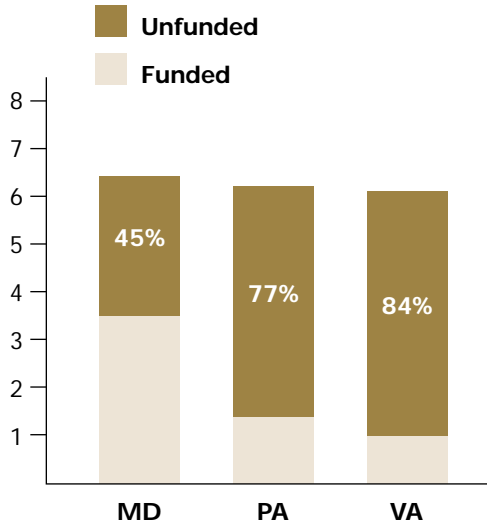
Table 1

Projected C2K Funding Needs, by State, 2003–10 (in billions of dollars)

	MD	PA	VA	Total
Costs	6.4	6.2	6.1	18.7
Income	3.5	1.4	1.0	5.9
Funding gap	2.9	4.8	5.1	12.8

Investing in a Clean Bay

Projected C2K Funding Gaps by State, 2003–10 (In billions of dollars)



Coming to Terms With the Cost

Under c2k, specific actions to attain water quality goals represent roughly 60 percent, or \$11.5 billion, of the \$18.7 billion needed (Table 2). Whether considered collectively or state-by-state, water quality initiatives constitute the highest cost and largest funding gap. The lion’s share of the cost — \$10.8 billion — covers efforts to reduce nutrient and sediment

loads to levels sufficient to remove the Bay from the federally imposed list of “Impaired Waters” by 2010.

With the assistance of the EPA Chesapeake Bay Program, the Commission estimated the cost of reducing nutrient and sediment loads from agricultural lands, septic systems, wastewater treatment plants, and through new and retrofitted stormwater measures. Table 3 shows the major nutrient and sediment cost drivers and how these costs vary among the states.

Compared to the enormous gap in funding for water quality initiatives, the Commission anticipates that more money will be available for management of living resources, the restoration of vital habitats and sound land use practices. One exception is a major funding need in Pennsylvania for the removal of chemical

blockages due to acid mine drainage. Five abandoned mine sites along the west branch of the Susquehanna River require remediation at an estimated cost of \$1 billion. Another is the money needed to foster the community engagement and environmental education called for in c2k. This may be an area where the non-governmental partners who subscribe to the Bay restoration effort can be of great financial and programmatic assistance.

Enhancing Federal Support

Without a doubt, federal funding has played a crucial role in supporting Chesapeake Bay restoration efforts. Federal support has proved an important catalyst in the Program, offering a wide variety of opportunities to leverage state and private dollars with federal funds.

The federal share of the Bay restoration effort to date has been roughly one-fifth, representing 18 percent of total expenditures. Assuming that this level of participation will be maintained over the next eight years, a tripling of federal funds is needed to keep pace with the growing financial demand. Without it, the federal share will drop to less than 6 percent. Put another way, the federal contribution will need to rise from \$1.1 billion to \$3.5 billion over the next eight years, if its share of the financial responsibility for c2k is to remain constant over time.

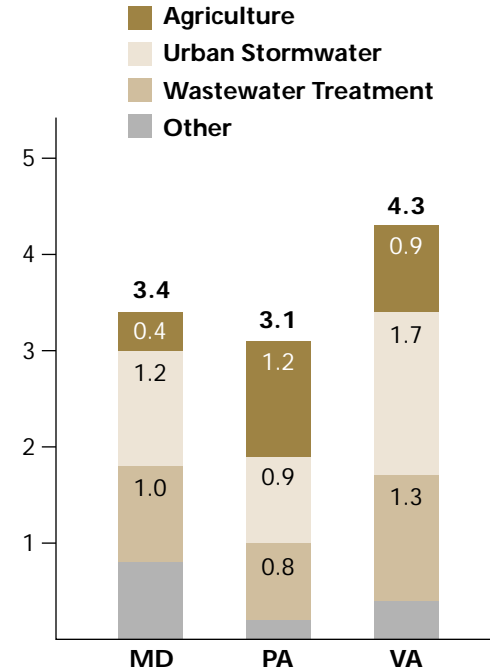
How to grow this federal commitment has been a major focus of the Commission over the past two years. Starting with the efforts of the Commission’s Lego Work Group to address federal opportunities associated with water quality, land conservation and education, CBC has been aggressively pursuing enhanced federal funds.

In 2002, these efforts met with significant success. The 2002 Farm Bill authorizes more than \$17 billion for agricultural conservation programs nationwide over the next six years — an 80 percent increase — over the previous Act. Under the old Farm Bill, Bay area states have received approximately \$20 million a year for various conservation programs. The new legislation should result in several times that amount coming into the region.

Furthermore, Section 2003 of the Act, known as *Partnerships and Cooperation*, authorizes the Secretary of Agriculture to provide enhanced technical and financial assistance to states to address critical resource conservation efforts. In the Conference Agreement that accompanies the Act, the Secretary is “strongly encour-

Table 3

Nutrient and Sediment Reduction Costs by Source (in billions of dollars)



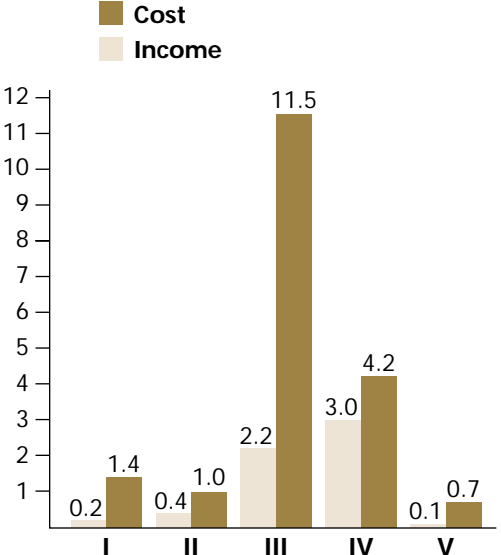
Investing in a Clean Bay

Table 2

Projected State C2K Costs and Income, by Category (in billions of dollars)

	MD	PA	VA	Total
I. Living Resources				
Cost	0.1	1.2	0.1	1.4
Income	0.1	0.1	0.1	0.2
II. Vital Habitat				
Cost	0.4	0.5	0.1	1.0
Income	0.2	0.2	0.1	0.5
III. Water Quality				
Cost	3.9	3.1	4.5	11.5
Income	1.7	0.2	0.2	2.1
IV. Land Use				
Cost	1.5	1.4	1.3	4.2
Income	1.5	0.9	0.7	3.1
V. Community Engagement				
Cost	0.5	0.1	0.1	0.7
Income	0.1	0.1	0.1	0.1

Projected Baywide C2K Costs and Income, by Category (in billions of dollars)



aged to be proactive in establishing partnerships in critical areas such as the Chesapeake Bay.”

With this language in hand, the Commission combined forces with the Governors of Maryland, Virginia and Pennsylvania, and the Mayor of the District of Columbia, to request \$20 million a year of additional USDA funds for the next five years. The funds would support a test of new, innovative techniques to reduce agricultural pollution in the 6-state Chesapeake Bay watershed. Known as the *Chesapeake Bay Working Lands Nutrient Reduction Pilot Program*,



the \$100 million program will provide conservation incentives while maintaining or even enhancing farm viability. At the earliest, a USDA decision on the proposal is not expected until 2003.

Garnering the political support to provide new federal dollars such as these is a deliberate and time-consuming undertaking. These efforts require more than the voice and will of the Commission alone. Over the next three years, there are likely to be Congressional opportunities that reach beyond agriculture, including funding for transportation-related stormwater management, nitrogen removal at wastewater treatment plants, shoreline stabilization efforts and environmental education. If we are to compete successfully for these funds, the partners in the restoration — government and non-profit, business and citizen — will have to combine forces to develop collective and persuasive strategies.

### The Bottom Line

Realistically, opportunities to enhance funding will not be sufficient in the next few years to address all of our c2k needs. We must, therefore, target any available funds to maximize the cost-benefit ratio of any initiative that we pursue. The CBC fiscal analysis provides a tool for state policymakers to evaluate their income and spending projections and to develop a

strategic plan. It calls upon the federal agencies to do the same.

As our understanding of the pollution reduction potential of various BMPs improves, we will be able to develop more cost-effective measures to guide our environmental program priorities. Furthermore, modeling results may indicate that a phased approach to meeting key goals is warranted, i.e., achieving water quality improvements may be seen as a prerequisite to the success of certain living resource restoration efforts.

We have identified \$5.9 billion of income over an 8-year period. Additionally, we have targeted a need for an additional federal investment of \$2.4 billion over this same time period. This leaves a \$10.4 billion gap in funding still needed from state, local and private sources. In the face of the three states' immediate fiscal woes, this challenge is daunting at best. But to delay this investment, and the actions needed under c2k, will only result in cleanup costs far in excess of what we have projected and annual economic benefits reduced or foregone. We must do all that we can to pursue new revenue streams and to nurture new partnerships that, up until now, have remained untapped resources. Without action, costs will continue to escalate, further jeopardizing the Bay restoration effort and the sustainability of its living resources.

## Predicting the Chesapeake's Future

What will be the fate of the Chesapeake Bay in the 21st century? It is an exercise in "what ifs." Over the past several years, a region-wide panel of experts, under the auspices of the Chesapeake Bay Program's Scientific and Technical Advisory Committee (STAC), joined together to examine the Bay's fate under a variety of policy scenarios, timed to the year 2030. The result of their efforts is the 165-page report, *Chesapeake Futures: Choices for the 21st Century*. The Chesapeake Bay Commission was the first to hear the results of the study, during a presentation on behalf of STAC by Don Boesch and Jack Greer. According to the study, the policies put in place at the dawn of this new century will largely determine whether the Bay remains on the receiving end of increasing loads of nutrients and sediments, or whether the Bay of 2030 will fare far better than the Bay we see today. *Chesapeake Futures* offers three potential scenarios for the estuary and its watershed, based on three different trajectories:

- **Recent Trends**, if we continue to see current land use and present loadings of nutrients and other pollutants, but with the addition of some 3 to 4 million more residents;
- **Current Objectives**, if we largely meet the land use and nutrient-reduction commitments set forth in *Chesapeake 2000* and other Bay agreements; and,

- **Feasible Alternatives**, if we institute a range of progressive programs and innovative technologies that both implement and move beyond C2K.

The differences in outcome are startling. While a Recent Trends scenario projects the loss of some 2 million acres of farm and forest land to new development, a Feasible Alternatives suggests that sprawl could be reduced by some 80 percent. The difference results from sound land use planning, fewer roads and better use of high quality waste treatment systems and other infrastructure. The report demonstrates that failing to live up to commitments made in a series of Bay agreements would result in losing many of the gains made during 15 years of restoration efforts. Finding the money to institute a range of progressive alternatives, however, could bring back a Bay not seen since the 1950s.



*Chesapeake Futures: Choices for the 21st Century* is available on the web at: [www.chesapeake.org/stac](http://www.chesapeake.org/stac). Dr. Donald Boesch is chair of the STAC Futures Project and President of the University of Maryland's Center for Environmental Science. Dr. Jack Greer of Maryland Sea Grant is co-author of the report.





TONGING FOR OYSTERS - PHOTO © DAVE HARP

Historical accounts of oysters in the Chesapeake Bay during the 17th, 18th, and even 19th centuries describe a scene that is almost impossible to imagine — oyster bars that extend a foot above water, individual oysters 13 inches long, and oyster beds so expansive and numerous that they presented a danger to navigation. In the late 1880s, the Maryland fishery for the Chesapeake oyster, *Crassostrea virginica*, employed 20 percent of all Americans working in the fishing industry and its harvest was two times the rest of the world combined.

By stark contrast, oyster landings in Virginia fell from approximately 3.5 million bushels in the 1957–1958 fishing season to a historical low of only 16,891 bushels in 1995–1996. Recent catches are not much improved, with only 22,500 bushels harvested in the 2000–2001 oystering season. While the plight of Maryland's oyster stock is not so extreme, it has also precipitously declined over time.

Disease and over-harvesting have been identified as the two primary causes of the fishery's collapse. In addition, as historic oyster reefs



have been worn down by years of harvest, the quality of the remaining hard-bottomed habitat is no longer sufficient to support healthy growth and propagation of the species. Water quality has also deteriorated, with lower dissolved oxygen levels and greater amounts of runoff, erosion and siltation all contributing to the population's decline.

The oyster diseases of Dermo and MSX are of paramount concern to the fishery. Both parasites have led to significant mortality before the bivalves reach harvestable size.

Dermo was first documented in the Chesapeake Bay in 1949 and has been continuously present ever since. The disease is easily transmitted and spreads rapidly from oyster to oyster. Temperature and salinity are the controlling factors, with warmer temperatures and higher salinities being the parasite's preferred habitat.

But now, facilitated by the common practice of transplanting oysters from one area to another, infected hosts have been inadvertently moved into fresher waters, promoting the spread of disease into the middle and even upper Bay. The parasite is rarely present in oysters less than one year old, but is often found in second year oysters. Once moderately infected, growth rate slows, reproduction declines and overall health of the oyster becomes poor. When parasites grow numerous enough, the oyster host dies.

MSX thrives best in warm water and prefers relatively high salinity. Recent drought conditions coupled with warm weather have facilitated the parasite's pronounced spread. Unintentionally introduced along with some illegally introduced *C. gigas* oysters, MSX was first documented in Delaware Bay in 1957,

and two years later in the Chesapeake. The parasite has spread extensively along the East Coast, and is now responsible for oyster disease and mortality all the way from Maine to Florida. Oysters of any age, from spat to adult, are susceptible to MSX.

As the Bay's natural oysters have declined, processors in the Bay region have been supplementing native catch with oysters from the Gulf of Mexico, Delaware Bay and New England. In Virginia, 99 percent of the oysters processed in the state come from outside its borders. Today, only around 20 seafood businesses in Virginia process oysters, as compared to over 200 facilities processing in 1900. The baywide oyster industry no longer operates as a self-sustaining business. In fact, many in the industry believe that the native oyster is no longer a viable economic resource.

In their heyday, oysters provided many benefits. Most notably, they are a critical commercial and economic resource. They are also part of the complicated, multi-species food web that supports the Bay's remarkable productivity. Finally, oysters filter prodigious volumes of water, helping to reduce nutrients and improve the clarity of the Bay's water.

In fact, scientists believe that the decline of the Bay's oyster population is having a detrimental effect on the Chesapeake's water quality and ecology. Historically, when oysters were abundant, they could filter all the water in the estuary, and remove excess nutrients, every three to four days. Today, the population could not filter the water in a year.

Over the past decade, the economic and ecological threats caused by rapidly declining oyster populations triggered a variety of regulatory, academic and policy

actions taken by Virginia, Maryland, the Chesapeake Bay Commission, and the Chesapeake Bay Program as a whole. Paramount among them was the collective decision, included in *Chesapeake 2000*, to try to achieve a ten-fold increase in the native oyster population by the year 2010. The following recommendations are fundamental to this effort:

- Restore habitat including oyster reef construction and definition of oyster sanctuaries;
- minimize the effects of oyster disease through research;
- develop disease resistant stocks and relocation strategies;
- limit entry into the fishery and manage the harvest;
- improve water quality; and,
- promote advancements in aquaculture.

For all of the collaboration and consensus achieved on revitalizing the oyster, there remains one highly controversial area of disagreement among the Bay Program partners: the introduction of a non-native species into the waters of Chesapeake Bay.

Since 1991, Virginia had quietly explored whether a non-native species of oyster could provide a valuable supplement to the native industry. Then, in 1995, the Virginia General Assembly passed House Joint Resolution 450 which directed the Virginia Institute of Marine Science (VIMS) to develop a ten-year plan for molluscan shellfish research, and to begin securing state, federal and international approvals for in-water testing of non-native oyster species.

Over the next four years, VIMS established its Aquaculture Genetics and Breed-

ing Technology Center (ABC) and conducted both laboratory and field research on potential non-native oyster species. After unsuccessful trials on *C. gigas*, an imported Japanese species that has long been the mainstay of oyster aquaculture on the West coast of the United States, VIMS researchers identified the Suminoe (or Asian) oyster, *C. ariakensis*, as faster growing, more disease resistant, and good tasting as well.

In 1998, 1999 and 2000, VIMS carried out a variety of in-water tests of sterile Suminoe oysters in Virginia waters. These studies were approved by both VIMS and an ad hoc panel of the Chesapeake Bay Program, convened in accordance with the Chesapeake Bay Policy for the Introduction of Non-Indigenous Aquatic Species (1993).

Acknowledging the success of both the VIMS trials and a marketability study, the Virginia Seafood Council (VSC) conducted an industry trial using 6,000 sterile (or triploid) Suminoe oysters at six sites in the Virginia portion of the Bay. The oysters were grown using on-bottom cage culture, and growth and disease tolerance were observed in areas of low, medium and high salinities.

In 2001, VSC conducted pilot tests as the start of five-year plan that could eventually lead the way to massive *C. ariakensis* aquaculture operations in Virginia waters. Aware that the Council would be proposing expanded testing in the spring of 2002, a number of Bay-region regulatory, scientific and conservation groups published position statements urging extreme caution in permitting non-native oyster introductions. Both Maryland and the U.S. Fish and Wildlife Service expressed serious concern.

Responding to the many concerns, questions and issues raised by its member states and Bay Program partners, the Chesapeake Bay Commission adopted a policy supporting a National Academy of Sciences (NAS) Evaluation of the Benefits and Risks of *C. ariakensis* in the Chesapeake Bay in January 2002. The Commission selected the Academy based on its long history of service to government and its reputation for providing deliberate and independent advice. The Commission asked the NAS Ocean Studies Board to make the study of *C. ariakensis* an immediate priority and configured the financial support of the U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, U.S. Fish

and Wildlife Service, Maryland Department of Natural Resources, Virginia Sea Grant, Maryland Sea Grant and Connecticut Sea Grant.

The \$300,000 NAS study began in July 2002 and is examining the ecological and socio-economic risks and benefits of open water aquaculture and intentional introduction of the Suminoe oyster in the Chesapeake Bay. The study is looking at potential effects on native species, water quality, habitat and the spread of disease, and will examine existing regulatory and institutional frameworks. The report will be completed in July 2003, with complete public dissemination in September 2003.

At the same time that the Bay Commission was evaluating the

introduction of non-native oysters, its colleagues in the Virginia and Maryland General Assemblies were communicating their interest. The Virginia legislature made it clear, via a resolution, that it supported commercial aquaculture production of sterile Suminoe oysters provided that the production was within the parameters established by VIMS and the VMRC. The resolution further suggested that *C. ariakensis* be introduced into public waters of Virginia if, after three years, ongoing scientific study fails to prove it will be harmful. Finally, Virginia reiterated its commitment to increase the native oyster ten-fold by 2010, as stated in the *Chesapeake 2000* agreement. Maryland's initial reaction can best be described as cautious; in the end, both the executive and legislative branches expressed interest in pursuing triploid *C. ariakensis* research, provided that the NAS study proved supportive.

As anticipated, in 2002 the Seafood Council submitted a permit request to the VMRC for further industry trials utilizing one million oysters distributed over 39 growing sites. At the request of VMRC, the Bay Program once again convened its ad hoc panel to review the permit request. During the review, it became apparent that the panel had serious reservations about the proposed project, including the use of chemically, not genetically, induced triploids (which are subject to greater reproductive reversion), the large number of participants and proposed sites and insufficient monitoring and oversight of the trial participants.

In November 2002, VSC agreed to a revised proposal using genetic triploids, limiting the participants and locations to

ten, hiring a project manager to ensure monitoring, data gathering and reporting, and restating the principal goal to be economic analysis. The Bay Program ad hoc panel will reconvene in early 2003 to review this revised permit request.

In many ways, the question of introducing non-native oysters in the Chesapeake Bay goes to the core of the Bay restoration effort, which has thus far been built on interstate cooperation and willingness to develop policy grounded in science, culture and economics. The introduction of a non-native species poses numerous policy considerations that require the full cooperation of the jurisdictions baywide.

The answers cannot be fully developed until the scientific information has been assembled and analyzed. Armed with the NAS report, the Commission will encourage the Bay partners to move forward with a reasoned and collective management decision — one that will be calculated to sustain and enhance the future of one of the Bay's most cherished living resources.

There are no easy answers and no guarantees. According to Dr. Mark Luckenbach of VIMS, it will probably take decades — and probably decades of no harvesting — for the *C. ariakensis* population to reach a point where watermen and shucking houses are sustained. Others caution that the introduction of a non-native species could have long term, detrimental effects on our native oyster. Whatever the decision, it must fully address both economic and ecological concerns. We once had a thriving oyster population; our goal is to have one in our future.

## Early 2002 Comments on the Introduction of *C. ariakensis*

### Virginia Institute of Marine Science

1. The intentional introduction of reproductively capable organisms would be imprudent;
2. Aquaculture of sterile (triploid) oysters offers promise for economic development;
3. Based on current technology and production methods, large scale use of triploids would entail some possibility of introducing reproductive oysters over the long term; and,
4. Scale-up to commercial production needs to be accompanied by improved biosecurity.

### Chesapeake Bay Program Federal Agencies Committee

1. Permit request should be subject to ad hoc panel review;
2. Concern that focus on *C. ariakensis* would distract from efforts and financial support to restore the native oyster;
3. The decision needs to rest on sound science, and gaps exist in both risk assessment and independent ecological and economic analysis; and,
4. Corps permitting requirements will require a thorough NEPA review.

### University of Maryland Center for Environmental Science

1. Strict biosecurity and monitoring is necessary to minimize risks of introduction;
2. Risks of establishing reproducing populations from triploid aquaculture should be carefully determined;
3. Seed stock should be propagated in ways that eliminate infection by Dermo and MSX; and,
4. Even though there is a sense of urgency surrounding this work, a broad group of national experts should be convened.

### Chesapeake Bay Foundation

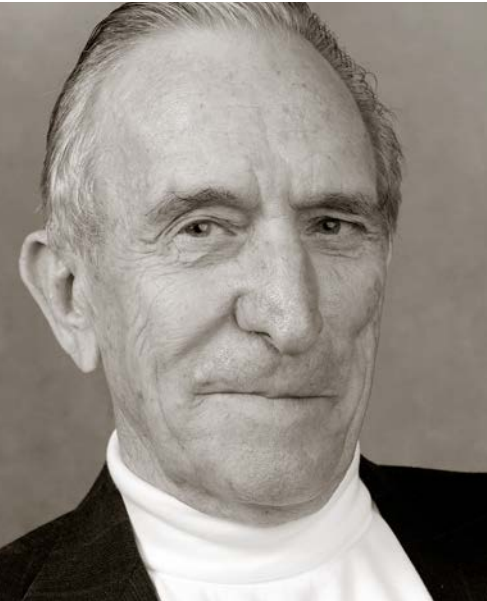
1. An independent technical review should be conducted before significant introduction;
2. A comprehensive review and revision of Maryland and Virginia policies related to oyster aquaculture is needed; and,
3. Continued funding commitment by federal, state and private partners to native restoration and stocking efforts.



# A Tribute to Two Departing Members

A Tribute

Two dedicated Maryland legislators are stepping down from the Commission this year as they depart the General Assembly. Delegates Michael H. Weir and Charles A. McClenahan brought a lifetime of experience on the Bay to their work on the Chesapeake Bay Commission, an invaluable perspective that enriched our work and for which we are grateful.



Delegate Michael H. Weir



Delegate Charles A. McClenahan

Delegate Michael H. Weir proudly admits that the only Commission meeting he missed in his 21 years of membership was on opening day of deer season. It is characteristic for this six-term Democrat from Baltimore County, a professional bricklayer, to be unapologetic about any time spent in the outdoors. “I never had the opportunity to get a formal education. The outdoors was my library, and I learned everything with my own eyes.”

Delegate Weir’s keen powers of observation have been a boon for the Bay, prompting his outspoken concern about the continuing loss of habitat. He has been a vocal supporter of the Critical Area Law and a sponsor of many other laws that protect wildlife. Weir is particularly concerned about non-native species that rob Chesapeake Bay flora and fauna of the places they need to thrive. “Look at *phragmites* — an alien grass species that is destroying our wetlands and altering the ecosystem by raising the marsh floor. We need to consider the cost of losing and rebuilding wetlands, and weigh that against the cost of removing this invader.” Though he looks forward to spending more time outdoors, Delegate Weir says he has no intention of fading into the sunset. “I told the Chairwoman of the House Environmental Matters Committee that I’d continue to come down and testify on issues dear to my heart. I’ll just be making my remarks from a different part of the room.”

For Delegate Charles A. McClenahan, affectionately known as “Charlie Mac,” understanding the dynamics of the Bay and its fisheries has been a driving force in representing his maritime district

on the Lower Eastern Shore. An insurance man by trade, Delegate McClenahan has been an avid boater and fisherman since he was a teen at Crisfield High. “I’ve seen water conditions change and as a member of the Commission for the past 8 years, I’ve learned that there are things we can do. We’ve got to upgrade our treatment plants. We’ve got to restore our underwater grasses — without them, our crabs can’t survive their predators.” Delegate McClenahan also cites the erosion of the barrier islands that separate the Bay and Tangier Sound. “These islands are disappearing at the rate of 14 feet a year, silting up the water, adding nutrients, and smothering the seagrass. Since we need more places to put dredge spoil, why not combine these two efforts for the benefit of the Bay?”

As a member of the Commission’s influential Bi-State Blue Crab Advisory Committee, McClenahan has studied the life cycle of the crab and the economic pressures on the species. “I used to think we had to have universal laws governing the crab for the entire Bay, but now I believe we need to think more in terms of bio-economic zones. It makes no sense to have Maryland and Virginia watermen crabbing under different regulations in the same body of water, such as Tangier Sound.

We need the same regulations, zone by zone, in both states.” Delegate McClenahan points to interstate cooperation as the most rewarding aspect of his work on the Commission. “It’s going to take all three states working together to restore the Chesapeake Bay. We’ve got to address our individual problems and challenges, but working jointly as a team, we can make it happen.”

A Tribute

*For the Resources*, the 2002 Annual Report of the Chesapeake Bay Commission, was prepared by Commission staff with the editorial assistance of Pat Herold Nielsen.

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© David Harp

#### ABOUT THE PHOTOGRAPHER



Native Marylander David W. Harp 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 Normandy coast of France to the west coast of Australia, the Chesapeake Bay remains Harp's favorite subject.

#### 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 are 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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