



Maryland Transition Work Group Report on Environment and Natural Resources

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Maryland Transition Work Group on Environment and Natural Resources

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Executive Summary

The Grand Challenge

While contending with ongoing requirements for environmental protection and natural resource management, the O'Malley-Brown Administration must confront a grand challenge that is profound and urgent—simultaneously and harmoniously restoring the Chesapeake Bay, managing growth within its landscape, and addressing climate change. Concerted actions must be taken to: reverse negative trends and accelerate progress; regain Maryland's leadership in environmental management and conservation; integrate governance across local, state, regional and national levels; and ensure the environmental quality essential to Maryland's future as a prosperous, knowledge-based society—*The Nation's Most Livable State*. Public support is strong. Political will is aligned among the General Assembly, other statewide elected officers, our Congressional delegation, and regional leaders as never before. Maryland's Governor can and must seize the moment to lead the efforts to meet this grand challenge.

This Transition Work Group Report on Environment and Natural Resources contains 57 specific recommendations submitted for consideration by the O'Malley-Brown Administration. They were developed through the work of over 150 Marylanders. The recommendations are listed amidst the Table of Contents and are referenced by number in this Executive Summary.

The Agencies

Maryland's environmental and natural resource agencies have committed personnel and strong traditions of effective service, but are currently weakened by structural fiscal deficiencies and difficulties in maintaining an experienced professional workforce. State leaders should address immediate fiscal problems quickly [2] and provide more flexibility in the use of Special Fund revenues [1]. Salary structures should be audited to ensure that they are competitive for recruiting and retaining the highly skilled individuals needed to address the complex issues that we face today [3].

Strategic Actions

Highly strategic actions are required to address the grand challenge, as well as other ongoing responsibilities. With the 2010 target date for achieving key Chesapeake Bay restoration goals looming, Maryland must accelerate its efforts, particularly for reducing nonpoint sources of nutrients and sediments flowing to the Bay by stressing agricultural sources [4] and strategically focusing on the most cost-effective implementation actions and geographic targets [5]. Maryland must once again invest in its natural capital

through preserving open space and preventing degradation of its streams and shorelines [7]. We recommend a no-net-loss of forests goal [6] and greater access to public lands and waters [9], including a trail system second to none in the nation [7].

Maryland must be prudent and creative in restoring degraded natural resources and ensuring the sustainable use of our resources. This includes managing our fishery resources not one-by-one, but with an understanding of the interconnections among species and their reliance on the health of the ecosystem [10]. We will need to develop a scientifically sound and realistic plan for managing the remaining populations of native oysters and restoring them to better viability [11]. We should also continue our commitment to restoring populations of blue crabs [12] and striped bass [13] and help private landowners enjoy sustainable forest production [14]—so that more of our forests remain forests.

Maryland's Smart Growth efforts must become even smarter if we are to maintain the attractiveness of our landscapes, sustain our resource base, and meet water quality goals. This will require that the Administration engage the leadership of local governments [15], assisting them to meet the requirements of the Local Government Planning Act and ensure adequate water resources [16]. State policies should further reduce the stormwater impacts of new development [17] and maintain investments in open space [18, 19, 20]. The State must remain diligent in its responsibility to protect the health and well-being of our people, particularly by reducing the continuing threats to the majority of Marylanders who live in non-attainment areas for air quality [21]. We must face the encroaching need to manage more of our solid wastes within the state, with the closing of out-of-state disposal options increasingly likely [22]. And we must ensure that waste landfills, incinerators and power plants do not unduly affect disenfranchised communities [23] and that we continue to reduce the risks to toxic chemicals [24, 25]. Our port remains an important economic engine, but we recommend that the State develop a strong response to the proposal to locate a liquefied natural gas facility on Baltimore Harbor [26].

Global climate change is no longer a question of serious scientific controversy. The changing climate is already apparent, even to our citizens. Maryland should develop a progressive response both to mitigating future climate change by reducing greenhouse gas emissions and to adapting to the inevitable future changes. Maryland should not only join but lead in the Regional Greenhouse Gas Initiative [27], enact Clean Cars legislation similar to that already in place in neighboring states [28], create and use renewable energy sources that do not degrade the environment [29], develop a comprehensive long-term strategy for reducing greenhouse gas emissions [30], and identify steps that can be taken to adapt to rising sea levels and other likely consequences of global warming [31]. Maryland's citizenry must better understand their changing environment and their stewardship responsibilities. This will require expanding environmental education within the context of achieving the learning goals in our schools [32], increasing the awareness of the citizenry [33], and strategically promoting environmental awareness and stewardship throughout State government [34, 35, 36].

Key Requirements

Pursuit of these strategic actions will require leadership and organization, effective local implementation, innovative funding, accountability, enforcement, planning and coordination, and trusting partnerships. Governor O'Malley should take on the responsibility as the paramount political leader for restoring the Chesapeake Bay [37] by revitalizing this multi-state and federal effort [38]. A Governor's Environmental Cabinet should be charged by Executive Order [39] and a position of Maryland Environmental Coordinator should be created in the Governor's Office [40]. Local communities and governments should be engaged through dialogue and technical assistance [42], *River Councils* should be created that would enable more effective implementation of Tributary Strategies [41], and State matching funds should leverage local investments [43].

A *Green Fund* should be created to generate the \$60-80 million per year required to close the Bay restoration funding gap and support the strategic implementation of the most cost-effective restoration strategies [44]. Funding authorities should be modified to ensure effective farm stewardship [47] and finance energy conservation [48]. The Administration should immediately engage the Maryland Congressional delegation and work with other states to maximize funding and other enabling authorities needed to accomplish the strategic actions under pending federal legislation, including the Farm Bill, No Child Left Behind Act, and Surface Transportation Act [45, 46].

During the electoral campaign, Governor O'Malley stressed greater government efficiency and accountability. As an example, he proposed instituting BayStat, an accountability program for ensuring results in restoring the Chesapeake Bay. We strongly endorse this approach to ensuring management effectiveness and public accountability and offer suggestions for the development of a prototype [49]. More effective enforcement of regulations and laws for environmental protection and natural resources conservation is also clearly needed. The departments should cooperate with the Attorney General to audit their enforcement programs to ensure that they are meeting policy goals [50], ensure prosecution of serious violations [51], and ensure the integrity of enforcement decisions [52]. The fiscal condition and mission focus of the Natural Resources Police [53] and enforcement of the Critical Area Act [54] merit particular attention in our recommendations.

The O'Malley-Brown Administration has the opportunity to plan the future of Maryland's landscapes and waterscapes, an opportunity that may soon be lost forever. We recommend the creation of a statewide integrated conservation and preservation strategy that coordinates growth management with environmental and natural resources planning [55] and the development of a science-based plan for conserving and restoring our aquatic resources [56]. We also recommend revising the controversial Targeted Watershed Program to create a *Watersheds for the Future* strategy that accomplishes lasting, watershed-scale improvements [57].

State government cannot accomplish the objectives discussed in this report by itself. It must rely on and develop financial, intellectual, regional, and communication

partnerships, from national to local governments, across State agencies, with the private sector, and with our citizens. The grand challenge we describe is daunting but unavoidable. While citizens, players and partners seem willing as never before, effective governance and top-level leadership are clearly required.

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Achieve Smarter Growth

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- Recommendation #17: Require state-of-the-art stormwater management on all new development projects.
- Recommendation #18: Fully fund all Program Open Space programs; freeze allocation formula changes.
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- Recommendation #24: Increase state grants for lead paint clean-up.
- Recommendation #25: Review reporting requirements for the handling, storage, and transport of toxic chemicals.

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- Recommendation #29: Advance production of biofuels from cover crops and other sources of biomass.
- Recommendation #30: Create a task force to help develop a comprehensive, long-term strategy for reducing greenhouse gas emissions.
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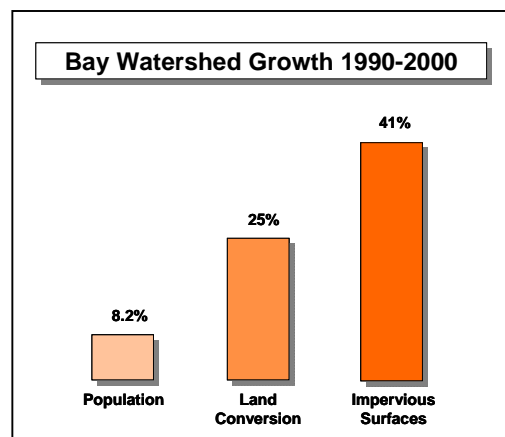
I. Introduction

The O'Malley-Brown Administration comes to Annapolis at a time when Maryland has made great strides in protecting its environment but confronts the unprecedented grand challenge of restoring the Chesapeake Bay, managing growth and its future landscape, and addressing the threats of global climate change. This is a grand challenge that cannot be postponed for future generations or future governors, but requires bold actions now to avoid irrevocable and deleterious consequences.

While the Administration obviously faces many problems and needs for policy, governance, and funding across a broad spectrum of contemporary purposes of government, we emphasize that Maryland is at an exceptionally critical stage in the protection and restoration of the environment and the sustainable use of its rich resources—a stage that is, in Governor O'Malley's words, full of both "peril and possibility."

Why is this so?

First, despite considerable efforts, many indicators are going in the wrong direction or not showing the intended improvements. Maryland lost 6% of its forests (141,000 acres) between 1986 and 1999, and remaining forests are increasingly fragmented. While our population grew 8.2% from 1990 to 2000, the rate of land conversion to development increased 25%, and the area of land covered by impervious surface (rooftops, pavement, etc.) grew 41% throughout the Chesapeake Bay watershed. Further, the Maryland Department of Planning alarmingly projects that under current zoning and existing



protected lands, 50% of the state's nearly 2 million-acres of forestlands—our invaluable green infrastructure—is substantially vulnerable to development. The most populous parts of our state remain in non-attainment of federal standards for ground-level ozone and fine particulates in the air. Bay oyster populations are at a historical low point, with no indications of increase. Blue crabs show only slow recovery from overfishing, and striped bass have a troubling high level of diseases. The Chesapeake Bay Foundation scores the health of the Bay in 2006 at 29 out of 100, with only slight improvement over the past four years. The EPA estimates that at the present rates of implementation it would take over 30 years to achieve the pollution reduction goals which were to have been achieved by 2010 under the Chesapeake 2000 Agreement.

Second, Maryland has relinquished its leadership position in environmental management and conservation over the past several years. Maryland had been nationally known as a leader in land preservation and Smart Growth, for example, but other states have recently shown more innovation and commitment. Virginia has established the goal of preserving

at least 400,000 acres of land and developed tax credit and other programs needed to achieve it. States from Colorado to New Jersey have taken the smart growth concept, born and bred in Maryland, to a new level. Maryland has been participating only as an observer as seven other northeastern and Mid-Atlantic states developed the Regional Greenhouse Gas Initiative (RGGI). While the creation and application of the Chesapeake Bay Restoration Fund is an important accomplishment (one we must ensure is not used to foster growth, as suggested in some recent press reports), Maryland is no longer the progressive Bay restoration leader that it once was.

Third, governance of our environmental future across all levels—local, regional, state, and national—is being sorely tested. State government is at a critical pivot point and must strengthen the capacity of its own agencies and bridge the spectrum of scales, not only to address the unfinished business before us but also to meet the emerging challenges that must be faced during the first term of the O’Malley-Brown Administration. Under court order, Maryland must meet air quality attainment standards by 2009-2010. The 2010 target date for water quality improvements under the Chesapeake 2000 Agreement is just three years away. In some counties, communities are being planned for which there are not adequate water supplies. Other counties face a large influx of new households as a result of Base Realignment and Closure (BRAC) reassignments and due to inadequate planning may be unable to accept the growth and its economic benefits.

Fourth, a sound environment and rich natural resources are essential to Maryland’s future as a prosperous, knowledge-based society. With the country’s second highest family income and highest level of educational attainment, Governor O’Malley’s *One Maryland* must strive to become *The Nation’s Most Livable State*, with vibrant communities, boundless opportunities, and a sound and enjoyable environment, if we are to attract and retain the best and brightest minds and most innovative enterprises. In *One Maryland*, economic success and environmental health cannot be at odds; in fact, whenever possible, every effort should be made to ensure economic growth and environmental protection are compatible. However, it will be increasingly difficult to maintain compatibility unless a far-reaching smarter growth program is made effective in Maryland.

Achieving our goals for a high quality of life with a healthy environment will require healthy state agencies. This starts with strong leaders and continues with the rebuilding of key agencies whose budgets, personnel, and morale have all been diminished over the past several years. With, and only with, the Governor’s leadership, Maryland can step forward as a regional and national leader in re-energizing the Bay restoration effort, managing growth to protect our quality of life, and addressing practices that adversely impact our local and global climate.

We realize that this transition report is just a starting point. To a person, the contributors to this report are willing and eager to assist the O’Malley-Brown Administration in providing leadership that works.

II. The Process

This report was prepared through the energetic engagement of over 150 Marylanders with an exceptionally broad and in-depth understanding of state government activities dealing with the environment and our natural resources (Appendix 1). Detailed evaluations of the present status and future needs of Maryland's executive branch programs were undertaken through nine topical subcommittees that addressed air quality; water; natural resources environmental planning; land preservation and state lands; waste management; living resources; resource-based industries; environmental education and communication; and finance and accountability. We met or spoke with senior executives and diverse officers (Appendix 2) of the Departments of the Environment and Natural Resources, as well as the Maryland Environmental Service, on dozens of occasions. They supplied extensive information on the status (including budgets and audits) and future challenges of their agencies. We also considered the relevant statements and commitments made by Governor O'Malley during his electoral campaign. Each of the topical subcommittees produced reports to inform the evaluation and recommendations of the Work Group, which included the co-chairs of all of the subcommittees. A coordinating subcommittee took the lead in preparing this comprehensive transition report for the Work Group.

Many thanks go to the citizens and professionals who have given their time, knowledge, energy and resources to this Work Group and its final report, and particularly to the well-seasoned members of the coordinating subcommittee. Their participation and insights were invaluable, and this process could not have been completed without them.

Not all of the observations, conclusions, and recommendations of the subcommittees could be included in this comprehensive report. Some were synthesized into more general conclusions or recommendations derived from several subcommittee reports. Others were not developed sufficiently to gain the broad endorsement of the work group or were not considered as priority issues for the early stages of the O'Malley-Brown Administration. Our specific recommendations begin on page 8 and are sequentially numbered for ease of reference. Abbreviated versions of the recommendations are listed within the Table of Contents.

III. The Grand Challenge

The grand challenge for the O'Malley-Brown Administration as it strives to create the Nation's Most Livable State has three interrelated components: restoring the Chesapeake Bay, managing growth within the landscape of the state, and beginning to address climate change. How we address one has substantial consequences for the other components; thus we consider these part of one truly grand challenge, rather than three. This challenge presents peril and possibility to Maryland, our governor, and his administration as never before. It cannot be avoided or postponed without seriously compromising options for future administrations and future generations of Marylanders.

Restoring the Chesapeake Bay

Recent reports from federal agencies, the Government Accountability Office, and two Inspectors General make it abundantly clear that, as we begin 2007, we are lag far behind the progress needed to achieve the key restoration objectives to be met by 2010 under the Chesapeake 2000 (C2K) Agreement. Faced with that date of reckoning, Maryland and the other signatories to the agreement must determine what can be done to narrow the gap, to get as close as we can to achieving these goals by 2010, and to determine how the next generation of commitments and efforts should be redesigned to address the goals that we do not meet by 2010.

While the off-cited large price tag of achieving all of the C2K goals is daunting, it is increasingly clear that substantial parts of the goals are achievable at much more modest costs if we emphasize the most cost-effective approaches, direct our resources toward targeted outcomes, and align funding sources in efficient and creative ways. Thus, Maryland must work to improve the efficiency of the Bay restoration effort and, critically, re-establish its leadership role with the federal government and other watershed jurisdictions.

With the Chesapeake Bay's very survival imperiled by poorly planned sprawl and a multitude of other manmade ills—from storm water runoff to broken sewer systems—we have the possibility to rescue this natural jewel... to fuse science, government, and personal responsibility together to expand buffer zones, cover crops, open space, and oyster beds... and to harness the growth that is coming to rebuild our cities and towns, and preserve our quality of life.

Governor O'Malley's Inaugural Address

Managing Growth within the Landscape

With experience garnered from application of Maryland's Smart Growth Act and the unremitting pressures of sprawl development, it is clear that the O'Malley-Brown Administration will have to define and practice even smarter growth. In addition to the many social and economic reasons for achieving smarter growth, including the fabric of our communities and the limits of government resources and transportation systems, it is clear that continuing this path of development will undo gains made in Bay restoration and permanently diminish the state's land and freshwater resource base. Furthermore, there is a growing realization that the effects of meeting environmental requirements (caps for treated sewage loadings, water supply, etc.) will have significant feedback effects on patterns of growth and development.

The O'Malley-Brown Administration will be challenged as never before with harmonizing our socio-economic and environmental requirements to create an achievable vision of the future landscape of Maryland—where and how people will live, where there will be forests and fields, how our rivers and streams can be protected, and how the good health of the Bay, once attained, can be sustained. Maryland is the fifth most densely populated state and development in the past 50 years has reduced farms, forests, and wetlands by nearly 2 million acres. By 2030, Maryland's population is expected to grow by as much as 1.5 million and 580,000 additional households. Key to meeting this

challenge will be adopting smarter growth principles—working in partnership with local governments, fully funding our land preservation programs, and ensuring that we keep our working landscapes working. If we fail, Maryland will be a less, not more, desirable place to live and our social fabric, economic prosperity, and the legacy we leave for future generations will suffer.

Addressing Climate Change

The scientific debate about global warming from the human emissions of greenhouse gases is long over. In fact, there is strong scientific consensus that the world’s climate has already been altered. In 2005, President George W. Bush said, “Listen, I recognize that the surface of the Earth is warmer, and that an increase in greenhouse gases caused by humans is contributing to the problem.” Yet, under his administration the federal government has not implemented programs to reduce greenhouse gas emissions nor to prepare the nation to adapt to the changes in climate likely to occur.

Several factors strongly suggest that Maryland cannot wait for the development of national programs. First, Maryland is especially vulnerable to rising seas, more violent storms, and other consequences of global warming. Already, average temperatures of the waters of the Bay have warmed by nearly 2°F over the last 50 years. FEMA recently adjusted its Maryland flood elevations maps to reflect the rise in relative sea level of over one foot over the last 100 years.

Second, there has been a dramatic shift in the perception of Americans regarding climate change. The flooding from Hurricane Isabel, devastation of Hurricane Katrina, Al Gore’s *An Inconvenient Truth*, melting Arctic ice caps and glaciers, and threatened polar bears evoke public concern and opened receptivity to the changes needed to avoid dire consequences. Allstate Insurance has announced that it will not be writing new homeowner’s policies in Maryland coastal areas, bringing the risks associated with climate change even closer to home.

Third, in lieu of federal action, cities, states, and regions are initiating their own efforts to reduce greenhouse gases and adapt their institutions to a new future. Most notably California enacted the Global Warming Solutions Act of 2006, requiring a statewide greenhouse gas emissions limit equivalent to 1990 levels (a 25% reduction) to be achieved by 2020. Interestingly, California leaders see their actions leading to opportunities rather than costs. Efforts are underway in other states to follow suit. In 2003, New York initiated the Regional Greenhouse Gas Initiative involving northeastern and Mid-Atlantic states.

Other perils, like global warming, the global economy, global terrorism, and global migration, are powered by additional forces—many of which are seemingly beyond our reach. But all of these perils demand that we take responsibility to defend and advance our common good.

Governor O’Malley’s Inaugural Address

While the requirements for reductions in carbon dioxide emissions from coal-burning power plants of last year’s Healthy Air Act and the new proposal in the Clean Cars Bill

are important early steps, they are modest in contrast to the greenhouse gas emission reductions that will eventually be required. Furthermore, we need to begin now to make prudent decisions that minimize the risks from climate changes we know are coming (e.g., risks that result from sea-level rise). Maryland must develop a comprehensive strategy for climate change mitigation and adaptation in lieu of appropriate federal action and the limited impact of local government initiatives.

Despite the steep climb before us, we believe that public support remains strong and that political will is aligned among the General Assembly, other statewide elected officers, our Congressional delegation, and regional leaders as never before. Governor O'Malley will find progressive leaders in his own party as the chief executives of neighboring jurisdictions—a rare occurrence. The House Speaker, Mike Busch, Senate President, Mike Miller, have both made Bay restoration a legacy priority and cognizant committee chairs—Maggie McIntosh and Joan Carter Conway—are well poised to develop appropriate legislation. The General Assembly also has strong representation on the Chesapeake Bay Commission. Maryland's Congressional delegation currently has unprecedented power and influence. Our Governor can and must seize the moment in leading efforts to meet this grand challenge.

IV. Current Assessments of the Agencies

We reviewed voluminous information provided by the Department of the Environment (MDE), the Department of Natural Resources (DNR) and Maryland Environmental Service (MES), and had in depth discussions with officers of these agencies. In particular, we reviewed organizational structure, budgets, personnel statistics, planning and priorities, and recent audits. In addition, we also gave consideration to the Critical Areas Commission for the Chesapeake and Atlantic Coastal Bays and to the Maryland Environmental Trust.

Strengths

Both MDE and DNR have strong traditions of effective service and, despite fiscal and personnel constraints, have maintained committed, hardworking staffs that struggle to perform their mandated duties under increasingly constrained resources. They also maintain unique interdisciplinary offices such as the DNR Watershed Services' Ecosystem Analysis Center and the MDE Technical & Regulatory Services Administration, which lead the efforts of Green Infrastructure and total maximum daily loads (TMDL), respectively. Maryland Environmental Service, a fee-for-service agency that undertakes projects that enhance the state's land, air and water resources, fills a valuable role of service to state and local governments with great flexibility. Despite these efforts, Maryland's regional, and to a lesser extent national, reputation for being an environmentally conscientious state is now in jeopardy.

Key Fiscal Structural Deficiencies

Federal and state legislatively-mandated workload increases, substantial staff cuts, and unsustainable withdrawals from special fund reserve balances are leading to an environmental train wreck. Without serious corrective actions, lawsuits due to a lack of required enforcement, inability to meet federal mandates for clean air and water, further reduced progress towards Bay 2010 restoration goals, park closures, and additional staff lay-offs are likely.

Due to significant fiscal restraints as well as an understaffed workforce, it has been difficult for either MDE or DNR to do anything other than reactive planning. A reactive operating style has resulted in considerable recent slippage in the state's reputation as an environmental vanguard. Consequently, there is not the time, funding, incentive, and managerial or political will to be a national leader in environmental stewardship. Strategic planning efforts must commence quickly to not only manage the current programs effectively but also to commence new programs.

Both the DNR and MDE face serious structural deficits and need to develop long-term, stable funding plans. During the past five years, the operating budgets for DNR and MDE have risen only 6% and 20%, respectively (1.2% and 4% annually). These budget increases have not allowed the departments to keep pace with inflation and substantially higher employee health benefit costs, fuel prices, and utility rates. Additionally, DNR does not have the funding necessary to meet federal match requirements.

AGENCY BUDGET SUMMARIES (\$ MILLIONS)				
DNR Operating Budget	FY 2002	FY 2007	\$ Change	% Change
General Funds	76.8	74.6	(2.3)	-3.0%
Special Funds	61.8	73.9	12.1	19.7%
Federal Funds	17.0	21.2	4.2	24.7
Reimbursable Funds	9.3	5.1	(4.2)	-44.8%
Total	\$164.9	\$174.8	\$9.8	6.0%
MDE Operating Budget	FY 2002	FY 2007	\$ Change	% Change
General Funds	44.9	36.2	(8.716)	-19.4%
Special Funds	22.8	41.6	18.8	82.7%
Federal Funds	20.8	29.0	8.2	39.4%
Reimbursable Funds	4.3	4.3	0.06	0.1%
Total	\$92.9	\$111.2	\$18.3	19.7%

It is important to note that General Fund support for DNR and MDE has declined by 3% and 19% respectively, since FY 2002. To fund ongoing operating costs, the departments have become increasingly reliant on revenues from special funds. Each department has

approximately 30 individual special funds for very specific activities. Legislation creating these special funds contains restrictions and caps on how the money can be spent. Co-mingling of money among the different special funds is prohibited.

More than two-thirds of the permit and license fees charged by each department have not been increased in more than 10 years. Currently, the revenues generated from these fees are insufficient to meet the ongoing operating costs of 11 special funds in MDE and 16 special funds in DNR.

Recent efforts to increase fees to cover the rising costs of programs and services have generally failed. When increases have been approved by the General Assembly, they have often been met with an equal reduction in state general funds. With no additional revenue from these Special Funds, the departments have been forced to make a series of difficult budget decisions since FY 2002, including:

- MDE eliminated 111 positions, or 10.8% of its workforce and DNR cut 251 positions, or nearly 16% of its workforce.
- Both departments drew down reserve balances from special funds for ongoing operating expenses. These reserve fund withdrawals are unsustainable. A total of five Special Funds in both departments are projected to have negative balances in FY 2007 or FY 2008.
- Numerous programs and services were eliminated or significantly reduced in each department.
- DNR has deferred critical maintenance projects and replacement of heavy equipment, machinery, and Natural Resources Police vessels totaling more \$50 million.

The departments have struggled to "manage within their diminishing resources" and the results have been the exponential accumulation of structural fiscal problems during the past four years that should have been addressed and not allowed to continue. Neither department is able to effectively meet its existing Bay requirements or new statutory workload responsibilities such as the Healthy Air Act or HB 1141 (local growth and water capacity analysis). Without additional general fund support and increased special funds through higher permit and license fees, the Administration will be faced with difficult repercussions, such as fewer on-site inspections, more time-consuming permit processes, and park closures. Since 65% of each department's budget funds employee salaries, additional staff reductions would also be required.

Recommendation #1: Work with the General Assembly to: adjust the fee structure and reduce the number of Special Funds by consolidating similar activities and fund sources; index fees to the Consumer Price Index or ongoing program costs; avoid the withdrawal of General Fund support; relax legislative caps and funding limits; and expand the allowable uses of fee revenue.

While MDE and DNR have apparent deficiencies for FY 2007 operations, and face even greater shortfalls for FY 2008, it is beyond the scope of the work group to make specific recommendations to address these shortfalls.

Recommendation #2: The newly appointed secretaries should be allowed to propose deficiency appropriations for FY 2007 and supplemental requests for FY 2008 to address crucial shortages, particularly for the following activities: implementation of the requirements associated with HB 1141; support associated with full funding of Program Open Space; inspectors and enforcement agents, including Natural Resources Police; and funding to support detailed scientific studies to determine the maximum pollutant loads (TMDLs).

The Maryland Environmental Service, as a fee-for-service agency, has fewer budgetary and personnel constraints. However, it has been burdened by recurrent deficits approximating \$2 million per year for the operation of its tire shredding plant. MES is currently pursuing the option of selling the plant to a private operator.

In conclusion, the departments are facing structural deficits and a continuing down trend without an end in sight. An immediate, short term infusion of general funds followed by the institution of appropriate new special fund revenues with expenditures flexibility will be needed. While re-evaluation of agency functions must be part of the mix, it will not prevent the “train wreck” of lawsuits and missed public and environmental health goals.

The Human Resource Crisis

There is a perfect storm looming for the human resources at both DNR and MDE, where staff reductions, unfilled positions, a lack of competitive wages, and a rapidly retiring workforce forecasts severely inadequate staffing levels and a huge loss of institutional knowledge in the very near future.

Both MDE and DNR have experienced significant workforce reductions (11% and 16%, respectively, equaling 251 positions) since FY 2002 while their mandated missions have increased substantially. Additionally, there are 73 and 130 current vacant positions at MDE and DNR, respectively. While salaries that are non-competitive with the private sector and federal and local governments are a primary cause, the state’s hiring process adds unnecessary burden on the departments and hiring managers.

Within five years, 20% of MDE employees are eligible for retirement while DNR may lose up to 33% of its current workforce. While MES has greater flexibility in creating positions, it too is struggling to maintain a workforce skilled in engineering and waste treatment. Competition for skilled employees from local governments, which pay higher salaries and have equally good benefit packages, is becoming a significant problem.

Recommendation #3: An audit of the salary structure and competitiveness for employees who require advanced specialized training (e.g., engineers) and/or certification, compared to the private and public sector, should commence immediately. If salaries are shown to be non-competitive, a plan to increase them should be developed that increases department budgets accordingly without incurring budget reductions elsewhere.

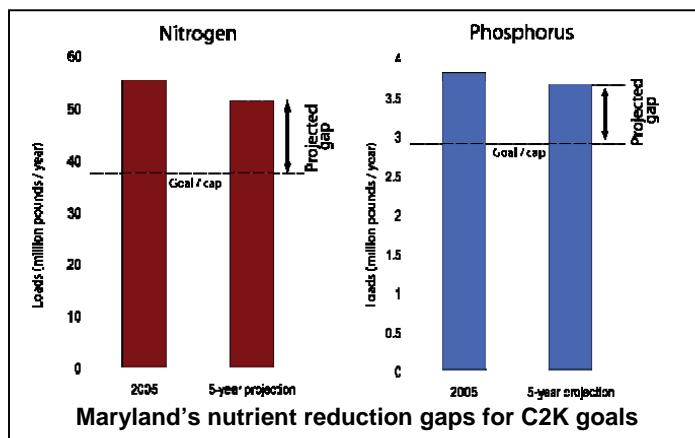
V. Strategic Actions

Accelerate Chesapeake Bay Restoration

The key 2010 target date to reach many of the restoration goals of the Chesapeake 2000 Agreement is looming, and we are falling far short. Based on the most recent assessment in 2005 assuming current implementation rates, Maryland must reduce an additional 27% of the nitrogen and 20% of the phosphorus loads. However, with additional efforts and funds strategically targeted to the practices that garner the most efficient pollution reductions, a roadmap to make significant progress can be drawn and followed as we approach 2010. This roadmap will require new methods of funding and financing, advanced targeting, enhanced coordination and cooperation, as well as removal of implementation barriers.

Fulfilling the 2010 water quality objectives is not only important in its own right: if the Bay continues to be impaired in 2010, a TMDL allocation process would begin under the terms of a Memorandum of Understanding that could take control of options out of the state's hands. The federal Clean Water Act does not allow states to issue permits for any new discharges of the impairing pollutant(s) to a waterway unless it is in compliance with the TMDL. If there is not a TMDL in place, no new discharges may be permitted. That means no new municipal (sewage) or industrial discharges would be permitted, and growth and development would stop.

Maryland committed to reduce nitrogen loadings to the Bay by 2010 by 45% (roughly 20 million pounds per year) and phosphorus by 57% (2.9 million pounds per year) from 1985 levels. DNR estimates that Maryland still needs to reduce nitrogen by 13.8 million pounds per year. The primary sources of nitrogen are point sources (sewage treatment plants), agricultural runoff, stormwater runoff, septic systems, and air



deposition from cars and power plants.

Currently, there are several programs in place that focus funding and efforts to reduce nitrogen loading. In particular, the Maryland Agricultural Cost Share (MACS) program provides cost share funding to farmers at a rate of 87.5% from the state and 12.5% from the farmer. The MACS programs are some of the most cost-effective nitrogen reducing programs available. Additionally, the Chesapeake Bay Restoration Fund (CBRF) provides the resources necessary to upgrade sewage treatment plants and remove the 20% nitrogen load from point sources; it also provides support to upgrade septic systems and plant agricultural cover crops.

Recommendation #4: Continue to fully fund the MACS and technical assistance programs for farmers. The MACS program is administered through MDA and provides funding for these programs. Also, provide additional support for those programs authorized by the Maryland Agricultural Stewardship Act of 2006 that help reduce nutrient pollution, including support for cover crop planting (\$8 million with \$5 million provided by the CBRF and \$3 million from the General Fund) and technical assistance by Soil Conservation District staff to ensure practices are effectively implemented (\$8.8 million).

We estimate the cost of implementing all of the actions in the tributary strategies to be \$5.1 billion. (The previous administration has consistently used \$10 billion as the funding gap needed to restore the Maryland portion of the Bay. However the work group's research indicates that \$5.1 billion is a more realistic figure.) While this figure sounds staggering, we believe that great strides can be made with far less money by focusing on the most effective practices and targeting efforts toward the larger sources of pollution. Actions to upgrade or replace stormwater management and septic systems are the major cost drivers—comprising 87% of the total additional costs (\$4.5 billion), yet only achieving about 15% (2 million lbs.) of the remaining nitrogen reductions needed. Conversely, agricultural conservation measures and certain urban practices identified in the Tributary Strategies offer much greater cost-effectiveness, achieving approximately 60% of Maryland's nitrogen goal at only 13% of the total tributary strategy costs (\$642 million). Therefore, if funding for current programs is maintained and an additional investment of approximately \$80 million per year is made, Maryland can achieve approximately 75% of its nitrogen reduction commitments.

Recommendation #5: Strategically focus investments in controlling nutrient and sediment loads to the Bay on the most cost-effective strategies and implementation actions and most significant source targets, recognizing that those strategies differ in different tributary systems.

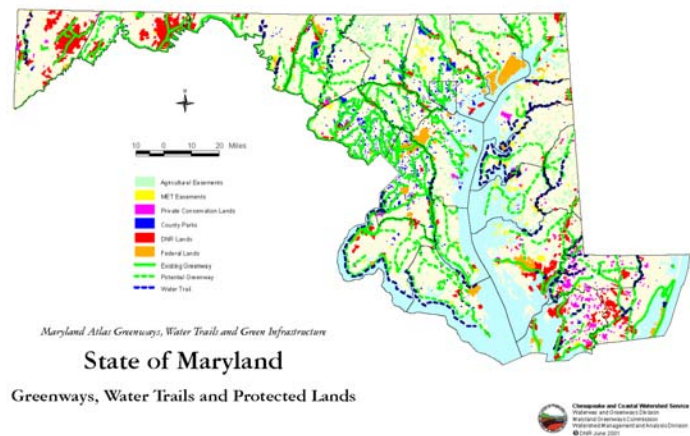
The success of the Bay restoration effort is dependent upon political will and leadership. Beyond new financing (discussed under *Key Requirements*), several additional key components are critical for success. These include:

- Effective enforcement of existing programs, such as erosion and sediment controls and stormwater controls, can greatly reduce cleanup costs.
- Incentives for construction techniques that minimize runoff and environmental impacts can also help reduce costs.
- Leveraging federal cost-share dollars with a state dedicated fund for agricultural conservation measures could deliver large environmental gains at minimal cost.
- Creative tax structures and market-based approaches would provide incentives for owners of forest and farmland to preserve the natural landscape, which is crucial for keeping pollutant loads in check in the face of spiraling growth.
- Providing state fiscal incentives to local governments for creating stormwater utilities to address impacts in urban areas.
- Targeting efforts geographically as well as by the most cost-effective practice will also help to ensure the most nitrogen reduction per dollar spent.
- Implementing growth strategies that prevent pollution will minimize the future pollution burden from increasing population.
- The implementation of BayStat as an accountability system can assist greatly in targeting the approaches and geographic areas likely to result in the most improved outcomes.

Invest in Maryland's Natural Capital

It would be reasonable to say that Maryland's investment portfolio contains trout and forests as well as the more traditional stocks and bonds. This natural capital includes all goods and services provided by our soils and waters, and the crops and wildlife they sustain. It is a staggering value that will reward us forever, if we keep our inheritance intact and healthy. Here in the nation's fifth most densely-populated state, development in the last half century has reduced farms, forests, and wetlands by nearly 2 million acres—one third of all Maryland.

To reverse the decline of our streams, rivers, and Bay, we need a bold, comprehensive growth plan, coupled with a strategy to prioritize our conservation efforts. Development currently consumes more than 17,000 acres of farms and forests annually (1990-2001). Much of that is due to unplanned sprawl that uses several times as much land per household as development in designated growth areas.



We must recognize that our waters and remaining undeveloped landscapes—our blue and green infrastructure—are as integral to citizens' quality of life as the built infrastructure of highways, sewers, and schools.

In 2001, fishermen, hunters, wildlife watchers, and recreational boaters spent nearly \$3 billion in Maryland. Yet there is a critical shortage of state funding for the three agencies of DNR charged with managing these resources—forestry, fish, and wildlife. The budget shortfalls amount to less than 0.3 percent of the economic benefits above. And dollar benefits only hint at the total worth of our natural capital. Consider forests, whose maintenance is as key to restoring the Bay as any investments in sewage treatment or air quality controls. Trees absorb vast quantities of air pollutants, including global warming gases, and also filter pollution from the runoff of farms and pavements. And they generate billions of dollars from the hunting, recreational and wood-products industries. Yet Maryland loses 8,600 acres of forested land each year. Converting just 10% of the forest area in a watershed can increase nutrient runoff by 40%. Avoidance and minimization of forest loss should be a priority over reforestation.

Recommendation #6: Adopt a no net loss of forests goal for Maryland through legislative and executive actions. Methods to accomplish this include enhancing current tax and other incentives for private landowners to retain even small forest holdings, amend the Forest Conservation Act, couple incentives for conservation with greater levels of technical assistance for sustainable forestry, along with easements and acquisition to preserve forested tracts. Direct MDA and DNR to work vigorously to expand and target Conservation Reserve Enhancement and other highly cost-effective programs that help landowners establish new forests and wetlands along the Bay and tributaries.

Streams are where the Bay begins, carrying polluted stormwater that contributes 16% of the phosphorus and 11% of the nitrogen polluting the estuary. Stormwater runoff is the fastest growing form of Bay pollution. Paving less than 10% of a stream's watershed can degrade water quality. Where pavement replaces trees, nitrogen and sediment runoff rises several-fold. And the acreage of paved surfaces has been increasing five times as fast as population around the Bay region. Since the 1970s, Maryland has developed a good stormwater management program, but it must be significantly strengthened to meet sediment and nutrient pollution goals for the Bay.

Recommendation #7: Prevent degradation of high quality streams and shorelines, and set a goal of moving all impaired streams up to the next higher water quality level.

- **Minimize paving in all stream watersheds, and use low impact development/environmental site design to manage stormwater runoff in all new development and redevelopments. Retain contaminated stormwater onsite through vegetated systems.**

- **Where feasible, evaluate and recommend improvements to the other major source of stream degradation, channelization for agricultural drainage, and flood control.**
- **Change the bias toward hardening highly productive land-water edges with rock and bulkheads to natural or living shoreline stabilization approaches that use native plants and shrubs, sand, and rock to create habitat, protect water quality, and stabilize the shoreline.**

Maryland offers a diverse and scenic landscape, rich in culture, historic heritage and its nationally recognized Chesapeake Bay. Natural resource based tourism provides tremendous economic benefits for local communities, improves the quality of life for Marylanders and provides economic incentives to protect natural landscapes. Whether for Chesapeake Bay fishing or boating, hiking or biking one of our many linear trails, or hunting or bird watching at local parks and forests, Marylanders treasure their natural landscapes. Steps are necessary to protect and grow these important economic, cultural and natural opportunities.

Recommendation #8: Establish a Maryland Trail System Initiative that will focus on developing a Maryland Trail System second to none in the nation. Conduct a review and inventory of all existing trails and capital improvement needs. Establish an infrastructure that will connect with the newly federally designated Capt. John Smith Chesapeake Bay Water Trail. Partner with rural Gateway Communities to develop and market trails systems and foster community ownership to the trails. As a symbolic and important step the Governor should announce the opening of the Harriet Tubman Visitor Center during Black History Month this February.

Recommendation #9: The State should lead a comprehensive assessment of current programs to provide access to public lands and waters across the state. This effort should consider demographic shifts and future growth in the assessment of need for new programs as well as the continuation of existing programs. It should also evaluate the ability of current and future programs to accommodate special populations, including the disabled, urban populations, youth and other underserved or special needs groups and seek opportunities to work with local governments and private developers to incorporate access in new residential and commercial developments.

Restore and Use Resources Sustainably

Maryland has many resources available to its citizens, but none of these are in unlimited supply. For the resources managed by DNR, we should break from a ‘tragedy of the commons’ approach—each individual maximizing his own take to the ruin of the resource—that still affects commercial fishing, for example. Instead, the State should investigate all opportunities for new approaches that maximize long-term economic return and investment in the future, reduce cumbersome regulatory approaches, and

sustain ecosystem function on which the resources depend. Current fishery management processes are outdated, inefficient and ineffective in fully addressing the many challenges faced by fish, fishermen and fishery managers now, and into the future, nor do they reflect current understanding of complex interaction among various fish species or between fish stocks and their changing habitats.

Recommendation #10: The DNR should initiate a full review of current fisheries management processes and develop and implement a set of recommendations to modernize and streamline fisheries management for the State of Maryland. In cooperation with the Virginia Marine Resources Commission, the University of Maryland Center for Environmental Science, the Maryland Sea Grant College, the National Oceanic and Atmospheric Administration and commercial and recreational fishing interests, DNR should accelerate the development of multi-species fisheries management, also referred to as ecosystem-based fisheries management in fulfillment of commitments of the Chesapeake 2000 Agreement. The development of an ecosystem-based management plan for several Bay fishery species should guide efforts to address the controversial Virginia menhaden fishery management challenge.

Recommendation #11: Await the findings of the Environmental Impact Study prior to making any decisions regarding the introduction of non-native oysters to the Chesapeake Bay and ensure that the body of research in Maryland is mature enough to make sound judgments regardless of the EIS findings. Develop a scientifically sound and realistic action plan for increasing the native oyster populations in the Chesapeake Bay and its tributaries, including managing disease mortality, maximizing ecosystem services, and promoting aquaculture, and assessing the effects of harvest technologies on the resource. Complete the oyster setting facility at Horn Point to expand the capacity of spat-on-shell production to 2 billion per year and develop a plan for deployment of these spat to gain maximum benefit for the ecosystem. Resist any expansion of power dredging or other highly-efficient harvest techniques and prohibit them from areas without a history of high spat set. Undertake an immediate evaluation of whether power dredging is a sustainable harvest technique.

Recommendation #12: Reinstigate the bi-state management efforts that have languished for blue crabs. In particular, evaluate the effectiveness of different approaches to reducing fishing mortality and rebuilding the spawning stock that have been taken in Virginia and Maryland. Implement sustainable management strategies that rebuild the spawning stock to target levels, restore Baywide harvest levels, and increase harvest and regulatory predictability for industry.

Recommendation #13: Address the Atlantic States Marine Fisheries Commission's recently revised target for the Maryland catch of striped bass

fish in the spring season. Through fisheries management reform, work to maximize the sustainable economic value of charter and recreational fishing industries to local businesses and communities.

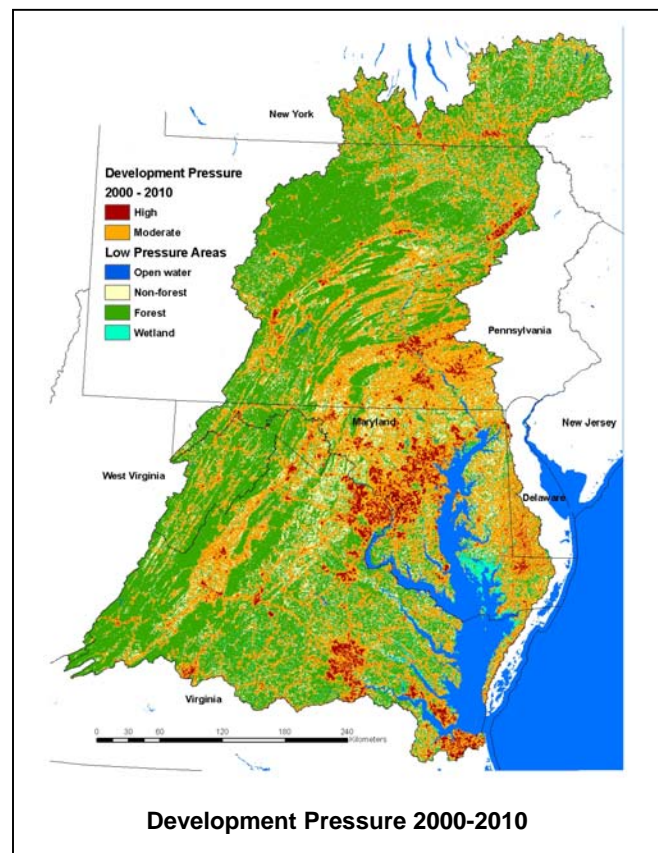
Maryland's private forest landowners provide essential natural and economic services to the State. Forest land provides the best protection for our watersheds, air and wildlife. In a state with the vast majority of its land in private ownership, and with development pressures reaching into the farthest corners of the state, efforts to support a landowner's decision to maintain forest land are among the most cost effective ways to protect our water supply, our natural treasures and our quality of life.

Recommendation #14: Expand the financial incentives and technical support available to private forest landowners including providing state and local income tax reductions and credits for providing public benefits, working to protect business opportunities for sustainable forest production, supporting conservation easement programs, and ensuring that the Maryland Agricultural & Forest Land Preservation Foundation (MALPF) provides parity between agriculture and forestry in support of land conservation.

Achieve Smarter Growth

The state of Maryland originated the term smart growth and is considered an international leader in its formulation. But with population growth, a development pattern trend that remains troublesome, and pending Bay nutrient caps, Maryland must take smart growth to the next level—it must commit to smarter growth. While many smart growth recommendations will certainly be found in the transition report from the Planning Work Group, we herein provide some environmental perspectives on this issue and associated recommendations.

By 2030, Maryland's population is expected to grow by 1.5 million and create an additional 580,000 households. Alone, the Base Realignment and Closure (BRAC) recommendations could bring an additional 40,000 defense-related households to Maryland. Furthermore, the Chesapeake Bay Program has determined that if the Bay and its tributaries are going to meet water quality standards,



they cannot accept more than 175 million pounds per year of nitrogen and 12.8 million pounds per year of phosphorus. In order to achieve these aggressive loading allocation commitments, each state's Tributary Strategy relies upon a combination of point and nonpoint source pollution control measures that are approaching the current limits of technology. This means that even with full implementation of all control measures, there is not much room for new growth and development under the Bay loading cap unless and until we identify and implement new technologies and best management practices.

Meeting and maintaining water quality goals for the state and TMDL standards for specific rivers under intense growth and development pressure will require a rededication to innovative policies that advance smarter growth objectives.

Recommendation #15: Within six months the Administration should convene a leadership forum of county and municipal officials on how Maryland should manage its growth and minimize its negative impacts on the environment to meet water quality standards. Topics for discussion should include stormwater utilities, sediment and erosion controls, low impact development, nitrogen removal technology on all new septic systems, and strengthening the capacity of local and state staff to address these issues adequately. The state should engage the private sector in these discussions and enlist their support for similar efforts by businesses.

Recommendation #16: The Administration should take immediate actions to ensure that adequate attention and resources are focused on implementing the Local Government Planning Act, generally referred to as House Bill 1141. In addition, resource needs, as recommended by the Wolman Committee, include: support for continuing comprehensive evaluation of the state's watersheds and aquifers; identifying and developing new water sources and making better use of existing resources; providing support for local water supply planning; and establishing regional planning initiatives to more fully integrate land use planning processes with environmental protection efforts.

Recommendation #17: With impervious surfaces increase five times faster than the population in the Bay watershed and with stormwater representing the largest growth portion of the pollution entering the Bay, the state should establish requirements for all new development, and redevelopment when feasible, to install state-of-the-art low impact development stormwater management techniques that fully address water quantity and quality on site. New Jersey's recent stormwater management updates are an excellent guide for applying such standards in both urban and rural/suburban communities.

Recommendation #18: All land conservation programs using Program Open Space transfer tax revenues and other sources should be fully funded, including any over-attainment from prior fiscal years. The state should immediately freeze changes to the allocation formula that could divert

funding from land conservation until a statewide Conservation, Environmental Protection, and Outdoor Recreation Plan is developed that includes land and water trails as well as recreational access.

Recommendation #19: For all transfers in excess of \$1 million, end the property tax loophole allowing limited liability partnerships (LLPs) or corporations (LLCs) to escape the state real property transfer tax of controlling interest in sales of commercial property. This would generate an additional \$13.65 million in state and \$46 million in local revenue annually that could be used for land conservation.

Recommendation #20: Increase the transfer tax on farms from 3% and 5% to 6% and 10% respectively, depending on the size of the farms that are to be converted from farming to development. Dedicate funds to agricultural easement purchases by county governments and Maryland Agricultural Land Preservation Foundation instead of reallocating additional Program Open Space Funds for Agricultural Preservation.

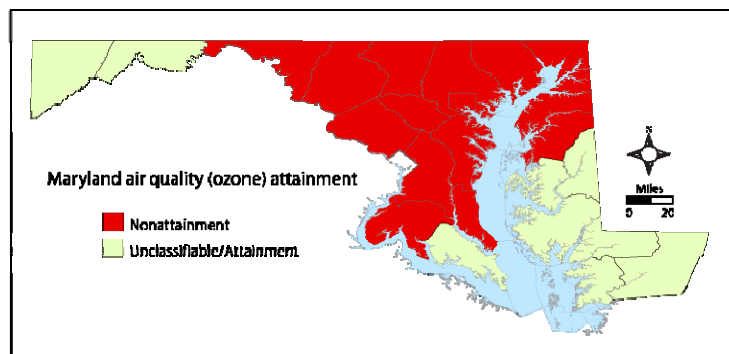
Protect Human Health and Well-Being

Human health and well-being are affected in myriad ways by environmental contamination and deterioration. Foremost among concerns today are degraded air quality, environmental exposure to toxins ranging from lead paint in older urban communities to mercury in fish, and waste disposal. Furthermore, our citizens disadvantaged for socioeconomic reasons are among the most vulnerable.

Although Maryland's air quality has improved dramatically over the past 10 years, much remains to be done to achieve air quality that meets national health-based standards. Reaching those goals will require our state to confront a daunting set of technical and political challenges over the next four

years. Like most states east of the Mississippi, Maryland must comply with tough new federal standards limiting exposure to fine particle pollution by 2010, and to ground level ozone (or smog) by 2009. Maryland cannot afford any backsliding on existing programs that have moved us closer to meeting air quality standards.

MDE has been aggressive in adopting virtually every available regulatory approach allowed by EPA that will give the state a fighting chance to meet the Clean Air Act's deadlines for ozone and fine particulate matter. These regulations are either on the books



or in the pipeline. Despite such farsighted policymaking, however, Maryland, like most states along the East Coast, will face daunting challenges in achieving these vital goals. Maryland power companies have begun submitting permit applications for the pollution control equipment required under the Healthy Air Act. These projects are capital intensive, and typically require two years or more to design, install and test.

Recommendation #21: To succeed in meeting national health-based air quality standards, MDE must promulgate and implement regulations aggressively and must continue to play a leadership role in regional efforts to achieve further pollutant reductions. In addition, the permitting of pollution control devices required under the Healthy Air Act should be expedited so that applications can be completed in early 2007.

Maryland has become the nation's second largest exporter of municipal solid wastes, transporting much of them to out-of-state "mega" landfills in rural areas in Pennsylvania, Virginia, and Ohio. While the exportation of waste has enabled several local jurisdictions to conserve their limited landfill capacity and take advantage of reduced out-of-state disposal fees, these facilities are not expected to be available in the long term, creating a shortfall of disposal capacity for Maryland generators. Numerous jurisdictions are again facing capacity issues. Although some counties have been able to successfully recognize and adequately plan for the shifting dynamics of the solid waste environment, others have not been so fortunate. These facilities are among the most prominent cause for concern for public health, particularly if they include incinerators for medical waste, among neighborhood groups.

Recommendation #22: Within a year, MDE should lead the development of a comprehensive assessment and action strategy of waste management and disposal, including sludge, that considers opportunities for regional capacity solutions that can assist in controlling disposal costs through public/private partnerships.

Environmental justice programs at MDE emphasize quality of life, economic development, and environmental protection improvements in all communities, particularly those that are disenfranchised and far removed in decision-making. A primary goal is to develop an environmental justice tool kit that offers strategies that can integrate the goals of all concerned parties to resolve concerns and assist in revitalization efforts through approaches that are aimed at protecting and restoring our environment, as well as stimulating economic growth and safe, healthy communities.

Recommendation #23: Expansion or citing of any new power plants, incinerators, or solid waste landfills must consider environmental justice to ensure that disenfranchised communities do not unduly receive these unseemly byproducts of growth and development.

Lead poisoning remains one of the top environmental threats to Maryland children under the age of six. In a 2005 study, 31% of children tested had lead levels in their blood that

exceeded federal standards. MDE—along with the Departments of Housing and Community Development and Health and Mental Hygiene—implements laws designed to ensure that landlords and home owners take adequate steps to reduce lead exposure. MDE is responsible for registering housing where lead paint may be present and taking enforcement actions against those who ignore clean-up requirements.

Recommendation #24: MDE should support the necessary steps to reduce lead paint exposure of all children to meet the 2010 goal of no child with a blood level of 10 µg/dL. This can be achieved by increasing state grants for lead paint clean-up, using new equipment for detecting lead dust, and allowing public funds to be used in owner occupied housing as well as rental housing. Registration fees should be increased to cover the cost of inspections and local government assistance.

The risk of chemical explosion from the hundreds of large and small companies using toxic pollutants or the risk of chemical accidents from the transport of hazardous material is very real and serious in Maryland. The Toxics Release Inventory (TRI) was designed to provide government and the public with information on the release of toxic pollutants and environmental health risks to communities. While Maryland has introduced new changes to the reporting system, EPA has also recently proposed changes to the TRI that would make less information available through the database and reduce the frequency of reporting of toxic emissions. Federal legislation that requires industry to adopt inherently safer technologies, such as substituting safer chemicals or storing smaller amounts of toxic chemicals, has faced opposition.

Recommendation #25: MDE should conduct a review of the scope and adequacy of the reporting requirements for the handling, storage, and transport of toxic chemicals to ensure the greatest level of chemical security and public awareness possible. In addition, consider legislation to require chemical plants to take measures to reduce their vulnerability to catastrophic accidents or attacks.

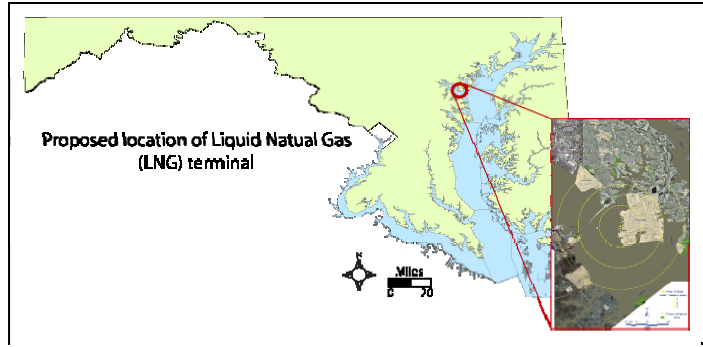
Ensure Safe Passage

Maryland's port is vital to our economy and an important door to the world for our state and our nation. Yet dredging of navigation channels, placement of dredged sediments, waterfront activities, land-based transportation networks, air emissions, and the risks of spills and introduction of alien organisms from ballast water affect the quality of the environment and integrity of our natural resources. We need to continue to work to ensure environmentally safe passage to our port.

Once log-jammed by conflict, dredging and the disposition of dredged material is now being planned and executed under the state's Dredged Material Management Program through cooperation and emphasis on deriving benefits from the sediment resources. Nonetheless, substantial challenges remain ahead, concerning (1) federal authorization

and funding for beneficial use projects such as expansion of Poplar Island and restoration of mid-Bay islands and Eastern Shore tidal wetlands; (2) developing innovative uses for contaminated dredged material; and (3) selection of sites for placement of contaminated sediments and enhancement of the environments and communities around Baltimore Harbor.

This last objective is only made more difficult by the proposal to build and operate a liquefied natural gas import, storage, and gasification facility at Sparrows Point in Baltimore County. Last year the General Assembly created a task force to study issues concerning this facility and the task force’s recently submitted report raised substantial concerns about the impacts on local communities and the environment, but minimal benefits for the economy or Maryland’s energy supplies.



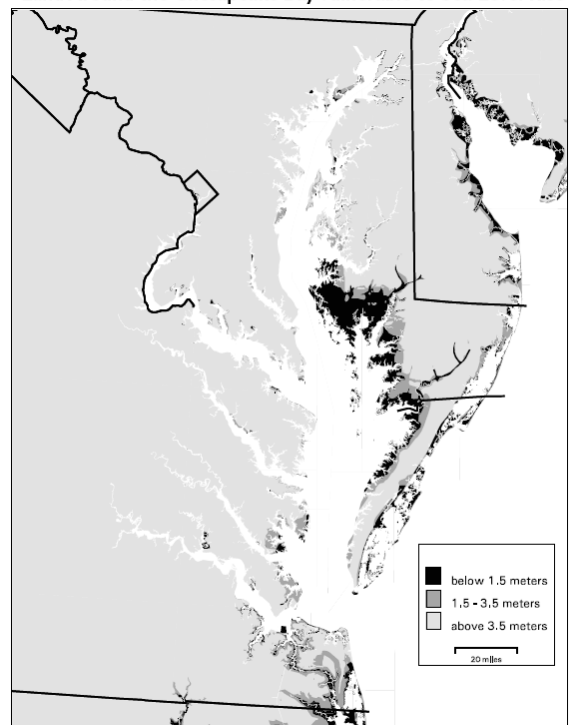
Recommendation #26: DNR, MDE and the Department of Transportation (MDOT) should work with Baltimore County to develop a strong response to the Federal Energy Regulatory Commission (FERC) application for the Sparrows Point LNG facility, raising Maryland’s concerns about its environmental impacts consistent with the Baltimore County Liquefied Natural Gas Task Force recommendations.

Begin to Address Climate Change

As discussed under The Grand Challenge, a growing public concern, recognition of urgency, and increased support for governmental action will require that Maryland, during the administration’s first term, initiate more concerted action to mitigate the effects of greenhouse gas emissions, particularly by increasing energy efficiency, decreasing the consumption of fossil fuels, and adapting to ongoing and future climate change.

About 39% of the carbon dioxide (CO₂) emissions in the United States are from power plants. Of the power generated in Maryland, 28% is produced by the nuclear power plants at Calvert Cliffs, but most of the rest is produced by coal-burning

Land Around the Chesapeake Bay Vulnerable to Sea Level Rise



plants that produce large emissions of CO₂ per kilowatt-hour. Maryland's Healthy Air Act (HAA) of 2006 requires that Maryland become an active participant in the Regional Greenhouse Gas Initiative, which is a regional cap and trade program aimed at reducing CO₂ emissions from electricity generators. RGGI would require a stabilization of emissions by 2009 and a reduction of 10% by 2018. The HAA requires that Maryland join RGGI by the summer of 2007, but also requires an evaluation of reliability and cost issues, allowing the state to withdraw after 2008. The state has not yet signed the MOU to join RGGI.

Recommendation #27: Maryland should formally join RGGI at the earliest possible date and should exert its leadership in designing necessary regulations and resolving how power imported from power plants in non-RGGI states will be addressed.

Cars and trucks account for 37% of greenhouse gases contributing to global warming, and all of the states in the northeastern U.S. except Maryland and New Hampshire have adopted California emission standards for new passenger automobiles that would make gradual reductions in CO₂ emissions between 2009 and 2016. A Clean Cars Bill will be considered by the General Assembly to adopt the California standards for Maryland. This would contribute to reducing greenhouse gas emissions, in addition to reducing ground level ozone and toxic chemical releases.

Recommendation #28: The Governor should support the enactment of the Clean Cars Bill. [He has done so by introducing this bill in his legislative package.]

Another topic of active interest is the production and use of renewable energy. Maryland must work to increase its use of renewable sources of energy and promote the production of renewable energy, such as wind power and biofuels, here in Maryland. However, renewable energy production should be undertaken in ways that are compatible with other environmental goals. In particular, we are concerned about how recent initiatives to produce ethanol from feed grains such as corn may adversely affect Chesapeake Bay restoration. Already, Maryland has to import large quantities of corn to meet the needs of its meat and dairy industries. Increased demand for corn for ethanol production could affect those industries, but also drive an increase in acreage planted in corn, which typically requires heavy fertilization with nitrogen, a key Bay pollutant.

Recommendation #29: DNR and MDE should work with the Maryland Department of Agriculture (MDA) to advance the production of biofuels in ways that contribute to, rather than hinder, attainment of environmental restoration goals. Use of biomass from cover crops and cellulosic sources (wood, switchgrass, etc.) should be encouraged.

There are many other policies, potential or in place, that could contribute to reducing greenhouse gas emissions, including facilitation of renewable energy use and production, public investments in energy efficiency, transportation planning, and growth

management. Furthermore, it is important that Maryland establish short- and long-term goals for reducing greenhouse gas emissions, much like California recently did, and develop the strategies required to achieve those goals. The California Global Warming Solutions Act resulted from an extended period of study and debate in the context of that state and may not fit Maryland with regard to the challenges and opportunities faced. Similar strategic analysis is required for Maryland in order to set our goals and strategies.

Recommendation #30: A commission—created either by legislation or executive order and comprised of experts, community and nonprofit organizations, and affected industries—should be formed to assist the state agencies in developing a comprehensive, long-term strategy for reducing greenhouse gas emissions. The commission should report-out prior to the 2007 Legislative Session. However, the commission should not be used as an excuse to delay action on the Clean Cars Bill or interfere with other efforts underway to increase energy efficiency and the use of renewable energy.

At the same time, Maryland must take steps to better predict and understand the consequences of climate changes likely to occur over this century. This is particularly needed for effects on sea level, water supply, agriculture, and restoration of the Chesapeake and coastal bays.

Recommendation #31: DNR, MDE, and MDA, in conjunction with the University System of Maryland, should undertake an assessment of the likely consequences of climate change on the state and identify the highest priority actions that should be taken to mitigate the effects of climate change, in particular the risks associated with accelerated sea-level rise and appropriate responses. This assessment should be complete prior to the 2007 Legislative Session.

Connect People with Their Environment

Environmental education is pollution prevention. Outdoor learning enhances the acquisition of knowledge, skills, and content, and promotes the value of stewardship for Maryland's environment. It also supports the existing regional commitment under the Chesapeake 2000 Agreement to provide meaningful watershed experiences for every student. But for the first time in three decades, fewer and fewer students are involved in environmental education class work and outdoor field experiences. State and local administrators and educators point to two factors: unintended consequences of the No Child Left Behind Act and inadequate funding. For example, the Maryland State Department of Education currently has only one person working part-time on environmental education.

Recommendation #32 MDE and DNR should work with the Maryland State Department of Education to develop and seek funding to implement a phased plan to provide high quality outdoor environmental education across

disciplines and grade levels for every Maryland student, every year. Environmental education objectives should be integrated into mandated curriculum requirements under existing laws and regulations and changes sought in the No Child Left Behind Act when it is reauthorized this year, to remove barriers to and increase support for quality environmental education.

Most past efforts have focused on raising public awareness of environmental issues. State agencies should now work to provide easy access to opportunities and resources needed to encourage and empower actions by citizens, businesses, local governments, and community groups.

Recommendation #33: MDE and DNR should increase the awareness and ability of citizens and organizations to take action to protect the environment and conserve resources by: publicizing opportunities and success stories; celebrating Maryland’s landscape, wildlife and history; creating a web portal that helps citizens to find environmental opportunities and information presently scattered across a half-dozen departments; accounting for environmental conditions through BayStat; and facilitating the development of partnerships with businesses, civic groups, nonprofit organizations, and religious groups.

The fundamental challenge in addressing environmental issues is convincing people to act—as leaders, as voters, and as citizen stewards. An investment in public engagement is an investment for the future, helping citizens to make informed choices about policies that affect the environment in their communities and throughout the state. Maryland once led the way in these efforts. But today there is an overarching deficiency in efforts to engage citizens, educate students, and create public-private partnerships in the crucial challenge of protecting Maryland’s environment. While energy and opportunities abound, leadership and coordination are insufficient. Programs to communicate with the public, engage citizens, and educate students about the environment are fractured. The overarching effort is adrift, without coherent leadership or sufficient resources.

Recommendation #34: The Administration should create and implement a strategic communications plan that promotes environmental awareness and stewardship, to include:

- **Executive-level leadership that uses the bully pulpit of the governor and secretaries to consistently communicate the benefits of policies and programs, the consequences of inaction, and the connection of stewardship of our land and resources to the quality of life for all citizens.**
- **Coordination of communications and education efforts across agencies (DNR, MDE, and the Departments of Planning, Education, Agriculture and Transportation) and programs. For example, the DNR Office of Communications & Marketing should work closely with operational staff to ensure that information shared about diseased fish is complete, accurate, and does not raise unnecessary or premature concern.**

- **Framing messages in a way that is relevant to widely held public concerns, such as traffic, flooding, and the changing landscape, and depicting alternative futures with action or inaction.**

Recommendation #35: A multi-year, sophisticated citizen campaign should be undertaken in a partnership involving the state, private corporations and major media markets to dramatize the effects of current trends, if unabated, on the Chesapeake Bay and on the places where people live, including sprawl and global warming/sea level rise. These messages should be coupled with a citizens' call to arms, detailing how individual citizens can make a difference.

Annapolis, Maryland, is expected to house the National Sailing Hall of Fame and Museum which can provide an outlet to a broader audience to provide Chesapeake Bay related educated and outreach materials.

Recommendation #36: Support a partnership between the public and private sectors to raise the necessary funds for the National Sailing Hall of Fame and Museum that includes an educational outlet regarding the Chesapeake Bay.

At the same time, Maryland's environment and natural resource agencies should also strive to be more responsive to citizens' concerns and inquiries, improve community relations, provide assistance on a local level (e.g., within watersheds or at hot spots), and make information about violations and corrective actions freely available to the public.

VI. Key Requirements

Leadership and Organization

Maryland must regain its leadership status in environmental protection and natural resource conservation. Our state can and should help lead the nation to its more sustainable environmental future on multiple fronts, including smart growth, preservation of resource lands, climate change mitigation and adaptation, and coastal ecosystem restoration.

A logical focal point for that leadership is, of course, the Chesapeake Bay Program. The Executive Council of the Chesapeake Bay Program consists of the governors of Maryland, Virginia, and Pennsylvania; the mayor of the District of Columbia; the EPA Administrator of the Chesapeake Bay Program; and the chairman of the Chesapeake Bay Commission. Starting with the extraordinary leadership of Governor Harry Hughes in the creation of the program and the first of many agreements, Maryland governors have been critical to its advancement. Maryland has the most degraded part of the Bay, and its waters are degraded by pollutants from other states. If Maryland is not out in front, demonstrating its own progress, the other jurisdictions are not likely to follow. By

developing progressive policies and using personal persuasion, Maryland governors have typically taken responsibility for energizing the Bay Program. In recent years, the Executive Council has been lackluster, becoming less of a force for initiative and innovation, instead meeting annually to endorse routine agreements. This was the case even before the previous administration, when divergent political perspectives among the governors caused some to disengage and progress to slow. Now, however, as we approach 2010, Governors O'Malley, Kaine, and Rendell, and Mayor Fenty share similar experiences as large city mayors with common party affiliations. The opportunity for leadership is once again very ripe.

In September, Maryland's governor was elected as the chair of the Executive Council for a second year, and it is important that Governor O'Malley retain that leadership.

Recommendation #37: Governor O'Malley should seek the concurrence of the other members of the Chesapeake Bay Program Executive Council to complete Maryland's obligation as Chair through the remainder of the year and an additional year in order to provide the leadership needed to reinvigorate the Bay restoration.

Recommendation #38: As Chair of the Executive Council, the Governor should convene an extraordinary meeting of the Council, preferably during the first six months of his term, in a retreat-type setting as a reality check and call to re-invigorate the Chesapeake Bay Program in pursuit of the 2010 goals. The Executive Council should consider:

- **Immediate steps that can be taken to implement cost-effective programs that would contribute to achieving the Chesapeake 2000 Agreement nutrient and sediment-reduction goals;**
- **Establishment of a financing commission to recommend to the Executive Council means to fund these gaps;**
- **Restructuring of the Chesapeake Bay Program and agreeing on new operating principles (see Appendix E for suggestions);**
- **Development of a clear and coherent strategy across the signatory parties to secure necessary program authorizations under the 2007 Farm Bill and unified congressional advocacy for other programs that should contribute to achieving Chesapeake 2000 Agreement goals; and**
- **Improvements in Chesapeake Bay Program accountability, including approaches such as Maryland's BayStat.**

Maryland's environmental leadership will heavily depend on its departmental secretaries and sub-cabinet officers. For 22 years now, the secretaries have worked together through what has been recently called the Maryland Governor's Bay Cabinet. Established in 1985 by Executive Order as the Governor's Council on the Chesapeake Bay, the Bay Cabinet has worked well but this organizational structure, including the scope of its

deliberations, membership, and substructure (e.g., Chesapeake Bay Workgroup of sub-cabinet officers), should be revised and renewed.

Recommendation #39: The Governor by Executive Order should create a Governor’s Environmental Cabinet, with a scope of responsibilities that includes not only Chesapeake Bay-related activities but also other environmental issues, such as land preservation, air quality and climate change. This subcabinet should continue to include representation by the departments of Environment, Natural Resources, Planning, Agriculture, Transportation, Education, Business and Economic Development, General Services, and Housing and Community Development and the University System of Maryland.

During the Hughes and Schaefer Administrations, a coordinator for Chesapeake Bay activities was located in the Governor’s Office and provided leadership in both organizing the state’s efforts in restoring the Bay and in assuring direct and continuous interaction with the Governor and his staff. Since then, coordination has been relegated to a lead department. With Governor O’Malley’s commitment to Bay restoration, the development of the BayStat accountability system, and the need to integrate Bay activities with smarter growth and climate change, coordination clearly needs to be broadened, strengthened, and brought to a high level.

Recommendation #40: The Governor should create a position of Maryland Environmental Coordinator within his office and provide that individual with sufficient authority and access to ensure progress and integration in the state’s Chesapeake Bay (including BayStat), smart growth, and climate change efforts.

We note also the emergence of strong interest in protecting and improving Maryland’s environment among the leadership of the General Assembly, the newly elected Attorney General and Comptroller, the Maryland Congressional delegation, and county government leaders. This provides an extraordinary opportunity for our Governor to inspire and work collaboratively with those other leaders to avoid the peril and achieve the possibility before our state.

Local Implementation

Maryland’s chance of success in meeting our commitments to Bay restoration, addressing the challenge of growth, and becoming a leader in fighting global warming, goes up dramatically as more people are involved. Environmental protection and restoration is an investment that needs to be championed not only by state government but by local government, businesses, industries, nonprofit organizations, and citizens. Their outreach and education efforts are critical to increasing citizen involvement and their implementation actions are critical to the protection and restoration of the Bay and its watershed.

Ten Tributary Strategy Teams were appointed by Governor Parris N. Glendening in 1995. These teams, made up of stakeholders interested in their local tributaries, volunteer countless hours to assess the quality of their rivers, and develop recommendations to improve implementation of their Tributary Strategies. While implementation has improved based on their recommendations, achievement of Tributary Strategy goals is well behind schedule for most of Maryland's watersheds. The work group met with the Tributary Team leaders to hear their perspective on needs. Below are several recommendations to increase local involvement and increase implementation:



Recommendation #41: Create River Councils that would reinvigorate state implementation actions and increase local citizen and government involvement in restoration efforts (see Appendix 4). These councils would be similar in geographic coverage to the current tributary teams; however, they would represent an evolution toward more authority for implementation of both tributary strategy requirements and improvements in local environmental quality. The prototype river council should be created by elevating the authority of the Patuxent River Commission in a concerted effort to improve the environmental quality of the largest tributary with a watershed lying totally within Maryland.

Recommendation #42: Convene an annual meeting between the state and local government leadership that focuses on efforts to restore the Bay and its tributaries in the context of land use and development. Topics should include increasing technical and financial assistance for local implementation. This would allow local governments to incorporate water quality into future land use plans and codes. Tools should be developed and disseminated to local governments that provide a consistent method to measure water quality impacts of future growth and compare them to TMDL and Tributary Strategy load caps.

Recommendation #43: Create a state matching fund program that will match, dollar for dollar, any funds generated locally to improve stormwater management or fund watershed restoration programs in heavily degraded watersheds. The Green Fund, discussed below, could serve as the source of such funds.

Innovative Funding

Meeting the environmental requirements cannot be achieved without the investment of resources—both human and financial. This requires fully funding existing programs such as Program Open Space, alleviating structural deficits in agency operating budgets, and identifying new sources of revenue for the environment and the Chesapeake Bay in particular. It also requires making better use of existing resources to prioritize and ensure accountability.

We found immediate critical shortfalls in staff and operating budgets for DNR and MDE, totaling more than 360 positions and millions of dollars, that must be addressed in the short term. These reductions have strained the ability of the two agencies to fulfill their missions in recent years in many areas, including enforcement, land and resource management, outreach and education, and pollution control.

We estimate the total additional cost for initiatives outlined in this report to restore the Chesapeake Bay and its tributaries at approximately \$5.1 billion, or \$602 million per year. Actions to upgrade or replace stormwater management and septic systems are major cost drivers, comprising 80% of the total additional costs. Conversely, agricultural conservation measures and certain urban practices identified in the tributary strategies offer tremendous cost-efficiencies; while details are still being confirmed, we believe that an annual investment of an additional \$80 million would relieve approximately 75% of Maryland's remaining nitrogen reduction goal.

The state government burden for financing the tributary strategies can be moderated in a number of ways. Effective enforcement of erosion, sediment, and stormwater controls can greatly reduce cleanup costs, as can incentives for construction techniques that minimize runoff and environmental impacts. Leveraging federal cost-share dollars with a state dedicated fund for agricultural conservation measures could deliver large environmental gains at minimal cost. Creative tax structures and market-based approaches which offer incentives to owners of forest and farmland to keep that land in its natural state are crucial to help keep pollutant loads in check in the face of spiraling growth. The way in which this growth occurs, dependent on strong gubernatorial leadership, will ultimately determine our long-term success in restoring the Bay.

The Chesapeake Bay Restoration Fund (CBRF) provides an immediate example of the value of broad-based user fees to offset government costs. Point sources continue to play an important role in meeting our state's Bay goals; they will contribute a full 20% of the nutrient load reduction once the state's major wastewater treatment plants are upgraded with nutrient removal technology. With an initial price tag of approximately \$1 billion, the CBRF is financed and leveraged through citizen contributions of \$2.50 per month.

The work group found that special or dedicated funds such as license and permit fees and federal funding play a critical role in financing natural resource and environmental protection activities in Maryland. However, in many cases, these fees have not been increased in more than a decade, and federal assistance for sewage treatment and other

priorities has been cut or fallen far short of the need. As indicated in Recommendation #1, these fees should be adjusted and indexed for inflation. Partnerships with local governments and private sector organizations such as land trusts, foundations, businesses, and even individual citizens can also help generate a revenue stream for protection and restoration projects.

Recommendation #44: Establish a Green Fund to generate \$60- 80 million per year which could securitize a minimum of \$700 million of projects for the Bay. Dedicate new revenues from broad-based and relevant levies and General Funds. Consider additional innovative financing proposals such as Bay stamps and targeted community projects.

The Federal Farm Bill is due for reauthorization in 2007; the next opportunity to influence its allocation of subsidies and incentives will not be until 2012. The majority of farmers in Maryland (and in the Bay watershed) do not benefit from the massive commodity crop support subsidies that we so often read about in the press, due to the kinds and diversity of farming in this region. The Chesapeake Bay Commission has led an analysis and effort to engage the Governors and Congressional delegations to champion revision of the 2007 Farm Bill to revise and expand the conservation titles of the bill for which Maryland farmers would greatly benefit. The Governor should take the lead through the EC and work directly and through the Congressional delegations to amend the 2007 Farm bill toward greater Federal conservation support. The CBC report computes a \$263 million annual Federal need (Baywide), assuming the Chesapeake Bay states pick up 50% of the cost-share needs. This compares with only \$66 million in annual Federal support received in 2004.

Recommendation #45: Initiate immediate discussions with the Maryland Congressional delegation to maximize opportunities in the 2007 Farm Bill reauthorization, particularly as it relates to enhancing and supporting conservation practices.

Recommendation #46: Work with the Maryland Congressional Delegation to:

- **explore opportunities in the reauthorization of Water Resources Development Act and No Child Left Behind Act, among other possible measures, to significantly boost federal funding for Bay restoration activities; and**
- **create a stormwater mitigation program in the 2009 reauthorization of the Surface Transportation Act (SAFETEA-LU), setting aside a portion of Federal aid highway funds for stormwater mitigation.**

Recommendation #47: In the 2008 Session modify the Maryland Agricultural Land Preservation Foundation (MALPF) to follow Pennsylvania's example of tying farm stewardship responsibility to receipt of preservation funding. Clarify terms related to development of MALPF land.

Energy efficiency programs are usually extremely cost-effective in the long run, but require initial public investment to help offset short-term costs. A small public benefits surtax on electricity generation could help to finance these energy conservation programs. In addition, a reasonable surtax on new energy development (including expansions of existing facilities) could raise significant funds for energy conservation, without significantly affecting the bottom line for such projects.

Recommendation #48: Develop a new funding source that establishes a public benefits fund to finance energy conservation programs.

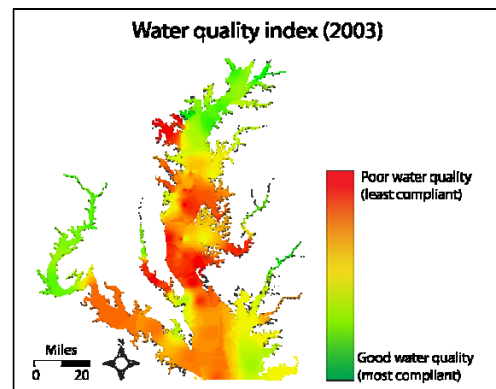
These investments would return substantial dividends for the State of Maryland and its citizens, benefiting our economy, public health, environment, and quality of life.

Accountability, Including BayStat

During the electoral campaign, Governor O’Malley stressed that Maryland’s work on the environment was too frequently measured in terms of dollars spent or activities undertaken, and not results produced. Failure to move the needle for so many environmental and natural resource indicators, despite considerable effort, attests to this deficiency. The 2005 report of the U.S. Government Accountability Office, *Chesapeake Bay Program: Improved Strategies Are Needed to Better Assess, Report, and Manage Restoration Progress*, provided a wake-up call that good intentions and plans were not enough. Greater accountability for outcomes coupled with relentless testing of the effectiveness of our actions and refocusing them to achieve better results is at the heart of what is commonly known as adaptive management. Adaptive management has been embraced as a necessary approach in a wide variety of environmental and natural resource management challenges in which outcomes are not fully predicable. It involves a strong commitment to learning while doing.

To address the need for adaptive management in the restoration of the Chesapeake Bay, Governor O’Malley proposed a BayStat program, modeled after Baltimore’s nationally recognized CitiStat accountability program.

BayStat would “monitor, measure, and regularly provide public accounting of the totality of the state’s efforts on behalf of the Bay. This information will help guide the state in developing more effective and targeted strategies to measurably improve the health of the Bay.” Of course, such an approach has broad applicability to other environmental and natural resource issues beyond the Bay, and indeed to many functions of state government.



We strongly endorse the BayStat concept, but point out that its development will be far from a simple matter. The relationships among actions and outcomes in the natural world

are very complex, the response times may be quite slow, and nature produces high variability in environmental conditions and natural resources, which often make it difficult to separate the signal from the noise. Nonetheless, BayStat can be developed incrementally, with subsequent improvements and new features, much like versions of computer software that are issued as 1.0, 1.1, 1.2, 2.0, etc. Even in its rudimentary stages BayStat can be used to determine its range of utility and to work out the bugs, much like a prototype “beta” version of software.

Examples of Potential Component Indicators for BayStat

Bay restoration effort	Factors impacting Bay health	Bay health
<p>Nutrient & sediment reduction</p> <p>Agriculture</p> <ul style="list-style-type: none"> - Alternative manure use (%) - Implementation of nutrient plans - Cost share agreements - Acreage cover crops that are "early planted" <p>Point source</p> <ul style="list-style-type: none"> - Amount of nutrients removed by each wastewater treatment plant - Status of all ENR projects - Location of the “failing septic” systems <p>Restoring watersheds</p> <ul style="list-style-type: none"> - Forest buffer planted - Lands preserved - Sprawl reduction - Number watershed management plans - Acres of land forested and reforested <p>Restoring habitats</p> <ul style="list-style-type: none"> - Area of wetlands restored - Oyster reefs under restoration - Length of fish passage restored 	<p>Nutrient and sediment loads</p> <ul style="list-style-type: none"> - River nutrient loads - Total nutrients loads reaching Chesapeake Bay - Amount nitrogen and phosphorus discharged by each wastewater treatment plant <p>Land use</p> <ul style="list-style-type: none"> - Forest cover (% of watershed) - Area impervious cover - Riparian forest (% of total) <p>Fisheries harvest</p> <ul style="list-style-type: none"> - Blue crab harvest (commercial) - Oyster harvest (commercial) 	<p>Health indices</p> <ul style="list-style-type: none"> - Bay habitat health index - Water quality index - Biotic health index <p>Water quality & habitat</p> <ul style="list-style-type: none"> - Dissolved oxygen compliance - Clarity compliance - Aquatic grass cover - Phytoplankton integrity <p>Fish & shellfish</p> <ul style="list-style-type: none"> - Oyster abundance - Blue crab abundance - Shad abundance

As Governor O’Malley indicated, BayStat must both guide the development of more effective efforts and provide public accountability. These cannot be totally disconnected functions, yet the nature of the indicators, frequency of evaluation, and presentation formats may differ.

Recommendation #49: Based on consultation with the Governor’s Office undertaken in the first 30 days, a prototype BayStat should be developed and tested that includes selected metrics of activities and expected outcomes and the demonstration of both management effectiveness and public accountability.

- **The line management departments (Natural Resources, Environment, Agriculture, and Planning) and the University of Maryland Center for Environmental Sciences (UMCES) should collaborate in developing the prototype. Eventually other agencies (e.g., Transportation, Education, and Budget and Management) should also be expected to participate in the refinement of BayStat.**
- **The prototype should be assembled from available building blocks, including geographically specific environmental health indicators that have been developed by UMCES for the Chesapeake Bay Program and**

selected programmatic indicators (extensive lists of possible indicators were provided by DNR, MDE, and the Department of Agriculture).

- **The demonstrations of management effectiveness and public accountability should be linked with the tributary strategies and exemplary results made available on a publicly accessible website.**

Enforcement

The key to the success of any environmental regulatory program is to ensure compliance with the law through strong and effective enforcement. The enforcement program should use a strategic mix of criminal, civil, and administrative complaints to notify the regulated community that compliance with environmental laws is of the highest priority in this Administration.

While MDE and DNR have some of the most far-sighted regulatory policies to be found among the fifty states, failure to enforce these regulations has significantly hampered achievement of air and water quality standards, as well as protection of critical areas protected by the law. These failures have damaged the State's credibility among the public and the regulated community. It is important that the regulated community understands that regulations will be enforced and does not view fines and penalties for environmental violations as just another cost of doing business. Because of budgetary constraints, the agencies lack sufficient personnel and resources to conduct comprehensive and total enforcement for all of its priorities and programs, (e.g., sediment and erosion control in MDE). Thus, the importance of targeted and strategic enforcement is crucial.

Recommendation #50: In cooperation with the Attorney General, MDE and DNR should audit their enforcement programs, including existing policies for initiating enforcement actions, assessing civil penalties, prosecuting criminal violations, and determining when Supplemental Environmental Projects are appropriate. This review should evaluate how enforcement strategies can best meet regulatory goals and whether statutory caps on the use of penalty funds for further enforcement activities should be modified.

Recommendation #51: The departments should work closely with the Office of the Attorney General to ensure prosecution of serious violations. The most egregious violators should be prosecuted to the fullest extent of the law. The departments should prominently publicize enforcement activities and any corrective actions on their web sites and in the broader media.

The threat of political intervention encourages enforcement employees to shy away from "controversial" cases, and leaves staff apathetic about building cases against chronic polluters. There needs to be a bright line that prohibits the politically well-connected from interfering with enforcement actions, or else the lack of enforcement will continue to undermine environmental objectives.

Recommendation #52: MDE and DNR should designate officers and establish procedures to ensure the integrity of enforcement decisions and actions and document results.

There has been steady deterioration in the quantity and quality of natural resources law enforcement within DNR, placing increasing pressure on efforts to conserve fish and wildlife resources. Three factors have come together to place great stress on the Natural Resource Police (NRP), significantly undermining its ability to meet its core natural resources mission: (a) the recent merger of marine and inland divisions within the NRP, and more recently between the NRP and the law enforcement Rangers of the Maryland Park Service; (2) ongoing declines in resources to provide adequate equipment, staffing, and training; and (3) mission drift, resulting from the competing demands of homeland security. The NRP has become depleted in both staff (reduced by 94 positions) and experience (vacancies are often filled by individuals experienced in law enforcement but with little background in natural resources management) that has jeopardized natural resources conservation and public safety.

Recommendation #53: The DNR should prepare a strategic action plan to address Natural Resources Police deficiencies creatively and cost-effectively over the next two to three years and restore its focus on natural resources law enforcement and water safety. Homeland security responsibilities not directly related to natural resources and public safety missions should be funded by State General Funds or the agency requesting assistance.

The law establishing Critical Areas along tidal waters of the Chesapeake Bay, and amended to include the Coastal Bays, was truly an act of unprecedented leadership to control growth along the edge of Maryland's endangered waterways. Over the years, however, there have been many legal challenges and loopholes that have chipped away at this landmark legislation.

Recommendation #54: The Critical Area Commission should use all available means under current law to implement effective and uniform enforcement of the Critical Area Act. Such measures should include seeking meaningful fines and penalties against owners and contractors, revocation of contractor licenses and barring repeat offenders from obtaining variances under the Act.

Planning and Coordination

In 2005, Maryland contributed approximately 20% of the Chesapeake Bay's total nitrogen phosphorus and sediment loads. The largest sources of Maryland's nutrient and sediment pollution are runoff from agricultural lands, followed by urban runoff (including air deposition), and point sources. In order to achieve our water quality and other Bay restoration goals, we must address a projected \$5.1 billion funding gap.

However, targeting the state's limited funding on those actions with the highest cost effectiveness will allow Maryland to achieve 80% of the reduction goal at less than 13% of the total projected cost. Additionally, by planning ahead and protecting those resources that are most critical to the Bay's long-term health, sustained restoration of the Bay can be achieved at the least cost. Therefore, the state should develop conservation and restoration planning frameworks that guide local and state protection and restoration actions. While we know that all goals must be achieved to restore the Bay, targeting presents a great opportunity to make significant gains in water quality and the health of the Bay.

Recommendation #55: Maryland should establish a statewide integrated conservation and preservation action strategy that helps drive decision-making and leverages limited resources in areas that can achieve the greatest ecological benefit for the least cost. Within 90 days, the state should establish a task force, staffed by DNR and Departments of Planning and Agriculture, to create a statewide plan that integrates and coordinates growth management with environmental and natural resource planning.

Recommendation #56: The state should develop a science-based Blue Infrastructure prioritization for conservation. This plan will inventory existing information and data for nontidal streams, estuarine and marine habitats, and regulated and managed areas; it is the first step toward identification of complete ecological networks and biologically significant areas and will aid the state in targeting management and restoration actions.

Recommendation #57: Revise the Maryland Targeted Watershed Program to create *Watersheds for the Future*, a new strategy for Bay restoration at the small watershed level that integrates and implements the Blue Infrastructure plan. *Watersheds for the Future* will establish a statewide process for habitat and water quality improvements at the small watershed level.

Partnerships

Partnerships must be a substantial part of the Administration's strategies to restore the Bay, protect the environment, and conserve our natural resources. Partnerships include those that are financial, intellectual, regional, and planning- and communications-oriented. Although no specific recommendations are provided here, we offer the following observations about partnerships.

With respect to financial partnerships, the Administration will need to create strategic partnerships to stretch the dollars available. It is clear from our review that the budgets of both MDE and DNR place these agencies with a seriously diminished capacity, while the fiscal situation in the state will limit expansions of their budgets. Therefore, strategic partnerships will be needed to capitalize on and leverage the limited funds that are available. An example includes the DNR partnership for an artificial reef initiative that

includes state dollars and private donations. Other financial partnerships should be explored with the advocacy groups interested in leveraging their donations and tax dollars to obtain a greater outcome for their investments.

Partnerships can also help deal with the potential loss of agency managers due to retirements and other departures. Intellectual partnerships could be pursued with federal, academic, and private organizations that could provide volunteer or paid staff members with substantial experience and knowledge. It is important to capitalize upon these intellectual partnerships to leverage the collective wisdom and intellect that Maryland possesses.

Both the Chesapeake Bay restoration and attainment of air quality standards require regional partnerships with neighboring states, ranging as far away as Ohio. Securing these partnerships and political commitments will require significant diplomacy and effort from the Administration. Additionally, federal participation and oversight will be necessary to make significant impacts in both the air and water quality in Maryland. The need for these regional partnerships cannot be understated. As mentioned earlier, the Governor's personal leadership is required in the in the Executive Council of the Chesapeake Bay Program, and this is a good launching point for other regional partnerships.

Maryland will face significant growth pressures during this Administration. Coordination and coherence between state and local planning to accommodate that growth are of critical importance. This will require true partnerships with counties and municipalities based on communication and trust between local and state officials. Effective partnerships are necessary so that the hard work of programs designed to protect and enhance our environment is not undone.

Finally, we need to build consensus among our citizenry concerning Maryland's environmental future. It will take political will, resources, and personal actions to achieve the vision of *The Nation's Most Livable State*, based on a commitment to the urgency of that mission and the steps needed to attain it. A common and unified message, anchored by partnerships, is necessary. Partnerships in communication can help produce a consistent message that can penetrate through the deluge of information with which we are confronted daily. For example, DNR has been successful in attracting sponsors and advertisers to offset costs of publications that are distributed on a cost-free basis. Corporate sponsors could help engage Marylanders through underwriting multi-year, sophisticated advertising campaigns such the Chesapeake Club, tested by the Chesapeake Bay Program. As discussed under *Connect People with Their Environment*, partnerships with educational institutions, both K-12 and higher education, will also be essential.

VII. Conclusion

We realize that the agenda recommended here for bolstering the stewardship of Maryland’s environment and natural resources is extensive and ambitious. Furthermore, the grand challenge to restore the Chesapeake Bay, manage growth within the landscape, and address climate change—simultaneously and harmoniously—is daunting, but unavoidable. While citizens, players and partners seem willing as never before, effective governance and top-level leadership are clearly required. This will take time, but cannot take too much time before options and opportunities are forever lost.

Some matters are more urgent and require attention of the Administration within the next several months. We have attempted to list these in Appendix 3, cross-referencing them to the recommendations in this report. However, we caution that this listing is not exhaustive.

As Confucius noted “A journey of a thousand miles begins with a single step.” It is important that these first steps be in the right direction or we might just end up where we are already headed. The contributors to this report appreciate this opportunity to advise on the direction and first steps and stand ready to serve as scouts and guides to assist the O’Malley-Brown Administration in a successful journey.

Appendix 1

Transition Work Group on Environment and Natural Resources Work Group and Subcommittee Members

Environment and Natural Resources Work Group

John Griffin, Co-Chair (Buchart Horn Inc., former Secretary of Natural Resources)

Mike Smith, Co-Chair (Bodie, Nagle, Dolina, Smith, and Hobbs, P.A.)

Don Boesch (President, University of Maryland Center for Environmental Science)

Torrey Brown (former Secretary of Natural Resources)

David Burke (Burke Environmental Associates)

Margo Burnham (The Nature Conservancy)

Eric Christensen (Johns Hopkins University)

Michael Curley (International Center for Environmental Finance)

Chuck Fox (Pew Charitable Trusts; former Secretary of Natural Resources)

Tom Haller (Gibbs & Haller)

Verna Harrison (Keith Campbell Foundation, former Assistant Sec. of Natural Resources)

Frank Heintz (former member House of Delegates; retired BGE President and CEO)

Roy Hoagland (Vice President, Chesapeake Bay Foundation)

Carla Joyner (former Deputy General Manager, Washington Suburban Sanitary Commission)

Randy Lutz (Principal, Hodes, Ulman, Pessin & Katz, P.A.; former AG, MDE)

Tom Lingan (Venable LLP)

Tony Marchione (retired Superintendent of Baltimore County Public Schools)

Ed McMahon (Urban Land Institute; formerly The Conservation Fund)

Shelley Miller (Western Maryland Adventures)

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Lynn Goldman (Johns Hopkins School of Public Health)

Judi Greenwald (Pew Center on Global Climate Change)

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Fred Hoover (Attorney; former Director of Maryland Energy Administration)

Tony Janetos (Director, Joint Global Change Research Institute)

Marc Norman (Director, REGION)

Ruth Ann Norton (Executive Director, Coalition to End Childhood Lead Poisoning)

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Mike Mallinoff (City of Annapolis)

Katie Maloney (Executive Vice President, Maryland State Builders Association.)
Theresa Pierno (Vice President, National Parks Conservation Association)
Kincey Potter (President, South River Federation)
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William Dodd (Koch Homes)
Ira Feldman (Greentrack Strategies)
Stuart Freudberg (Metropolitan Washington Council of Governments)
Bob Gallagher (West/Rhode Riverkeeper)
Paul Galligan (former Mayor)
Robert Gardner (Director, UMCES Appalachian Lab)
Harry Hughes (former Governor)
Heather Lane (UMCES)
Tom Liebel (Marks Thomas Architects)
Karen McJunkin (Elm Street Development)
Don Outen (Baltimore Co. Dept. of Environmental Protection and Resource Management)
Robert Rosenbaum
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Tim Casey (President, The Friends of Maryland State Forest and Parks)
Bill Crouch (The Conservation Fund)
Grant DeHart (H. Grant DeHart Associates)
Nick Dilks (Sustainable Land Fund)
Tom Donlin (Ann Arundel County)
Neil Fitzpatrick (Maryland-DC Audubon Naturalist Society)
Mereith Lathbury (Eastern Shore Land Conservancy)
Tom Ross (Maryland Recreation & Parks Association)
Eric Swanson (World Wildlife Fund)
Marcia Verploegen-Lewis (Partners for Open Space)

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Margo Burnham (The Nature Conservancy)

Sherm Baynard (Coastal Conservation Association)

Dave Blazer (Executive Director, Maryland Coastal Bays Program)

Mark Bryer (The Nature Conservancy)

Kevin Dodge (Garrett Community College)

Wendy Donahoo (Maryland Sportsmen's Association)

Ed Dunn (Chair Emeritus, Baltimore Community Foundation)

Tom Franklin (Izaak Walton League of America)

Bill Goldsborough (Chesapeake Bay Foundation)

Charles K. Hutchinson (TME Inc.)

Paul Massicott (Ecologix Environmental Systems)

Raymond Morgan II (UMCES Appalachian Laboratory)

Ed O'Brien (President, Maryland Charter Boat Association)

Robbert Plunkett (Maryland Sportsman Association)

Jeff Plummer (President, Maryland Waterfowler's Association)

Kirk Rodgers (Maryland Forests Association)

Larry Simms (President, Maryland Watermen's Association)

Marquerite Whilden (Founder/Co-Director, Terrapin Institute)

Bill Windley (Maryland Saltwater Sportfishing Association)

Resource Based Industries Subcommittee

Dave Sutherland, Co-Chair (President, US Land Alliance)

Shelley Miller, Co-Chair (President, Western Maryland Adventures)

Larry Walton (President, Vision Forestry)

Debra Smith (Sarles Boat Yard)

Chris Holmes (Chair, Maryland Forestry Association)

Lee Baihly (River & Trail Outfitter)

Steve Gordon (Gordon's Shellfish)

Tom Grasso (World Wildlife Fund)

Patty Larson

Chris Heald
Jonathan Stein
Doug Carroll

Communication/Outreach/Environmental Education Subcommittee

Tony Marchione, Co-Chair (retired Superintendent of Baltimore Co. Public Schools)

Ford Rowan, Co-Chair (Rowan and Blewitt)

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Judy Sorum Brown (University of Maryland, College Park)
George Chmael (Partner Ecologies)
Christopher Conner UMCES)
John Hutchinson (retired principal)
Monica Johnson (WSSC)
Patty Larson (Environmental Support Center))
Matt Mullen (Chesapeake Bay Foundation)
Susan O'Brien (Consultant)
Melanie Parker (Arlington Echo)
Scott Raymond (Living Classroom Foundation)
Regina Rochez (Consultant)
Michele Speakes (Irvine Nature Center)
Vicki Volk (St. Mary's County)

Finance, Budget and BayStat Subcommittee

Michael Curley, Co-Chair (International Center for Environmental Finance)

Eric Christensen, Co-Chair (Johns Hopkins University)

Will Baker (President, Chesapeake Bay Foundation)
John Boland (Johns Hopkins University)
Kim Coble (Maryland Executive Director, Chesapeake Bay Foundation)
Stuart Clarke (Executive Director, Town Creek Foundation)
Bill Dennison (Vice President, UMCES)
Jack Greer (Maryland Sea Grant College)
Terry Harris (Cleanup Coalition)
Jeffrey Leonard (President, Global Environment Fund)
Ian D. MacFarlane (EA Engineering Science and Technology)
Connie Musgrove (UMCES)
Dan Nees (Director, University of Maryland Environmental Finance Center)
Richard D. Norling (Deer Creek Watershed Association)
Charles M. Rhodes Jr. (Commissioner, Town of Church Hill)
Richard Rynd (President, Rynd Enterprises, former member House of Delegates)
Nikki Tinsley (retired, U.S. EPA Inspector General)
Rob Wieland (Main Street Economics)

Appendix 2

Individuals Interviewed

Stephan Abel, Director, Office of Communications and Marketing, DNR
George S. Aburn, Jr., Director, Air Resources and Management Administration, MDE
Captain G. Adrian Baker, Commander, Homeland Security Division, DNR
Dan Bard, Upper Potomac Tributary Strategy Team
Richard Barton, Superintendent, State Forests and Parks, DNR
Jamie Baxter, Program Director, Tributary Strategies, DNR
Becky Bell, Maryland State Department of Education
Angelo J. Bianca, Deputy Director, Air Resources and Management Division, MDE
Alvin Bowles, MDE
Gwenda L. Brewer, Program Manager, Wildlife & Heritage Service, DNR
Christine Conn, Chief Watershed Analysis, DNR
John Colhoun, Lower Western Shore Tributary Strategy Team
Charlie Conklin, Upper Western Shore Tributary Strategy Team
Lynn Davidson, Program Manager, Wildlife & Heritage Service, DNR
Frank Dawson, Acting Assistant Secretary for Chesapeake Bay Programs, DNR
Gene Deems, Maryland DNR
Peter Dunbar, Director, Power Plant Research Project, DNR
Lynda Eisenberg, Planner, Land-Use Planning & Analysis, Department of Planning
Ginger Ellis, Lower Western Shore Tributary Strategy Team
Dr. Richard Eskin, Director, Technical and Regulatory Services Administration, MDE
Charles Evans, Assistant Secretary, Development & Federal Relations, DNR
Tom Filip, Pataspc/Back River Tributary Strategy Team
W. Scott Flanigan, P.E., Director, Cecil County Department of Public Works
Matt Flemming, Chesapeake Bay Coordination Chief, DNR
Diane Franks, Program Manager, Air Quality Planning Program, MDE
C. Ronald Franks, Secretary of Natural Resources
Dr. David Goshorn, Director, Resource Assessment Service, DNR
Ronald Guns, Deputy Secretary of Natural Resources
James Harkins, Director, Maryland Environmental Service
Denise Hartzell, Program Manager, Air Resources and Management Division, MDE
Carlton Haywood, Middle Potomac Tributary Strategy Team
Jeff Horan, Chief Forest Resource Planning & Analysis, DNR
Brian Hug, Program Manager, Air Resources and Management Division, MDE
Bill Kilby, Upper Western Shore Tributary Strategy Team
Steve Koehn, Director & State Forester, Forest Service, DNR

Louis LaRicci, Director, Human Resources, MDE
Tim Larney, Regional Operations Manager, Wildlife & Heritage Service, DNR
Jordan Loran, Director, Engineering and Construction, DNR
Pamela Lunsford, Director, Land and Water Conservation, DNR
Charles Madison, Director of Technical and Environmental Services, MES
Sharon Maenner Carrick, Director, Licensing and Registration Services, DNR
John Martin, Pataspc/Back River Tributary Strategy Team
John McCoy, Chief, Chief, Director, Ecosystem Restoration Center, DNR
Dawn Meyers, Fiscal Administrator, Budget Administration, DNR
Bruce Michael, Director, Tidewater Ecosystem Assessment Division, DNR
Veronica Moulis, Associate Director, Forest Service, DNR
Lynda Nicholas, Director, Human Resources, DNR
Julie Oberg, Director, Office of Communications, MDE
John O'Neill, Jr, Chief of Staff, MES
Stephen Pattison, Assistant Secretary for Community Relations and Outreach, MDE
Kendl Philbrick, Secretary of the Environment
Gene Piotrowski, Director, Public Lands Policy and Planning, Maryland DNR
Darlene Pisani, Communications Manager, DNR
Steven Powell, Director, Finance and Administrative Services, DNR
James Purvis, Chief Information Officer, MDE
James "Chip" Price, Director, Program Open Space, DNR
Louise Reiner, Chief of Information Technology, DNR
Dan Rosen, Land-Use Planning & Analysis, Maryland Department of Planning
Ruppert Rossetti, Upper Western Shore Tributary Strategy Team
Kristin Saunders Evans, Assistant Secretary for Management Services and Land and Water Conservation, DNR
Ken Staver, Choptank Tributary Strategy Team
Michael Slattery, Assistant Secretary for Resource Conservation, DNR
Gwynne Schultz, Director, Coastal Zone Management Division, DNR
Helen Stewart, Section Chief, Watershed Analysis, DNR
Pat Stuntz, Maryland Director, Chesapeake Bay Commission
Dr. Robert Summers, Director, Water Management Administration, MDE
Ann Swanson, Executive Director, Chesapeake Bay Commission
Horacio Tablada, Director of Waste Management Administration, MDE
Joe Tassone, Director, Land-Use Planning & Analysis, Maryland Department of Planning
Glenn Therres, Associate Director, Wildlife & Heritage Service, DNR
Vernon Thompson, Director, Cecil County Department of Economic Development
Steve Tomezewski, Director of Environmental Operations, MES

Mark Trice, Tidewater Ecosystem Assessment Division, DNR
Sue Veith, Lower Potomac Tributary Strategy Team
Alfred Wein, Cecil County Administrator
Jerry Wheeler, Director of Water/Wastewater, MES
Robert Wieland, Choptank Tributary Strategy Team
Terry Willis, Upper Eastern Shore Tributary Strategy Team
Charles W. Wilson, Acting Director, Prince George's County Department of
Environmental Resources
John Wilson, Deputy Director, Public Lands Policy and Planning, DNR
Terri Wilson, Director, Office of Budget, MDE
Joseph Zimmerman, Treasurer, MES

Appendix 3

Short-Term Actions

This listing is neither exhaustive nor comprehensive.
Numbers refer to Transition Work Group recommendations.

30 Day Actions (January-February)
1. Sparrows Point Liquefied Natural Gas (LNG) Terminal Proposal: Respond to the LNG terminal proposal. The state has until February 8 to file its letter of comment with FERC. [26]
2. U.S. Farm Bill: Create a strategic approach for the reauthorization of the Farm Bill, which expires in 2007. Convene a meeting with the state's top agricultural advisers and advocates, and also with the Executive Council of the Chesapeake Bay Commission and Maryland's Congressional Delegation, to establish mutual priorities and develop a coordinated lobbying strategy. [38, 45]
3. Chesapeake Bay: Confirm that Maryland's governor will retain the chair of the Chesapeake Executive Council. [37]
4. Program Open Space (POS): Fully fund POS, land conservation, and parks programs with all revenues from the real estate transfer tax, including any over-attainment from prior fiscal years. Freeze changes to the POS allocation formula until adoption of a statewide Priority Preservation and Outdoor Recreation Plan. [18]
5. Legislation: Support legislative proposals for Clean Cars [28], a "Green Fund"[43, 44], developing a native oyster restoration action plan and funding for the Horn Point setting facility [11], and full funding for implementing HB 1141. [16]
6. BayStat: Begin the implementation of BayStat. Provide feedback to the Bay cabinet on the approach described in this transition report so that the agencies can be as prepared as possible for the first BayStat meeting on February 16. [49]
7. Harriet Tubman State Visitor's Center: Announce the creation of this park in Dorchester County as part of Black History Month in February.
8. Departmental Resources: Begin immediate actions to address serious human resources and funding deficiencies in mandated work at DNR and MDE, including inspectors and natural resource police. Begin an immediate audit of the salary structure and competitiveness for employees who require advanced specialized training and/or certification. [1, 2, 3, 53]

60 Day Actions (January-March)

- 1. Chesapeake Bay:** Call a special meeting of the Chesapeake Executive Council to talk about the 2010 goals and potential restructuring of the Chesapeake Bay Program. [38]
- 2. Maryland Association of Counties and Maryland Municipal League:** Meet with the MACO and MML to further the partnership between state and local governments, improve coordination, and identify mutual protection and restoration efforts for the Bay. [15, 42]
- 3. Permits to Control Air Pollution:** Expedite permitting of pollution controls for power plants required under the Healthy Air Act. Aim to complete work on permit applications by May 31, 2007. The first deadlines (for NOx reductions) begin to take effect in 2009—if the work needed to install pollution controls does not begin soon, these deadlines will not be met. [21]
- 4. Land Preservation:** Close the tax loophole that allows LLPs and LLCs to escape the state real property transfer tax in some cases, which would generate an additional \$13.65 million in state and \$46 million in local revenue annually for POS [19] and begin developing a statewide Priority Preservation Plan, including a Recreation Access Plan, for a system of greenways and blueways. [18, 57]
- 5. Leadership:** Create a Governor’s Environmental Cabinet [39] and the position of Maryland Environmental Coordinator [40].
- 6. Catch Limits on Striped Bass:** Address the Atlantic States Marine Fisheries Commission’s recently revised target for the Maryland catch of striped bass fish in the spring season. [13]

90 Day Actions (January–April)

Leadership: Establish a task force to create a statewide plan for integrated and coordinated environmental, land use, and natural resource planning. [55]

- 1. Enforcement:** Complete an audit of the MDE enforcement program and announce findings and recommended improvements. [50]
- 2. Land Preservation:** Begin developing a statewide Priority Preservation Plan, including a Recreation Access Plan for Greenways and Blueways. [18, 56, 57]
- 3. Environmental Education:** Announce commitment and seek funds to provide quality outdoor environmental education across disciplines and grade levels for every Maryland student, every year. [32]
- 4. Communications & Outreach:** Begin crafting an inter-agency strategic plan to promote environmental awareness and stewardship [32] while seeking partnerships with the private sector to enhance outreach and opportunities for public involvement in stewardship efforts. [35]
- 5. Greenhouse Gas Commission:** Create a commission to assist the state agencies in developing a comprehensive long-term strategy to reduce greenhouse gas emissions. [30]
- 6. Assess Effects of Climate Change:** Establish a working group of DNR, MDE, and MDA, in conjunction with the University System of Maryland, should undertake an assessment of the likely consequences of climate change. [31]

90 Days and Beyond	
1. River Councils:	Create River Councils to reinvigorate state implementation actions and increase local citizen and government involvement in restoration efforts. [41]
2. Climate Change:	Join the Regional Greenhouse Gas Initiative agreement (RGGI) by June 30, 2007 as a full participant. [27]
3. Water Supply:	Continue and enhance support for evaluating and planning for water supply issues throughout Maryland. [16]
4. Waste Management:	Obtain recommendations on regional waste management disposal. [22]
5. No Net Loss of Forests:	Establish a no-net-loss of forest goal for Maryland through legislative and executive actions. [6]
6. Access to Public Lands:	The State should lead a comprehensive assessment to access of public lands [9] and develop a Maryland Trail System Initiative that leads the nation. [8]
7. Non-Native Oysters:	Await the findings of the Environmental Impact Study prior to making any decisions regarding the introduction of non-native oysters to the Chesapeake Bay and ensure that the body of research in Maryland is mature enough to make sound judgments regardless of the EIS findings. [11]
8. Bi-State Blue Crab Management:	Re-institute bi-state blue crab management that implements sustainable management strategies. [12]

Appendix 4

Reinventing the Chesapeake Bay Program

January 2007

A summary of recommendations by Chesapeake Bay advocates convened by the Keith Campbell Foundation for the Environment in a series of meetings from September 2006 to January 2007

Participants in the meetings brought with them Bay-related experience in policy, science, communications, advocacy, philanthropy, and state, local, and federal agencies. However, they participated as private individuals, rather than representatives of agencies and/or organizations. Participants included: Don Boesch, David Carroll, Kim Coble, Tom DeMoss, Ted Graham, Jack Greer, John Griffin, Verna Harrison, Roy Hoagland, Lara Lutz, Bill Matuszeski, Connie Musgrove, David O’Neill, Theresa Pierno, Albert Pollard, Peyton Robertson, Charlie Stek, Pat Stuntz, Ann Swanson, Neil Wilkie.

The Chesapeake Bay Program (CBP) has advanced world-class science and established aggressive, cutting-edge goals for the restoration of the Chesapeake Bay—but it is neither efficient nor effective at implementation.

The current CBP structure is ill equipped to meet the 2010 restoration and protection goals for the Bay. As 2010 quickly approaches, the CBP must step forward with aggressive and creative plans for a self-transformation that will *accelerate* the Bay restoration effort.

A renewed CBP should be structured to provide stronger focus on key priorities and more funding to address them. The restoration process must also be transparent both to those who are affected by it and those who want participate in it.

For a transformation of this magnitude to occur, CBP governance must be fundamentally altered to recognize that all levels of government, businesses, farmers, non-profit organizations, and citizens must be more involved in the Bay’s restoration and protection.

The new structure should provide opportunities for those most affected by Bay restoration decisions and those most committed to the cause to be directly engaged in the decision-making process. Their efforts should be organized around key strategic priorities that are essential to the clean up of the Bay.

Funding and financing mechanisms—crucial components in the implementation phase of the Bay recovery—must receive significant standing in the new structure.

Accountability and transparency in the work of the CBP and for progress in the restoration effort must transcend all components of the new CBP structure.

Finally, the CBP needs to be reinvigorated with thoughtful and energetic leadership. Even the best-designed structure cannot be sustained without it. We need vocal, visible champions for the Bay, as well as dynamic program managers. The Bay restoration effort involves an enormous number of citizens, organizations, and agencies, which bring with them an even larger variety of backgrounds, expertise, and resources. Lasting solutions for the Bay will result from leaders who not only show political courage, but also elicit and reward meaningful participation from this varied cast.

In what follows, we lay out the principles, functions, and tools through which the CBP can evolve to meet future challenges and to improve on a model that is considered a world example in watershed and estuarine restoration and protection.

Operating Principles

- **Focus the CBP on Implementation.** The overarching goal of the CBP is to restore the Bay's living resources by restoring water quality in the Bay and its tributaries. The focus of the CBP should be squarely placed on implementing programs and practices that achieve this goal, particularly with respect to scientifically proven, cost-effective methods for reducing nitrogen pollution.
- **Establish Strategic Implementation Priorities.** Implementation should focus for the next five years on three strategic priorities that most rapidly accelerate nutrient reductions. The new CBP structure should place clear and direct leadership responsibility for each of these priorities on a particular agency or sector of government.

The initial set of strategic priorities should be:

- *Agriculture.* Achieving nitrogen reductions from agricultural sources is essential to the Bay's recovery. Focus of this strategic priority should be placed on geographic areas that contribute the most nitrogen from agriculture: the Shenandoah Valley, the Lower Susquehanna River Basin, and the Eastern Shore.
 - *Land Use Change.* With rapid land use change occurring in many parts of the watershed, preventing increased nitrogen loadings from growth (and, if possible, obtaining reductions) should be a priority.
 - *Stormwater.* The fastest growing source of pollution is stormwater runoff. Therefore, it should also be a strategic priority of the CBP. Focus on responsibilities under the NPDES stormwater permitting program and generating revenue for stormwater management.
- **Elevate the Importance of Financing.** There is broad understanding of the solutions to cleaning up the Bay. But there is a significant gap in the financing needed to implement them. Therefore, the CBP should focus on identifying new financing tools to support the Bay restoration, and/or using existing financing tools more effectively. The Blue Ribbon Panel report provides a blue print for this work.

- **Strengthen Accountability Procedures and Increase Transparency.** Accountability and transparency should be hallmarks of the new CBP structure. There must be clear, measurable objectives on an annual basis. The Executive Council should identify priorities, communicate them broadly, and then report on progress the following year. This requires an efficient and transparent reporting system that is agreed to by all responsible parties and governmental entities, and that is vetted through the scientific community. Reports must be clear and understandable to the public. The accountability system must be objective and free from political influence. A periodic external audit should also be established.
- **Strengthen Local Collaboration and Inclusiveness.** In order to more effectively manage the large-scale Bay ecosystem program and to promote broader local implementation of Bay restoration activities, the CBP must establish more capable and accountable structures at tributary or river scales. This will require more attention and resources directed at local tributary implementation.
- **Enhance Efficiency and Effectiveness.** Through greater cooperation among groups most affected by Bay restoration activities and by communicating progress broadly and challenges more openly, the CBP will become more efficient and effective. This principle must transcend all structural changes—if it is not possible to demonstrate that a recommendation will increase efficiency and/or effectiveness, then the recommendation should not go forward. The CBP should conduct regular evaluations, supported by managers who are called upon to adapt their course as needed.
- **Seek Innovations and New Technology.** Innovation has been a hallmark of the CBP and this should remain unchanged as it shifts toward implementation. Therefore, support for new science and technology to accelerate Bay recovery should be promoted throughout the CBP structure.

Framework Concepts

- **Boost Executive Council.** Visible, credible, and effective regional leadership must be enhanced if we are to meet 2010 Bay restoration goals. At a minimum, federal agency involvement should expand to include the Secretary of the Department of Agriculture. The Council should also seek more active, substantive counsel from diverse voices, including a new finance commission and a new public-private Bay leadership committee. The Council should also meet more frequently and publicly to elevate the cause and demonstrate its commitment throughout the Bay region.
- **Establish a Financing Commission.** The CBP should develop a Financing Commission. Over the next five years, the commission should monitor federal and state funding gaps and explore methods to address them—both by pursuing new opportunities and refining existing ones to promote greater efficiency. The commission’s blue print should include the Blue Ribbon Panel report on financing

the Bay restoration. The commission must be professionally staffed, have goals and an annual work program, and publish regular reports. It should also have a seat on the Bay Leadership Committee and report directly to the Executive Council.

- **Establish a New Public-Private Bay Leadership Committee.** The CBP should establish a new public-private leadership committee, no larger than 30 members. The Bay Leadership Committee would include state and federal agency representatives, finance and business leaders, local government representation, farmers, NGOs, the foundation community, and congressional leadership. The members should be high-level, decision-making leaders of the groups they represent, with the authority to accept and carry out assignments from the committee. The EPA or Chesapeake Bay Commission should staff the committee.

The committee would shape strategies and implementation practices by integrating the perspectives of a wide range of participants into collective recommendations and actions.

Tasks: The purpose of the new leadership committee is to set and track Bay-wide priorities, strategies, and timelines, with meaningful participation from those who directly implement them. Responsibilities also include:

- Tracking, auditing, and providing overall reports on results. Where results are lacking, investigate and take actions to improve outcomes. Provide annual reports on progress, including the State of the Bay and river report cards;
- Encouraging targeted restoration and protection efforts to achieve greatest ecological benefits for the least cost;
- Promoting collaboration across jurisdictions and sectors, and establish new partnerships that can accelerate Bay restoration;
- Ensuring that regulatory/enforcement tools are brought to bear as permissible by the Clean Water Act; highlight regulatory gaps that need to be addressed;
- Establishing a system for resolving disagreements among partners;
- Ensuring that watershed-level action, plans, and structures are supported by and integrated into the CBP;
- Recommending changes to the tactics or methods used to accomplish Bay restoration goals (adaptive management), including annual recommendations to the Executive Council;

- Raising public awareness of the progress of Bay restoration; and
 - Highlighting best examples of what is working to celebrate progress and to encourage replication of best practices.
- **Establish Task Forces around Strategic Priorities:** The CBP should augment its efforts with task forces that develop and apply tactics for tightly focused, strategic priorities of the Bay restoration effort. Initially, the task forces might include agriculture, land use change, and stormwater. The task forces should have a defined life cycle (3 to 5 years) and provide an opportunity for meaningful involvement of all affected stakeholders, including: agriculture, local government, non-profits, developers, river council representatives (see below), and federal and state agencies. Each task force should be chaired by the most affected and responsible agency.

Tasks: The purpose of the task forces is to focus attention developing and implementing tactics to advance specific restoration goals, as set by the Executive Council, and to support restoration strategies, as set by the Bay Leadership Committee. Responsibilities also include:

- Tracking and reporting progress of those programs annually to the Bay leadership committee and recommend changes to strategy and/or goals based on experiences/new science;
 - Exchanging ideas with the Financing Commission on the most scientifically proven, cost effective strategies to address strategic Bay restoration priorities;
 - Advising the Bay Leadership Committee on the barriers to restoration and protection activities and recommend policy and administrative changes that can overcome those impediments;
 - Sharing experiences “from the field” and discuss what’s working, what’s not, and why; and,
 - Commissioning new reports and science to help accelerate restoration.
- **River Councils: A Framework for Increased Local Implementation.** States should establish River Councils across the Bay watershed. River Councils provide a framework for coordinating key functions and programs (e.g., agricultural best management practice support, stormwater and wastewater management, water quantity planning, public outreach, etc.), which are best positioned to improve Bay tributaries through localized actions. Local partners could work through a single umbrella River Council or through a coordinated set of entities, but they should reflect and represent a community’s multiple interests and perspectives, and have clear connections to and involvement with elected bodies. In some cases, a watershed might be divided into separate councils in order to group similar interests, problems, and local culture more effectively. River Councils should be funded and

have the authority to dispense funds. The CBP should also provide technical support (as described below) to increase River Council effectiveness.

Tools

- **Provide Greater Technical Assistance.** The CBP or the individual states should establish cross-agency technical assistance teams (including SCS reps and federal agency representation) to aid the River Councils. River Councils should also receive a professional staff person with expertise in the issue most affecting the health of the river. Staff and technical assistance teams could help the River Councils set implementation priorities and track progress, perhaps tied to River Report Cards.
- **Boost Financial Incentives for Action.** Grants and direct payments should be made available to the River Councils, individual landowners, and local jurisdictions. These funds should provide incentive for local policies and practices that will accelerate and sustain implementation of tributary strategy goals and they should require a matching commitment on the part of the applicant. Grant programs/payments would be targeted to help River Councils address the most important issues (such as stormwater or agriculture) affecting each river they represent.

Funds for the financial incentives could come from:

- Pooling existing restoration funding and making those funds available on a competitive basis for tributary strategy implementation.
 - Pooling existing mitigation funds and directing those funds to projects that can achieve the greatest ecological benefit for the least amount of funding.
 - New sources that are directed for tributary strategy implementation.
- **Provide Data and Ecological Frameworks for Implementation.** CBP partners should provide data and implementation frameworks to help the River Councils and the local jurisdictions set restoration and protection priorities and to aid them in targeting restoration activities geographically in order to achieve the greatest ecological improvements.
 - **Elevate and Enhance Communications and Outreach.** Communications should play a more strategic role in a new CBP structure, beyond support for producing progress reports. Communications efforts need the authority and structure to communicate the science, the goals, and the needed actions to key players, such as farmers and local planners. This work could be done in partnership with River Councils, to tailor and deliver the messages in ways that are most appropriate for the local settings.