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*Population Growth and Development  
in the Chesapeake Bay Watershed  
to the Year 2020*

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Summary

The Report of the Year 2020 Panel  
to the Chesapeake Executive Council

December 1988

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The Honorable Gerald L. Baliles, Governor of Virginia  
The Honorable William Donald Schaefer, Governor of Maryland  
The Honorable Robert P. Casey, Governor of Pennsylvania  
The Honorable Marion Barry, Jr., Mayor of the District of Columbia  
The Honorable Lee M. Thomas, Administrator, U.S. Environmental Protection Agency  
The Honorable W. Tayloe Murphy, Jr., Chairman, Chesapeake Bay Commission

At your request, we studied the consequences of population growth and development for the Chesapeake Bay watershed to the year 2020. We examined a broad range of options for preventing or ameliorating adverse environmental impacts that come from growth.

Although we were challenged by the complexity of our task, a far greater challenge now rests with you: to make the visions that are framed in this report reality. You must convey a strong sense of leadership; an overriding sense of stewardship for the Bay and its watershed must emanate from your offices. Judging, from the comments received at the Panel's four public meetings, it is clear that strong and widespread support exists for the kinds of actions we are suggesting.

The actions advocated in this report will do much more than improve the Bay. They are universal in scope. They work to ensure the economic and environmental vitality of the entire region. Success in these actions will result in local and regional successes elsewhere as well.

Our report calls for bold actions. It will require the development of new policies and programs. We recognize that they are not without cost. Funding must be found to implement the actions recommended, or the millions of dollars of investment already made in the Bay will dwindle away as growth overwhelms current successes. Likewise, it will become more costly the longer you wait, and at some point no amount of money could reverse the disastrous effects of unmanaged growth.

We recognize that reports such as ours are legion. Decade after decade, committees, panels, commissions, and vocal individuals have catalogued problems and offered prescriptions for their resolution. The recommendations made here could easily be side-tracked "for more study". It is our sense however, that this moment in the history of the region demands immediate action. We sense an important difference in the political climate from past decades. Indeed, by signing the Chesapeake Bay Agreement you set in motion the drive for new policies to protect the Bay.

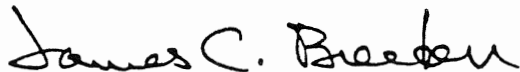
Behind us, providing momentum, lie a decade of Bay studies, five years of initiatives, and two decades of growing environmental concern. The recommendations in this report are a logical extension of the Bay programs. Public officials, politicians, developers, and private citizens who worked on this Panel, who attended and participated in the Panel's meetings, and who came to the public meetings that were held in each jurisdiction, are all strongly behind effective land use management that will restore and protect the Bay. All are now awaiting the leadership that will produce effective, timely actions.

The time is ripe for these actions. With uncommon unity, people are prepared to act on their sense of joint responsibility for the Bay, its rivers, and the surrounding land.

The ability of your jurisdictions and agencies to work together for the common good and the future of the Bay has attracted international attention. You have created a unique compact, and made far reaching commitments that will serve people throughout the watershed well in the years ahead.

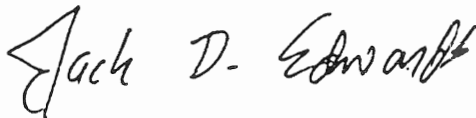
We unanimously report to you our findings and recommendations. We are pleased to have served you in this effort, and look forward to working with you in our private, professional, and public capacities to begin implementing this regional agenda.

*Representing Virginia*



The Year 2020 Panel

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American society is extremely consumptive and wasteful of resources. It must focus on waste reduction, recycling of materials, and conservation of resources. Harbingers of where current trends lead are the degraded quality of the Bay, water shortages, the trash crisis, suburban sprawl, hop-scotch patterns of development, congestion, air and water pollution, and inefficient use of resources. Adding increased numbers of roads, septic systems, parking lots, and disturbed land surfaces creates more pathways for pollutants to reach the Bay at an increasing rate. Water quality is inextricably linked to population growth.

Growth requires effective land use planning and education of the public in proper land management and stewardship. The longer solutions are put off, the greater the problems become. Better stewardship and management of the land and better direction and incentives for appropriate growth are needed. It is much easier (and cheaper) to prevent a problem than to correct one, which is why action is needed soon.

New highways, sewers, and other infrastructure have a powerful effect on the location and pace of development. The best planning allows for such infrastructure to guide and manage growth. Unfortunately, the opposite often happens. Patterns of low density residential sprawl occur and then require improved linkages. Open areas eventually fill with new homes and congestion occurs along the new roads. Densities are too low to support mass transit and no readily available rights-of-way can be found for additional roads.

A major force in establishing the present land use pattern has been the desire of people to locate primary residences in low density settings and second homes near the water. Unfortunately, development in agricultural, forest, and shorefront areas chews up valuable farmland, woodland, and shore access areas and destroys existing local economies. As resource-oriented businesses die or are forced out, the support businesses for farming and seafood harvesting die as well. The diversity of the local economy is dramatically changed as well as the heritage, social conditions, sense of place, and visual character of the area.

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## Visions of Success

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The Panel is dismayed by the lack of growth management and planning, particularly on a state and regional level. It became readily apparent that the lack of comprehensive state and regional planning, uncoordinated public investment strategies, and undirected problem solving contribute greatly to the current problems of the watershed. Unless changed, this lack of clear policy and direction will compound future problems.

To provide a framework for making useful recommendations, the Panel conceived six linked visions of what should come to pass in the region by the year 2020. All segments of society will benefit from achievement of these visions. Likewise, all must share in the in the cost of their implementation. The visions are clearly and simply stated. They are presented in the present tense to em-

phasize this is what will have happened if appropriate actions are undertaken today. Accomplishing the visions will produce a watershed with the following characteristics:

*Well before the year 2020, state Comprehensive Development and Infrastructure Plans have been developed and implemented. State and federal agencies, counties, and municipalities encourage diverse and efficient land development patterns -- ones that concentrate growth and development in urban, suburban, and already developed rural centers. All growing areas have existing or planned facilities. Densities in most of these areas support mass transportation, van pooling, or other forms of ride sharing to reduce traffic.*

*These thriving urban centers and suburban areas are supported with funding adequate to maintain or enhance existing services. Cities and towns are vitalized by prudent public and private investment. Developers are offered incentives to provide greater community services and mitigate environmental impacts.*

*New mixed use growth centers are planned to take advantage of existing or projected infrastructure. Large open space areas are located within walking, bicycling, or short-drive distances of most people. Open space amenities are given the same priority as infrastructure.*

*Sensitive areas are protected from encroachment and damage. These areas have been defined and mapped by state and local authorities, and effective programs are in place to protect these natural assets. Very sensitive areas are in public ownership or under easement. Wetlands and lakes, rivers, and other waterbodies are protected from upland impacts by undisturbed vegetated buffers. In both urban and rural areas the shoreline of the Bay and its tributaries forms a series of vegetated corridors. These connect to large forested areas and allow for enhanced water quality, ecological balance, and biological*

*diversity. Water supply has become a statewide issue, and safe and adequate supplies are available from protected groundwater and surface water sources.*

*Areas with resource-based industries such as agriculture, forestry, mining, and seafood harvesting are protected from encroachment of incompatible land uses. These industries remain important parts of the local and state economy. They have brought their environmental problems under control. Protection of these areas through effective land use controls, reasonable incentives, and innovative funding mechanisms insures a lasting, diverse economy and resource use options for the future.*

*Transfer of development rights from one land parcel to another better suited for development is commonplace and is proving to be an effective growth and resource management tool.*

*Growth in rural areas takes place in existing centers. Rural towns and highway intersections are defined by service boundaries and development space is provided for an appropriate mix of uses. These centers, with the assistance of state and federal governments, provide adequate sewer and water utilities. Use of on-site waste water treatment is limited so as to protect effectively surface and groundwater from pollution.*

*Outside these rural centers, residential development is limited so as to retain the economic, ecological, and scenic values of the countryside. Large woodlots and forests are retained and are selectively used for managed forestry, if they are not in preserves or parks. Quarries and other mining activities occur but are screened from neighboring uses by well developed wooded buffers. Municipal, County, and State roads are planned to allow for adequate capacity for rural traffic.*

*The volumes of waste produced in the region have been greatly reduced and are being effective-*

*ly handled. Energy and water use per capita has been reduced as conservation programs have been put in place.*

*The public and government agencies are sensitive to their responsibilities not to damage the environment and to conserve resources.*

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*"...states must take a much more active and central role in the planning process . . . a Comprehensive Development and Infrastructure Plan must be put in place..."*

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*Stewardship of the land and Bay is practiced by ordinary citizens who have been made aware of how they affect the land and water. The quality of the Bay is improved, tourism is strong, resource-based industry, manufacturing, and service businesses desire to locate in the basin because of its resource base, amenities, diverse economy, and the quality of life it provides residents.*

*Those programs that require funds are supported by Development and Conservation Trust Funds that fund infrastructure and purchase land, easements, and development rights in support of the goals of the Comprehensive Development and Infrastructure Plan.*

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## Realizing the Visions - Recommended Actions

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Success in realizing these visions hinges on two things: the states must take a much more active and central role in the planning process for both land use and infrastructure, and a Comprehensive Development and In-

frastructure Plan must be put in place in each state to guide state investments and policy and to create coordination among local land use plans. Only then can the visions and recommended actions listed below be implemented to change the course of the Chesapeake region.

### Vision I: Development is concentrated in suitable areas.

Action 1. States must each develop and keep current a Comprehensive Development and Infrastructure Plan. All planning, funding, and development must be consistent with this Plan.

- The Chief Executive of each jurisdiction should establish a broad-based Task Force or Commission to promote the preparation and implementation of a state-level plan.
- Legislatively create (or designate) and fund a lead state planning agency with responsibility for preparing the state plan, coordinating planning and development activities, and achieving consistency among and with local and other state plans.
- By legislation, require that all agencies conform to the state plan.
- Develop criteria for the content of state and local plans and for determining consistency of local plans with the state plan.
  - require local zoning and planning.
  - require regular updates of state and local plans.

- establish an interagency task force to report to the Governor or Mayor annually on the plan and its progress and success.

**Action 2.** States must take the lead to establish and implement policies and programs that result in compact and efficient growth patterns.

- Create incentives
  - for reuse and redevelopment of areas already served by infrastructure (e.g., enterprise zones, creative zoning, density bonuses, and land assembly).
  - for locating housing and employment in designated growth areas served by public transportation.
  - to encourage use of mass transportation, car pools, and van pools.
- Invest in public transportation to support state and local growth policies.
- Develop programs to reduce private automobile use:
  - provide adequate and attractively priced parking at public transportation stations.
  - decrease availability of free or subsidized parking.
  - develop more high occupancy vehicle lanes and bus lanes on highways.

**Action 3.** States and localities must maximize use of existing infrastructure.

- Adopt programs and policies that concentrate growth at appropriate densities in designated growth areas with existing infrastructure.

**Action 4.** States should allow local communities maximum flexibility in innovating and adopting procedures for creating public open space and obtaining easements that are of public benefit.

## **Vision II. Sensitive areas are protected**

**Action 1.** States must define sensitive areas and have appropriate state and local agencies designate such areas on a series of maps that comply with a standard map specification. These are to be used in planning, management, and project review.

- Include wetlands, floodplains, aquifer recharge areas, wellhead protection zones, water supply watersheds, important habitat areas, unique and scenic areas, large forest tracts, and other areas in need of special protection.
- Coordinate all mapping through a single agency that establishes statewide standards.

**Action 2.** States must make sensitive area protection mandatory.

- Require that the Comprehensive Development and Infrastructure Plan contain criteria for sensitive resource protection, management, and enforcement.

- Provide training for local officials in land use planning, resource management, and development review
- Furnish state or county level technical assistance for sensitive area protection planning and development proposal review.
- Adopt and enforce minimum standards for site development, construction, and maintenance to minimize impacts to the environment.

Action 3. States should coordinate acquisition and protection programs directed at sensitive resources.

- Coordinate public and private land and easement purchases by creating a coordinating group that keeps participating groups and agencies informed of needs, priorities, and progress.
- Provide state funds for purchase of very sensitive areas either in fee simple or through conservation easements.
- Review incentives available to encourage conservation easement donations and provide better incentives.

Action 4. Establish federal, state and local buffer zone programs that require adequate deep-rooted vegetated buffers be left undeveloped around sensitive resources and along all watercourses and water bodies.

- Set criteria for buffer zone widths according to the resource being protected and adjacent conditions. Clearly define

the uses permitted within a buffer that will not compromise its effectiveness.

- Reestablish buffers in developed areas.

### **Vision III. Growth is directed to existing population centers in rural areas and resource areas are protected.**

Action 1. Require state and local plans to define and map growth and resource protection areas.

- Indicate all areas where growth is inconsistent with resource protection.
- Provide adequate funding to improve and develop infrastructure in designated growth areas.
- Limit public investment in sewer and water systems to designated service areas. Require any expansion of the service areas to conform with local and state plans.

Action 2. Protect important agricultural and forest lands.

Action 3. State and local governments must protect water supply watersheds from development.

- Protect and where necessary purchase areas within watersheds where development would degrade the water supply. Encourage creation of easements that protect the watershed.
- Develop a specific management plan for each of these watersheds.



- Provide state leadership in planning and developing water supplies to meet the needs of rural areas.

Action 4. In Maryland and Virginia, stop condemnation of shellfish areas for marina and sewage treatment plant development.

Action 5. Each state should expand public park and recreation systems.

- Provide funding for the development of green belts around urbanized areas.
- Expand recreation opportunities near developed and designated growth areas.
- Emphasize low intensity recreational areas in undeveloped areas.
- Provide more public access to water-bodies.

Action 6. States should develop strategies to discourage development in areas devoted to resource-based industries and to reduce the need for localities to compete for property tax revenues.

- Institute a transfer of development rights system to allow local officials to designate areas of high and low growth, and to transfer the development rights from a designated resource protection area to a designated growth area. This will compensate the affected landowner and keep designated land in its current use.
- Offer incentives and other inducements to industrial development when this development is inside designated growth areas.

#### **Vision IV. Stewardship of the Bay and the land is a universal ethic.**

Action 1. State agencies should establish written environmental stewardship policies to guide their actions and should review their programs to ensure conformance within these policies.

Action 2. States should develop a required school curriculum unit focused on environmental and growth issues.

Action 3. Each state and the federal government should prohibit dumping of sewage from vessels into the Bay.

Action 4. Develop a broader-based public awareness of stewardship and proper environmental management.

#### **Vision V. Conservation of resources, including a reduction in resource consumption, is practiced throughout the region.**

Action 1. Reduce waste generation.

- Impose disincentives on excessive waste generation, including excessive use of consumer packaging that will become waste.
- Promote hazardous waste minimization.
- Create local recycling programs for all materials that are capable of being recycled.
- Require recycling of used motor oil, including do-it-yourself oil changes.

- Establish hazardous household products collection programs at the local level.

Action 2. States should develop programs to reduce automobile use and fuel consumption.

Action 3. States should develop programs to reduce water and power usage.

- Impose a sliding scale levy on water and power use to discourage excessive consumption.
- Set standards and require all new construction and remodeling to be energy and water use efficient.

Action 4. States should make best environmental management practices mandatory for development, agriculture, and forestry.

Action 5. Foster innovative technology and programs that reduce resource consumption and environmental impacts.

- Fund approaches that are practical and can be widely used.

## **Vision VI. Funding mechanisms are in place to achieve all other visions.**

Action 1. Establish state Development and Conservation Trust Funds to provide for infrastructure, development incentives, and the purchase of land, permanent easements, or other rights in the land.

- Potential sources of funds to capitalize the Funds include:
  - higher fuel taxes

- tax on profits from land sales

- utility surcharges

- user fees

- property transfer tax

- voluntary income tax check-off

Action 2. Develop revenue sharing or pooling arrangements among municipalities or counties affected by growth.

Action 3. States should encourage development of local taxing districts to allow local governments to recover the operating costs of public facilities unique to that district.

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## **State and Federal Actions**

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Each jurisdiction has a unique set of concerns and needs, and programs that address the impacts of growth are at various stages of definition and development. Different approaches and priorities to reach the Visions and achieve the Actions will be used by each jurisdiction. In some cases legislative changes will be needed and in others fiscal appropriations will be required. Many actions can be initiated immediately, while others will require longer to implement. In addition to the general recommendations, each State's delegation to the Panel has prepared an agenda for action tailored to its state. The Panel prepared a Federal agenda.

## Pennsylvania Action Agenda

Pennsylvania should consider the following actions.

Convene a task force charged with reviewing this report, and present within 90 days a Pennsylvania Action Agenda. The Action Agenda should take the report's respective recommendations and apply them, as appropriate, to the Commonwealth.

Legislation should be prepared and enacted to establish a State Planning Office in the Office of the Governor. The Planning Office should be directly responsible to the Governor, and should be broadly charged with the planning and overview responsibilities set forth in the 2020 Report. The legislation should also provide for a State Planning Board, advisory to the Governor and to the State Planning Office, with membership representative of the interests, economy, and cultural composition of the Commonwealth.

Legislation should be prepared and enacted dealing with regional planning in the Commonwealth, a function whose area-wide perspective warrants statutory expression.

The Municipalities Planning Code should be reviewed in light of the findings in the 2020 Report, and amendments to the Code should be drafted to accomplish the Report's recommendations.

A mechanism should be established for providing technical assistance and funding support to municipalities as they seek to deal

with their responsibilities in implementing the recommendations of the 2020 Report.

Convene a panel to review the management policies that apply to all lands owned by the Commonwealth, and to suggest ways in which the various policies can be better coordinated, consistent with the mission of each land-managing agency, to further the aims of the 2020 Report.

Funding should be provided for the development of a model environmental education curriculum for Pennsylvania school districts.

## Maryland Action Agenda

Maryland should consider the following actions.

Release the 2020 Report with strong support for the Visions to local governments, and environmental, development, economic, and community interests. Conduct a series of informational meetings and workshops to explain the background and purposes for the Visions and Actions and obtain ideas for how the Visions and Actions can be accomplished.

Request that state agencies indicate how the Visions and Actions can be accomplished with current or new resources and authorities. Each agency should state what issues it must address and what it will have to do differently to help realize the Visions and Actions. State agencies should respond by March 1, 1989.

Charge the Department of State Planning with preparation of the initial Comprehensive

Development and Infrastructure Plan by September 1, 1989, including criteria for determining consistency of State and local Plans. Capital improvements including major facilities; transportation; open space, recreation, and park areas; schools, etc. will be included.

Direct the Governor's Council on the Chesapeake Bay to report to the Governor on July 1st each year on the progress and success in achieving the Visions and Actions. The Executive Order creating the Council should be reissued to broaden the membership and purpose of the Council.

Direct the Department of Natural Resources with assistance from the Departments of the Environment, State Planning, and Agriculture and in cooperation with local governments to define and map sensitive areas by January 1990.

Appoint by March 1, 1989 a private/public Resource Protection Work Group to coordinate, establish priorities, target, and share information about the various private and public programs to acquire and protect sensitive areas. The group should make its recommendations for improvements to the Governor within six months of its creation.

Direct the Department of State Planning in cooperation with local governments to prepare by September 1, 1989 a model resource protection program. Provide assistance to local governments in establishing resource protection programs to include buffers, performance standards, easements, etc.

Request Secretaries of the Departments of Budget and Fiscal Planning and State Planning to explore creation of Development and Conservation Trust Funds including sources of funds, and use and allocation of funds. Results are to be reported to the Governor by April 1, 1989.

Establish a Forest Protection Task Force to include the Departments of Natural Resources, Agriculture, and State Planning, local government officials and private sector participants to prepare local and State legislative and administrative proposals for the protection and re-establishment of forest land and wildlife habitat. If possible, proposals will be drafted for consideration during the 1989 and definitely prior to the 1990 General Assembly session.

## Virginia Action Agenda

Virginia should consider the following actions.

Charge and appropriately fund an agency to collect, develop, and distribute 1) current and projected population figures, and 2) environmental, land use, and economic data in support of the needs of state agencies, regional planning commissions, and local governments.

Create a Virginia Commission for the Year 2020 to evaluate and recommend a statewide planning process in support of the Panel's recommendations. This Commission should be inclusive of state, local, and private interests. Briefings of the Panel's findings to local government officials, state boards, the

development community, and the general public should be an integral part of the Commission's activities.

Commission an economic analysis to explore the best combination of actions to fund the Panel's recommended Development and Conservation Funds.

Direct that state funds be expended on infrastructure (e.g., water, sewer, roads) only in locations that support the Panel's suggested development patterns.

Request a detailed assessment of legal barriers to the use of creative, innovative, and cooperative land management techniques, and develop a strategy for eliminating them.

Initiate legislation or regulatory actions, as needed, and a program of incentives and disincentives in support of resource conservation. The program should include waste minimization and recycling -- especially a beverage container deposit and return program -- the reduction of automobile use and increased support for mass transportation, and reduced water and power usage.

Initiate a program to define and map sensitive areas consistent with other Chesapeake Bay wetlands and living resources commitments.

## District of Columbia Action Agenda

The District of Columbia should consider the following actions.

Assign to the Interagency Planning Council the responsibility to evaluate and recommend a District-wide strategy to implement the Panel's recommendations.

Continue to implement the Environmental Protection Policies in the District's Comprehensive Plan.

Implement erosion control measures along streams within the city such as stream bank cleaning and stabilization programs.

Consider constructing a boat ramp at an appropriate location along the Anacostia River to improve boating access.

Increase enforcement of soil erosion controls and construction activities through appropriate permitting processes.

Aggressively implement provisions of D.C. Law 7-33, which outlines several resource recovery initiatives, including yard waste and composting programs, multi-material recycling centers and the identification of environmentally sound methods of sludge disposal.

Fully implement the wetlands conservation plan developed by the city and the National Park Service under the 1986 Emergency Wetlands Protection Act.

## Federal Action Agenda

Control of land use is a state responsibility, but the Federal government must become a strong supporter of their programs. To this end, Federal environmental programs and policies should be specifically directed at preserving environmental quality through research, technical assistance, and, where necessary, regulation.

EPA should examine the available methods useful in quantifying the impacts of growth and the technologies for further controlling emissions and reducing waste generation.

Federal agencies owning and occupying real estate in the watershed should ensure Federal facility conformance with State Comprehensive Development and Infrastructure Plans.

The U.S. Environmental Protection Agency and the U.S. Department of Agriculture should establish a task force to examine ways to integrate programs to protect water quality into Federal agricultural laws and programs. These should have the flexibility to be specifically adopted to the needs of the Chesapeake Bay watershed.

The U.S. Environmental Protection Agency should specifically examine ways to integrate Federal incentives for the protection of environmentally sensitive areas with evolving State efforts.



## For Additional Information:

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Fritts Golden and John Rogers of the firm of Rogers, Golden & Halpern, acted as technical staff for the Year 2020 Panel. In this role, they and their staff organized meetings, facilitated discussion, conducted research, and produced the final report for the 2020 Panel. The Report was developed based on Panel discussions and went through four drafts. Substantial changes were made by the Panel at each stage, until a consensus was reached.