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"Few times in American history have the states, the federal government and citizens' groups developed the potential to work together in such a constructive wav." William Ruckelshaus, Administrator.

Environmental

Protection Agency

n December 7, 8, 9, 1983, seven hundred legislators, administrators, scientists and Bay users met in Fairfax. Virginia to develop an action agenda for Chesapeake Bay. This historic conference was convened by the Governors of Virginia, Maryland and Pennsylvania, the Mayor of the District of Columbia, the Administrator of the Environmental Protection Agency and the Chesapeake Bay Commis-

The conference marked the end of an important phase in the history of the Bay, one characterized by an intense, concerted study conducted by the Environmental Protection Agency, and other important research projects. It marked the beginning of a coordinated, visible political effort to correct problems identified by these studies.

Two things in particular were remarkable about the meeting in December. First, it was quite obvious that there exists a substantive consensus among scientists, government managers and private citizens that the Bay needs remedial attention. In spite of many previous studies, the development of consensus on the state of the Bay is a new phenomenon. Secondly, considerable progress was made toward articulating a policy for the Bay and developing a series of specific actions to achieve that policy. The crown jewel of the conference was the agreement to create a Chesapcake Executive Council that will continue to coordinate regional management efforts in the future.

The purpose of this publication is to describe briefly the events that led up to the conference and the actions announced publicly at the conference. The events of the past several years have been, I believe, truly historic. It would be impossible in such a short report to capture more than the highlights of these events. For that reason, other reports and publications are referenced throughout. Our readers are encouraged to make these reports part of their Chesapeake Bay library, and to refer to them for the detail that is lacking here.

This report is a compilation of the efforts of literally hundreds of people who have devoted their professional careers and their personal time to Chesapeake Bay. There is little here that is original. I acknowledge with gratitude the hard work, the eloquent words and the vision of the many fine people who contributed to making 1983 the "year of the Bay."

> Frances H. Flanigan Editor January, 1984

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INTRODUCTION

e begin 1984 agenda for the with an action Chesapeake laid before us. The creation of that agenda has been part of a lengthy process that included careful assessment of problems and development of alternative solutions. What remains is to implement the agenda that has been devised. Implementation requires the enactment of budgets and legislation, development of timetables and hiring of staff. The course has been mapped. The test will involve the political will to take the first step.

The story of "Choices for the Chesapeake: An Action Agenda" began a long time ago. Man began to change the Chesapeake Bay in the 1600's. From that time, scientists can document the slow evolution of the Bay as it attempted to accommodate itself to the demands of increasing numbers of people living in its drainage basin. Since 1950, the effects of civilization have been dramatically reflected in the Bay. Signs of trouble became hard to ignore, hard to excuse. In the last couple of decades, it has become clear that the resilient Bay cannot do all the accommodating; if it is to survive, we must tailor our actions to its needs.

In 1975, heeding the entreaties of Maryland's Senator Charles Mathias, Congress charged the Environmental Protection Agency to study the Bay. EPA was given \$25 million, told to assess water quality, and to make recommendations to improve management of the Bay. The EPA study of the Bay was certainly not the first; in fact, there was a considerable amount of criticism from people who felt that the Bay had already been studied to death.

The EPA study was, in fact, not repetitive. Despite the

existence of many studies, much data, and a good many experts, substantive questions concerning basic chemical, physical and biological processes in the complex Chesapeake estuary could not be answered by even the most knowledgeable scientist. Understanding of the system was impeded by lack of synoptic, bay-wide data. The significance of pollution relative to weather and natural events was not well understood. Pollution control efforts were designed to reduce discharges to the Bay, but knowledge of what the requirements of a healthy Bay are was quite inadequate. These gaps in our understanding have been addressed to some extent by the EPA Chesapeake Bay Program and other state and federal research efforts.

The EPA study was unique among research programs. For the first time, a serious effort was made to forge a governmental partnership. EPA made a strong commitment to work with the states and the public; the result was a model of

collaborative decision-making that embodied the best notions of federalism and created an atmosphere that enabled an action agenda for the Bay to be created. The Bay Program's Management Committee was the early focus of these efforts. The Management Committee was composed of senior level program managers from the states and EPA. This committee encouraged Secretaries and Governors, legislative leaders and citizens to seriously review the findings of the Bay Program.

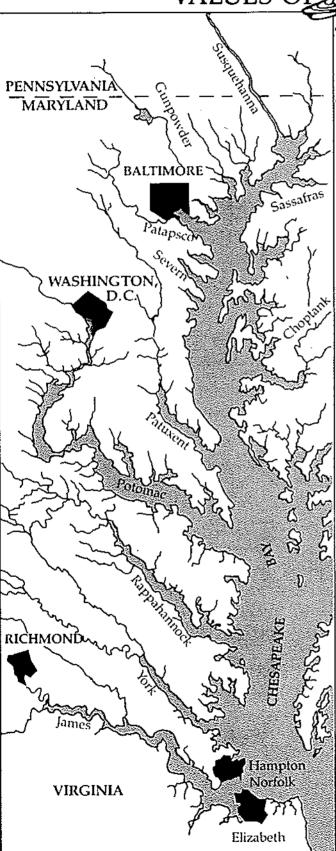
The story of governments and people coming together on the Chesapeake Bay is the subject of this publication. We have witnessed a rare confluence of political leadership, sound scientific information and public support. It appears that one of the nation's natural treasures will be the beneficiary. In his closing remarks at the conference, Governor Harry Hughes captured the spirit of this set of events: "You have told us to save the Bay -- and we will."

"The failure of the Jamestown colony was blamed by its rector, not on the land or on the Bay, but on the people: For want of cooperation. for want of providence, for want of government. Let not future generations say the same of us about the Bay." William Warner

HISTORY OF THE CHESAPEAKE BAY Population Land Use Fields Metal Loads Revolution Civil War WWII 1980

Choices for the Chesapeake

VALUES OF THE BAY



L. Mencken called it a protein factory. National Geographic called it the Queen of Bays. Governor Charles Robb, in remarks made at the Bay Conference, described the Chesapeake this way: "This fragile, graceful, exquisite estuarine world, where man and nature touch as no place else on earth, has accented our language, shaped our values and our culture, and defined many of the qualities that have made our way of life."

What is the Bay? The drowned river basin of the Susquehanna, formed 10,000 years ago as the glaciers of the last ice age retreated, the Bay is a mix of salt water from the Atlantic Ocean and fresh water from the Susquehanna and 150 other rivers and creeks. Salinity ranges from zero at the heads of the tributaries to 35 parts of salt per thousand of water at the Bay's mouth. The bed of the old Susquehanna creates a natural deep channel, but most of the Bay is shallow. In earlier times, the water was clear, allowing light to penetrate easily to plants growing abundantly along the shallow shorelines. The Bay is also big - the largest and most productive estuary in the United States; more than 2700 species of plants and animals inhabit the water, bottom and shoreline.

The Bay produces large quantities of commercially valuable scafood. It is estimated that harvests in recent years have averaged over six hundred million pounds of fish and shellfish per year. Three years ago, the economic impact of this harvest was estimated at \$765,000,000. These products are the most obvious harvest of an enormously complex and interconnected ecosystem. The system depends on energy from the sun, fresh water from the rivers, salt water from the ocean, nutrients and oxygen to

supply the needs of its living inhabitants. Changes in any one component ripple through the system, causing changes elsewhere.

The basic physical, chemical and biological processes of the Bay are well described and illustrated in an EPA publication titled Chesapeake Bay: Introduction to An Ecosystem. Understanding of and respect for the natural processes that occur in the Chesapeake is essential if we are to live on its shores and enjoy its bounty without destroying it.

Other values that the Bay brings to the people of the region and the nation are perhaps more obvious. The ports of Baltimore and Hampton Roads are major U.S. ports. Recreation is a major industry and an important amenity. Shoreline development provides housing to tens of thousands of people and industry located on the Bay and its tributaries is essential to the well-being of the Bay region.

Some of the things we expect from the Bay can be provided with little regard for its biological well-being. Most require that the Bay be biologically healthy.

In his keynote address
Dr. Eugene Cronin, director of
the Chesapeake Research Consortium, expanded on the
theme of the conference, which
was the protection of living
resources. The relationship between water quality and resources was a major theme of
the EPA study that was brought
to fruition at the conference.

Dr. Cronin defined the task of the governments thus: "Collectively, we must reverse the threats and trends of the past, reduce pollution to a tolerable level and assure, as far as is humanly possible, that they will not again exceed the capacities of the Bay system."

Choices for the Chesapeake

THE PROBLEM

m its landmark assessment of water quality and trends in the Chesapeake Bay system, the Environmental Protection Agency documented several serious problems. The EPA study depicted a system that has undergone dramatic changes in the past century; these changes have accelerated since 1950, bringing the system to a seriously deteriorated state.

EPA focused its research efforts on three areas: the loss of submerged aquatic vegetation, increases in toxic chemicals and nutrient enrichment. Study findings were presented in a series of technical papers and three reports entitled Chesapeake Bay Program Technical Studies: A Synthesis; Chesapeake Bay: A Profile of Environmental Change; and Chesapeake Bay: A

Framework for Action. In the last of these reports, EPA summarized its findings thus:

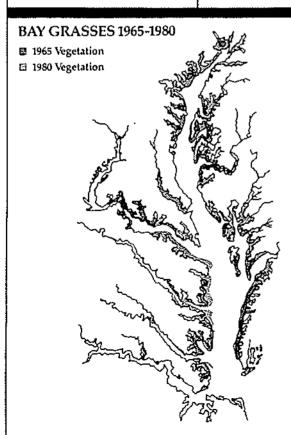
■ In the upper Bay, an increasing number of bluegreen algal or dinoflagellate blooms have been observed in recent years. In fact, cell counts have increased approximately 250-fold since the 1950's. In contrast, the algal populations in the upper Potomac River have recently become more diverse, with the massive bluegreen algal blooms generally disappearing since nutrient controls were imposed in the 1960's and early 1970's in this segment of the Bay watershed.

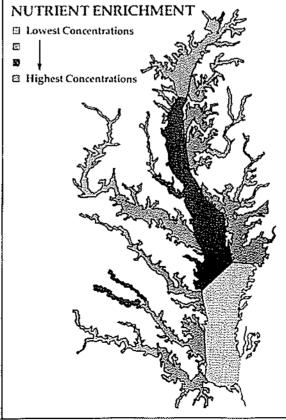
■Since the 1960's, submerged aquatic vegetation has declined in abundance and diversity throughout the Bay. The decline is most dramatic in the upper Bay and western shore tributaries. An analysis over time indicates that the loss has moved progressively downstream, and that present populations are limited primarily to the lower estuary.

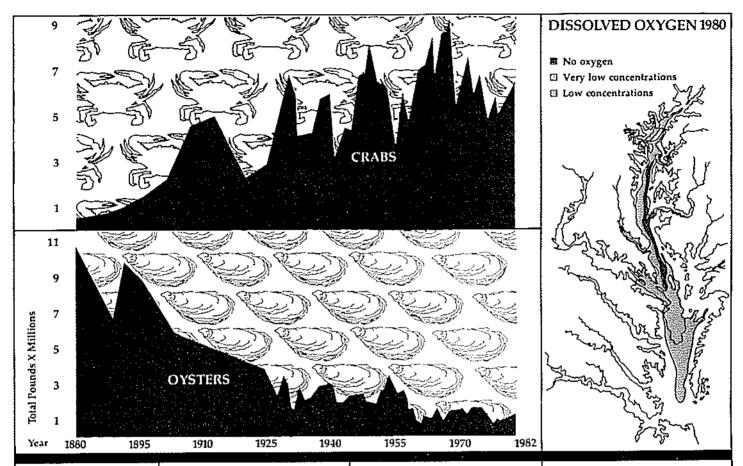
Increasing levels of nutrients are entering many parts of the Bay: the upper reaches of almost all the tributaries are highly enriched with nutrients; lower portions of the tributaries and eastern embayments have moderate concentrations of nutrients; and the lower Bay does not appear to be enriched. Data covering 1950 to 1980 indicate that, in most areas, water quality is degrading, partially because increasing levels of nutrients are entering the waters.

"The federal government needs to make a long-term commitment and to provide strong incentives for the states to move ahead on clean-up efforts."

Rep. Roy Dyson,
Maryland







"At the same time we have been nourished by its spirit, we have been neglectful of its vitality."

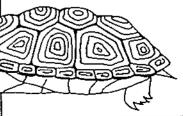
Gov. Charles S. Robb, Virginia ■ Landings of freshwaterspawning fish such as shad and alewife have decreased. Striped bass landings, after increasing through the 1930's and 1940's, have also decreased, especially since 1973. Harvests of marine-spawning fish such as menhaden and bluefish have generally remained stable or increased.

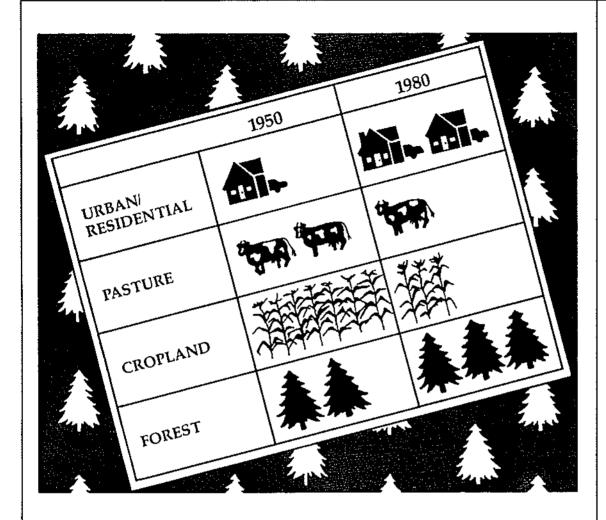
Oyster harvests have also decreased Bay-wide. Oyster spat set has declined significantly in the past 10 years particularly in the upper Bay, western shore tributaries and some Eastern Shore tributaries such as the Chester River. The decline in oyster harvest has been somewhat offset by recent increases in the harvest of blue crabs, which may be due to increased fishing effort. As a result, the Bay-wide landings of shellfish have not changed greatly over the last twenty years. However, overall shellfish harvest for the western shore has decreased significantly during this period.

■The amount of water in the main part of the Bay that has low or no dissolved oxygen has increased about fifteen-fold between 1950 and 1980. Currently, from May through September in an area reaching from the Annapolis Bay Bridge to the Rappahannock River, much of the water deeper than 40 feet has no oxygen and, therefore, is essentially devoid of most life forms. The dissolved oxygen levels in the Bay have been affected by nutrient enrichment. The excessive loads of nutrients that enter the Bay stimulate the growth of extremely large numbers of algae. As the algae die and settle to the bottom, they decay and consume the oxygen that is crucial for Bay organisms such as crabs, oysters and finfish. Although these processes occur

cesses occur naturally in an estuarine system, they appear to have become far more severe in the Bay in recent years as nutrient inputs have increased.

■High concentrations of toxic organic compounds are in the bottom sediments of the main Bay near sources such as industrial facilities. Highest concentrations were found in the Patapsco and Elizabeth Rivers, where several sediment samples contained concentrations exceeding 100 parts per million. These general patterns suggest that many of these toxic substances adsorb to suspended sediment and then accumulate in areas dominated by fine-grained sediments. Benthic organisms located in such areas tend to accumulate the organic compounds in their tissues.





"We have to convince people that actions for the Bay are in their own long-range interest. We have to tell them we are not doing this for the fish, we are doing it for them."

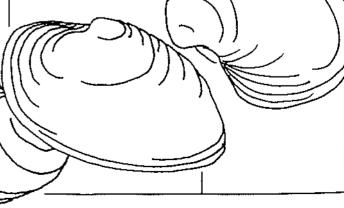
Cpt. Jacques Cousteau

■ Many areas of the Bay have metal concentrations in the water column and sediment that are significantly higher than natural (background) levels. Sediments in the upper Potomac, upper James, small sections of the Rappahannock and York Rivers, and the upper and mid-Bay have high levels of metal contamination. The most contaminated sediments - with concentrations greater than 100 times natural background levels - are in the industrialized Patapsco and Elizabeth Rivers.

In addition to a well-documented assessment of problents, EPA developed a fairly exhaustive inventory of the sources of nutrients and toxics. Mathematical models that replicate the transport of pollutants in the estuarine system were also developed under Bay Program sponsorship. Finally, the study evaluated the options available for mitigating problems. A range of pollution control alternatives were investigated and strategies were ranked according to their technical, economic and political effectiveness and appropriateness.

The EPA study made apparent that the Bay is suffering

the effects of decades of pollution. One of the most striking observations to emerge from the study was that "what goes in stays in." The Bay acts as a sink, collecting and recycling pollutants. The conditions we are observing in the 1980's are the result of the many years of abuse, and they will take a long time to correct.



Choices for the Chesapeake

"In the end, what will sustain this cooperative, voluntary effort is what got it started in the first place, and that is that growing numbers of people in the Bay region will want the effort to be sustained and to succeed."

Sen. Joseph Gartlan, Virginia

commendations for correcting problems defined by the Chesapeake Bay Program have been made by many groups, agencies, committees and individuals. One of the purposes of the conference was to develop a consensus based on the suggested solutions. In the proposals that were put forth for consideration in the year prior to December 1983, certain themes predominated:

- ■Nutrient loads to the Bay need to be reduced;
- ■Toxic chemicals must be prevented from entering the Bay;
- ■Living resources need better protection;
- ■A regional management plan must be developed.

Going into the conference, there existed a rather well articulated consensus that the Bay could and must be saved. The conference was designed to enable the states, EPA, legislatures and the public to choose sets of actions and to develop strategies to accomplish that

EPA draft reports formed the backbone and the starting point for many of the proposed solutions.

The Chesapeake Bay Program's recommendations are presented and discussed in detail in the report entitled Chesapeake Bay: A Framework for Action. In essence, this report says that the following things need to be done if the Bay is to be preserved:

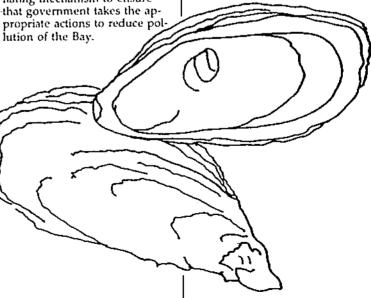
■The states and EPA need to develop a basin wide plan that includes implementation schedules to control nutrients and toxics, from point and non-point sources.

■NPDES permits should take into account Bay program findings on nutrients and toxics, and the limitations established in these permits should be enforced.

- ■EPA and the U.S. Department of Agriculture need to work together to reduce agricultural pollution.
- ■Required pretreatment programs must be implemented.
- Toxicants such as chlorine, herbicides and pesticides must be kept out of the estuary to the maximum extent possible.
- ■Techniques to reduce nutrient loads, such as a limitation on phosphate in detergents and application of conservation practices on farms, should be evaluated and implemented where appropriate.
- ■A bay-wide monitoring plan - based on uniform datagathering techniques and data storage in the Chesapeake Bay computer housed in Annapolis - must be initiated.
- ■The Management Committee should be the coordinating mechanism to ensure

The EPA report contains detailed analyses of loads and sources of nutrients and toxics in each of the major drainage basins in the Bay watershed. Specific recommendations on actions that would most effectively address pollution in each geographic area are made. From the EPA analyses, it became apparent that control strategies must be tailored to the specific problems and conditions in each basin. Bay-wide goals canbe achieved by implementing strategies designed specifically for each basin.

Developing solutions to water quality and resource management problems in a basin as large as the Chesapeake is a complex task. Technical and scientific considerations must be meshed with political and fiscal concerns-Many organizations and individuals have participated in seeking solutions for the Bay. Legislative committees, agricultural task forces, public advisory committees and private conservation organizations and business consortiums put forth suggested plans for the Bay.



The conference sponsors designed a conference process that would enable these fragments to be brought together, compared, and refined into a set of recommendations to which Governors, legislative leaders and the Administrator of EPA could respond.

The conference sponsors convened five workshops: habitat management, land activities, water activities, fisheries management and monitoring. The workshops were each composed of 20-30 individuals who were asked to collectively examine scientific findings and the various recommendations, and to bring to the Governors and legislative leaders policy recommendations to improve the management and enhance the productivity of Chesapeake Bay.

The workshops conducted their work over the summer of 1983, examining the Bay the way a manager or decision-maker might view it. They looked at the water, at the living creatures, and at the land and water activities that affect those living resources. They examined existing programs and policies, laws and regulations, and attempted to suggest how to more effectively structure them to meet the needs of the Bay.

Chairmen and committee members were chosen because of their knowledge and experience. They represented the scientific community, government, academia, business and industry, agriculture and public interest groups. Members came from Maryland, Virginia and Pennsylvania. Some members had previously

served on such

advisory groups as the Citizens Steering Committee and the Resource Users Management Team. All were highly qualified to provide policy guidance to decision-makers.

Their recommendations represent their best professional judgment on what actions are necessary and appropriate for government, in view of new scientific information on the condition of Chesapeake Bay.

They represent the collective wisdom of small, informed groups of people who were charged to provide advice on what ought to be done to preserve the Bay. The five workshop reports were collated into a single document titled Choices for the Chesapeake: An Action Agenda—A Report to Conference Sponsors. This report was formally transmitted to the sponsors in October, and was also widely circulated among the public.

"This conference is testimony to the new spirit of cooperation among the states. There should be rejoicing from Hampton Roads to the Susquehanna flats."

Sen. Charles Mathias.

Sen. Charles Mathias Maryland

SOLUTIONS: HABITAT

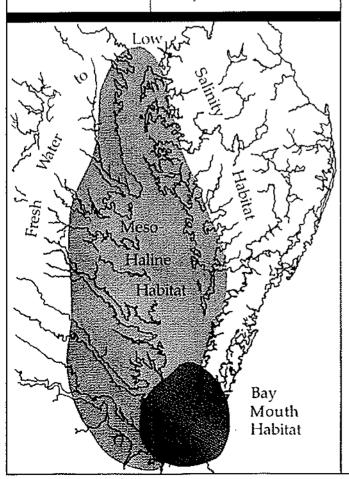
"The Chesapeake, more than most bodies of water, is a people's Bay. Its survival is up to all of us."

William Ruckelshaus

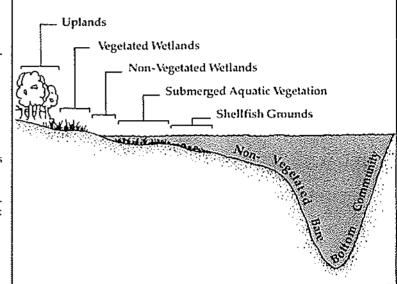
The habitat workshop was chaired by Dr. Joseph Mihursky, University of Maryland, and Mr. Norman Larsen, Virginia Marine Resources Commission. The committee was asked to define and describe the major Bay habitats, determine their status, particularly in terms of conflicts or problems associated with the well-being of these habitats, and finally, make recommendations to protect and enhance the habitats that collectively make

up the Chesapeake Bay system. Eight habitats were defined:

- 1. vegetated wetlands
- 2. non-vegetated wetlands
- 3. submerged aquatic vegetation zone
- 4. shellfish grounds
- 5. bare bottoms
- 6. fresh and low salinity zone
- 7. mesohaline zone
- 8. bay mouth



VERTICAL HABITATS



Each makes a unique contribution to the diverse and complex Chesapeake. The habitat workshop concluded that virtually all the Bay habitats had experienced some environmental stress; some are fairly well-protected, such as wetlands; others require attention if their habitat values are to be preserved.

The workshop made five major recommendations concerning protection of habitat:

- Develop policy declarations that recognize population growth as a serious problem that historically has caused progressive stress on natural systems through habitat degradation. Minimize the impact of population increases by guiding growth through local planning programs.
- Institute nutrient management strategies to protect the Bay by implementing phosphorus control plans for all major drainages. Implement nitrogen removal programs in watersheds where point source nitrogen discharges dominate; use sub-systems, such as the Patuxent River watershed, as model systems to evaluate the effects of nutrient removal strategies upon water quality and

living resources.

- Require best management practices in all major Chesapeake Bay watersheds to reduce the rapidity of runoff and the release of nutrients and sediment. These practices should include requiring stormwater retention programs, eliminating combined stormwater and sewer systems, correcting infiltration and inflow problems, requiring best management practices on farms to reduce sediment and chemical loss, controlling wastes from feedlots, and maintaining vegetated buffers along shorelines.
- ■Identify point sources of toxics and initiate appropriate controls. These should include pretreatment programs for industrial wastes and the development of standards for toxic compounds that are based on the requirements of the living resources.
- Pursue a conservative policy toward alterations of freshwater inflow. This should be done by maintaining the seasonal pattern of freshwater flows, deferring upstream diversions, eliminating stream channelization and restricting interbasin transfers of water.

SOLUTIONS: LAND ACTIVITIES

he land activities workshop was chaired by Mr. Robert McGarry, Unified Industries, Inc. and Mr. Davidson I. Gill. Remlik Hall Farm. The committee reviewed the findings of the Chesapeake Bay Program and concurred with the conclusion that nutrient loads to the Bay are excessive. The workshop report includes specific recommendations for each major tributary to reduce nutrient loads, as well as the following series of recommendations meant to apply Baywide

LAND USE

Land use was recognized as central to the well-being of the Bay. Population growth has caused shifts from environmentally beneficial uses to less desirable and more polluting uses such as urban development, which increases wastewater flows and surface runoff. Consequently, the land activities committee recommended the states develop comprehensive strategies that would limit the increases in pollutant loadings associated with growth and land conver-

AGRICULTURE

Agriculture is a major contributor of nutrients and sediments, because of the large acreage in the basin, even though it produces less pollution per acre than other land uses.

The committee recommended that the states require conservation plans be developed and implemented on every farm in the basin by a reasonable date in the near future. Government-owned land should have appropriate best management practices (BMP's) in place. Applied research on nutrient movement is needed. Increased funding for BMP's, especially in target areas such as the Mason-Dixon erosion control area, should be made available. If voluntary efforts

fail to achieve significant reduction in nutrient loadings, soil erosion, and animal waste control, mandatory requirements should be implemented. The first step to a mandatory program should be cross-compliance, which means that failure to comply with a conservation plan would result in forfeit of other government subsidies.

NUTRIENT LOADS

The major policy recommendation of this committee is that the Bay states should adopt annual maximum nutrient loads for each tributary. The goal should be reduction of phosphorus loads and maintenance of nitrogen loads at 1980 levels.

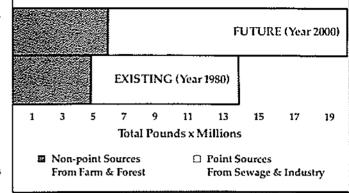
The concept of establishing maximum loads implies that as wastewater flows or other sources increase, additional treatment measures must be implemented. Target loads need to be established, even though knowledge is imprecise; targets can be modified, as research or experience dictates, to achieve nutrient reductions. The committee strongly endorsed land treatment, revision of EPA policies concerning funding for nutrient removal, and stronger agricultural programs.

Achieving nutrient reductions will take time. To realize some immediate improvements, the committee recommended that the states enact legislation banning phosphates in detergent (no more than 0.5% by weight). The EPA study estimated a basin wide phosphorus reduction of 11% would result; in some tributaries, the reduction would be greater.

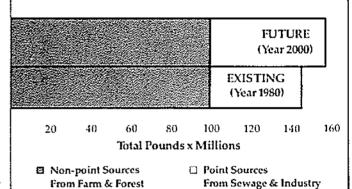
TOXICS

To reduce toxics, the land activities committee recommended that all sewage treatment plants in the basin be in compliance with pretreatment requirements by June 1985. Discharge permits should be reviewed and the requirement

BAY-WIDE PHOSPHORUS LOADS



BAY-WIDE NITROGEN LOADS



for "best available technology" should be enforced. Chlorine control strategies for each basin should be developed. Biological and chemical data must be collected, stored and analyzed so that future toxics problems can

be avoided.

SEDIMENT
Sediment control and stormwater management also need

to be dealt with on a Bay-wide basis. Programs for these sources of non-point pollution need to be strengthened and enforced.

WATER

Finally, the land activities committee recommended that the states adopt measures to reduce water usage, through plumbing codes, rate structures and education. A water conservation policy should be part of state efforts to restore the Bay.

"The compelling need now is to address non-point source pollution." William Scranton, Lt. Gov., Pa.

SOLUTIONS: WATER ACTIVITIES

"For us, the great he water activities worktional boats and the impacts of Chesapeake is shop was chaired by Dr. boat wastes on shellfish grow-Maurice P. Lynch, Virginia Institute of Marine Science, and more than a bay, ing areas. They recommended: The states should estabmore even than Mr. William J. Detweiler, Steamlish "no-discharge" areas for a priceless natship Trade Association of Baltirecreational boats, within the more. To keep its discussions ural wondercontext of new regulations to within the context and theme deal with boat wastes. it has carried us of the conference (protection Demonstration projects along as a river of living resources), the workshould be designed to look at shop committee decided to through time." the feasibility of handling recrefocus on three issues: vessel Gov. Charles S. Robb, ational boat wastes in small discharge management; water Virginia municipal and private sewage access management; and treatment plants. dredged material management. WATER ACCESS Each of these areas can potentially affect living resources MANAGEMENT and has associated with it seri-In the water access manous management problems. One agement area, the committee of the principal recommendafocused on questions related to tions of the workshop was that the siting of marinas and boat areas not adequately or only ramps, and the need to conperipherally addressed by the sider the impacts of land use EPA study, such as these three, decisions on water use activibe the primary focus of future ties. Recommendations included: federal and state-sponsored Local jurisdictions should research. be required, by July 1, 1986, to incorporate water use activities VESSEL DISCHARGE into their comprehensive land MANAGEMENT use planning process. Vessel discharge manage-As a part of their Chesament included discussions of peake Bay Initiatives, the states questions related to marine should provide cost-share assanitation devices on recreasistance to localities for the

adoption and implementation of the above recommendation.

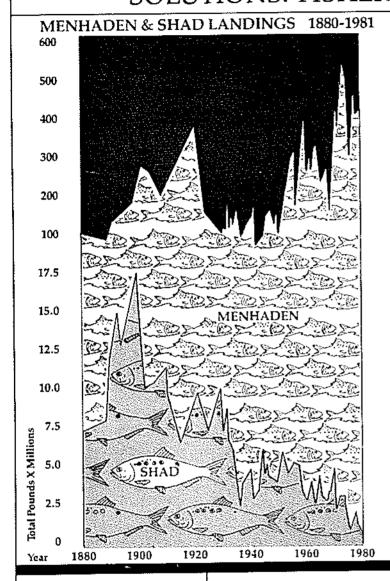
- Consideration should be given to the concept of a Baywide waterway use authority or to the establishment of some type of Bay-wide waterway use zoning guidelines.
- Both states should expand existing education and public relations efforts concerning water use activities.

DREDGED MATERIAL MANAGEMENT

The workshop made recommendations on dredged material management based on the assumption that dredging is necessary now and will continue to be in the future. The workshop urged the states to improve the enforcement of erosion and sediment control laws, and to address dredging issues from a long term perspective. Specific recommendations on dredging included:

- Identify suitable sites for types of dredged material.
- Increased attention should be focused on the potentially beneficial uses of dredged material within the Chesapeake Bay system.
- Developments concerning the applicability of the Resource Conservation and Recovery Act (RCRA) to dredging activities should be closely monitored by both states and any arbitrary or blanket designation of bottom sediments as "hazardous wastes" under the provisions of this Act should be rigorously opposed.
- Management agencies on the Bay should continue to work closely with the U.S. Army Corps of Engineers in coordinating research that addresses dredged material management.
- ■The Governors should urge that dredging technology and equipment be exempted from the "buy American" provisions of the Jones Act, which excludes foreign technologies more advanced than ours.

SOLUTIONS: FISHERIES MANAGEMENT



he fisheries management workshop was chaired by Dr. George Krantz, Maryland Department of Natural Resources, and Mr. William Pruitt, Virginia Marine Resources Commission. The committee discussed and made recommendations on fisheries management goals and policies, the structure of existing institutions, the status and value of commercial and recreational fisheries, the roles of the legislative and administrative processes in fisheries management, and the biological, economic and social aspects of fisheries management.

The workshop made five major recommendations to improve fisheries management:

stating that the living resources of the Chesapeake Bay are dependent on the management of the total ecosystem, the improvement of the Bay habitat, and the protection of today's living resources from overharvest, must be articulated.

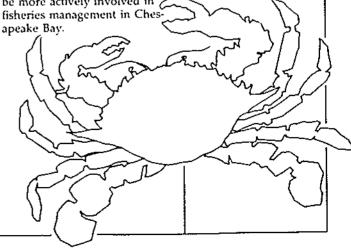
■ Harvest pressure on fish stocks must be immediately reduced, especially for the striped bass.

■ Management plans for each commerically and recreationally important species need to be developed. These plans should follow the guidelines set forth in the Magnuson Fishery Conservation and Management Act of 1976. Funds to develop species-specific management plans must be made available, as well as funds to support the collection of adequate data on fisheries.

■ Management of fisheries resources should be placed in the appropriate state administrative agencies, which should be given the authority, flexibility and responsibility to manage under careful legislative guidance and oversight.

Existing management institutions should be more fully utilized. In particular, the Atlantic States Marine Fisheries Commission and the Chesapeake Bay Commission should be more actively involved in fisheries management in Chesapeake Bay. "The District borders on the Bay's most important fresh water spawning grounds. We intend to manage this resource in a coordinated effort with our neighbor states of Maryland and Virginia."

Mayor Marion Barry, District of Columbia



SOLUTIONS: MONITORING

"Ultimately it is the citizens of these states—the major beneficiaries of a healthy bay-who must be prepared to assume primary responsibility for protecting their own interests."

William Ruckelshaus

he monitoring workshop was chaired by Dr. Tudor Davies and Mr. Orterio Villa. both of the Environmental Protection Agency. The monitoring committee was charged with the task of developing an implementable strategy for continued monitoring of Chesapeake Bay. This plan was to be based on the work done by the Chesapeake Bay Program and presented in the program's

final report. The committee

> defined monitoring as the process that

result in the ability to set standards to protect important living resources.

The workshop agreed on the need for monitoring to produce accurate data and to determine the natural variability in the system. An important reason

to monitor

evaluate submerged aquatic vegetation distribution and abundance;

Develop information on diseases and predators, particularly for shellfish;

Insure collection of compatible bi-state fisheries and shellfish population dynamics and harvest statistics. Begin collecting such data on a tributary-specific basis for future fisheries management plans;

Include in the framework for monitoring special studies that will help derive correlations among habitat and water quality variables and important biological species with defined statistical significance.

the interactions between many individual components of the

total ecosystem.

An ideal monitoring program for the Chesapeake Bay would provide information on which substances are released to the estuarine environment by which routes and in what quantities, how they subsequently behave, which organisms are at risk and at what stage of their life cycle, and whether public health is threatened. This knowledge would

is to determine the effectiveness of efforts being made to control pollutants.

The workshop made the following recommendations to conference sponsors:

Design and implementation, by the states and federal government, of a coordinated program of Bay-wide monitoring and research by July 1, 1984;

■Develop chemical "fingerprints" of industrial and municipal effluents using gas chromatography and mass spectroscopy;

Conduct yearly aerial mapping and field surveys to

ic reports and recommendations of the workshops formed the "working papers" for the conference. In preparing for the meeting, staff held many working sessions to develop responses to these recommendations. Draft sets of state administrative "initiatives" as well as proposals prepared by the Chesapeake Bay Commission, the Environmental Matters Committee of the Maryland General Assembly and others circulated before the conference. The result was extraordinary: seven hundred conference participants representing the full range of interests and authorities in the Bay states came together in Fairfax with as complete a set of background information and suggested solutions as had ever been assembled on Chesapeake Bay. The result was "An Action Agenda for Chesapeake Bay.

The Student Union at George Mason was alive with expectation as state troopers escorted the Governors to the auditorium for the opening of what had been billed as a Bay "summit meeting." Sharing the platform with Governor Charles Robb of Virginia and Governor Harry Hughes of Maryland were Planning Secretary Frank Wright of Pennsylvania; Mayor Marion Barry of the District of Columbia; Senator Joseph V. Gartlan, Jr. of Virginia, chairman of the Chesapeake Bay Commission; Delegate Thomas Rymer of Maryland, representing the Commission; and Thomas P. Eichler, Regional Administrator, Environmental Protection Agency.

Governor Robb set the tone for the conference by saying, "The time for study is now over. It is time to start acting." In welcoming remarks, each host spoke of the need to get on with the job of restoring the Bay, While their words had been heard before, their pres-



Mayor Marion Barry, Governor Harry Hughes, EPA Administrator William Ruckelshaus, Lt. Governor William Scranton, Governor Charles Robb, Senator

ence together on the stage set the tone for the summit meeting. They said, in essence, that it is time to act, and we must

act together.

Highlighting the ceremonial conference opening was the presentation of an award to Senator Charles Mathias, Mathias, father of the EPA study and a long-time Bay champion in Congress, was presented a hand-carved half model of a Chesapeake bugeye. The award was made on behalf of the people of the Chesapeake Bay, in recognition of the Senator's leadership and dedication to the cause of preserving Chesapeake Bay. Godfrey Rockefeller, chairman of the Board of Trustees of the Chesapeake Bay Foundation and Cranston Morgan, chairman of the Board of Directors of the Citizens Program for the Chesapeake Bay, made the presentation. Senator Mathias was greeted with a standing ovation.



Senator Charles McC. Mathias, Md.

The remainder of the first day of the conference was devoted to summary presentations of the EPA study and the recommendations made by the five workshop committees. These have been described briefly earlier in this report.

At the end of the opening day, conferees also got a firsthand look at the federal perspective on the Bay. Virginia's Senator John Warner introduced the two key sponsors of legislation designed to include Chesapeake Bay in the Clean Water Act and provide funds for cost-sharing with the states on clean-up efforts.

Senator John H. Chafee of Rhode Island spoke about the prospect of federal funding for the Bay. He urged the states not to wait for federal dollars but to move ahead to demonstrate their collective commitment to restore the Bay. He encouraged conference attendees to lobby vigorously for passage of his proposed amendment to the Clean Water Act.

Congressman Royden P. Dyson of Maryland, sponsor of a similar bill in the House of Representatives spoke eloquently of the need for federal support for the Bay. Dyson's bill to provide long-term federal incentives to the states has been co-sponsored by 68 members of Congress, including most of the representatives from Pennsylvania, Maryland and Virginia. Action on these amendments is anticipated in the current Congress.

"We must at this conference write the sequel to Michener's Chesapeake, and it must be a good one."

Sen. Paul Sarbanes, Maryland





Senator John Warner, Va.



"You must say,
'This is what we
can do today.'"

Cpt. Jacques Cousteau

The opening day of the conference concluded with a dinner address by Captain Jacques Y. Cousteau.

Cousteau came to inspire participants to get about the task of saving the Bay. Dr. Betty J. Diener, Secretary of Commerce and Resources in Virginia, introduced Captain Cousteau as a man of vision, one who reminds us of the debt we owe to the waters of the earth and of the obligation we have to respect those waters.

Cousteau acknowledged that he is a newcomer to the Bay. He related some of his experiences in the Mediterranean, where joint governmental efforts to clean up that body of water have produced few results. He entreated his audience to take the first step. to do something now and not to be overwhelmed by the apparent enormity of the task. He said the Bay has not yet reached its biological breaking point - action now can prevent that from ever happening. Support for the long-term, expensive actions must come, he said, by convincing people that such actions are not for the fish, but for ourselves.

On Thursday, December 8, conferees were asked to evaluate the recommended solutions proposed by the pre-conference workshops and other groups. The task given to conference participants was to write a message to decision-makers concerning Chesapeake Bay.

Individuals were randomly divided into eight groups; each group was further subdivided into five parts. The eight groups





had trained moderators and recorders from the Leagues of Women Voters in Virginia, Maryland and Pennsylvania and from state agencies. Worksheets to guide group discussions were included in the conference packet. The proposed solutions were divided into five categories: a) resources enhancement; b) toxics; c) nutrient problems from point sources; d) nutrient problems from non-point sources; and e) land management.

Instructions for the discussion groups were prepared by Lew Frees of Interaction, Inc. Each small group had 10-12 participants, which allowed everyone to express his or her views in an informal way. The morning was spent developing messages in each of the five areas within each group. Newsprint and magic markers were used to record each small group's views. In the afternoon, the five groups within each room came together to share their "messages" with each other and to prepare final reports to send to the full conference. In this way, people who had spent the morning discussing resources or nutrients had the opportunity to comment on toxics and land management ideas. The objective was not to develop consensus, but to record accurately what the members of each group believed about their subject area.

At the end of the day, representatives of each of the five subgroups within each group came together to prepare a consolidated report. The product was a press release that listed the priorities of

conferees on resources, nutrients, toxics and land management. This summary was provided to staff of each of the sponsors in preparation for Friday.

The discussion groups concurred with many of the recommendations already presented. People discussing resources enhancement urged conference sponsors to develop and implement a policy on living resources based on the recommendations of the habitat and fisheries committees, with special emphasis on the creation of management plans for each important species. Recommendations on toxics included stringent enforcement of existing laws, implementation of pretreatment requirements, biomonitoring, permit fees and exploration of other innovative sources of funding.

Conferees agreed that nutrient problems are severe and actions need to be taken to reduce the volume of nitrogen and phosphorus reaching the Bay. To achieve this, an effluent limitation goal of 1 milligram per liter should be established. A ban on phosphatecontaining detergents should be instituted, to be reviewed in three years. Strategies to reduce nutrients should be developed with conservation plans on a basin-by-basin basis, focusing on voluntary compliance by the agricultural community. Additional funding must be provided to address nutrient problems.

To improve management of land as a means of reducing the toxics, nutrients and sediments that pollute the Bay, conferees urged that public agencies develop criteria for land use planning that respect the needs of the Bay. They recommended that dedicated revenue sources such as user fees and excise taxes be developed to pay for Bay clean-up programs, and they stressed the need for a Bay-wide coordinating group and for public education.

Detailed summaries of the group discussions have been prepared to provide additional guidance to conference sponsors.

Thursday's intense discussions were punctuated by a stimulating luncheon address given by William Warner, Pulitzer Prize-winning author of Beautiful Swimmers. Warner spoke of his long interest in the Bay's fishermen — the "watermen" — and of the role they play in the politics of the Bay. He referred to the watermen's tenet of faith: if you make an effort, sooner or later the Bay will provide you with a harvest.

The decline of these harvests suggests that we need to do a number of things, according to Warner. The first is to penalize polluters; the second is to collect more and better fisheries data; the third is to convince people far from the Bay that they have a stake in protecting the Bay. Warner said that "if there is anywhere in the United States where we need a saltwater fishing license to pay for fisheries management, it's the Chesapeake Bay."

Seafood delicacies of all sorts were spread on buffet tables Thursday evening. Entertainment was provided by Tom Wisner, who sang about the Bay and was joined by storyteller Alex Kellum, a retired skipjack captain. The audience joined the singing and experienced another dimension of the Chesapeake.



Secretary of Commerce and Resources Betty Diener, Governor Charles Robb, Secretary of Natural Resources Torrey Brown, Governor Harry Hughes, Secretary of Environmental Resources Nicholas DeBenedictis, Lt. Governor William Scranton.



Jacques Cousteau, Governor Harry Hughes, Speaker of the House of Delegates Benjamin Cardin, Secretary Torrey Brown.



Virginia Delegate Gladys Keeting, Governor Charles Robb, Jacques Cousteau.



Virginia's Secretary Betty Diener and Delegate Robert Bloxom,



Senator John Chafee, RI



Congressman Roy Dyson, Md.



EPA Regional Administrator Thomas Eichler.



William Warner.



John S. Gottschalk, President of the Citizens Program for the Chesapeake Bay.

Choices for the Chesapeake COMMITMENTS

"In Maryland, we will not relent in our pursuit of this goal. Posterity will know that our responsibility was not shirked, our resolve not mitigated, our intent not weakened."

Gov. Harry Hughes

On December 9, 1983, conference sponsors announced their action agendas for the Bay. Each official pledged to move forward with programs to restore the Bay. Put aside was the debate over "how much," "who first," and "why now," as states in the basin joined with the federal government in a display of unity not seen before. A joint statement setting forth goals for the Bay was issued. That statement read in part:

"We, the sponsors of this Conference, launch today a historic joint initiative for the protection and enhancement of the Chesapeake Bay and its living resources. As citizens of the Bay region, we recognize and value the many ways in which the Bay has enriched our lives. At the same time, we recognize that the health and productivity of the Bay are declining as a result of human activities on land and water. We are determined to reverse

this trend. Toward this end, we pledge to work together to ensure the long-term vitality of this important natural resource. We hope that in the future history of the Bay, today will be remembered as the milestone which marks the beginning of a greatly expanded regional alliance in Bay-wide management.

"In this new era of Bay management, we set forth these as our goals:

- ■To improve and protect the water quality and living resources of the Bay system.
- ■To accommodate growth in an environmentally sound manner.
- To assure a continuing process of public input and participation on regional issues of Bay management.
- To support and enhance a regional cooperative approach toward Bay management.

'To achieve these goals we have executed the Chesapeake

Bay Agreement of 1983, which establishes the management mechanisms that will help us translate our words today into actions tomorrow. The Agreement recognizes that effective Bay management will only be achieved if there is a continued involvement and commitment of both the governments and the peoples of the Bay region.

"The commitments we have made today to regional cooperation and to our individual initiatives are real. We will need the support and encouragement of all our citizens. We must recognize, however, that as long as there are people in the Bay region, there will be adverse impacts on the Bay. Therefore we must all work together with a sustained long-term commitment to minimize those impacts."

The centerpiece of the commitments made by the sponsors was the "Chesapeake Bay Agreement of 1983." This document, reproduced here, commits the signatories to work together to implement coordinated plans to improve and protect the water quality and living resources of the Chesapeake Bay estuarine system. The agreement created a Chesapeake Executive Council composed of cabinet members designated by the Governors and the Regional Administrator of EPA. The Council will be supported by a staff-level implementation committee and by an EPA-sponsored liaison office located in Annapolis. The Council will meet at least twice a

Topping the lists of actions pledged by the states were a variety of measures to reduce nutrient loads to the Bay. Officials also agreed that increased state funding, coordinated monitoring programs, decreases in toxic chemicals and better management of living resources must be priorities.

The Chesapeake Bay Agreement of 1983

We recognize that the findings of the Chesapeake Bay Program have shown an historical decline in the living resources of the Chesapeake Bay and that a cooperative approach is needed among the Environmental Protection Agency (EPA), the State of Maryland, the Commonwealths of Pennsylvania and Virginia, and the District of Columbia (the States) to fully address the extent, complexity, and sources of pollutants entering the Bay. We further recognize that EPA and the States share the responsibility for management decisions and rescources regarding the high priority issues of the Chesapeake Bay. Accordingly, the States and EPA agree to the following actions:

- 1. A Chesapeake Executive Council will be established which will meet at least twice yearly to assess and oversee the implementation of coordinated plans to improve and protect the water quality and living resources of the Chesapeake Bay estuarine system. The Council will consist of the appropriate Cabinet designees of the Governors and the Mayor of the District of Columbia and the Regional Administrator of EPA. The Council will be initially chaired by EPA and will report annually to the signatories of this Agreement.
- 2. The Chesapeake Executive Council will establish an implementation committee of agency representatives who will meet as needed to coordinate technical matters and to coordinate the development and evaluation of management plans. The Council may appoint such ex officio nonvoting members as deemed appropriate.
- 3. A liaison office for Chesapeake Bay activities will be established at EPA's Central Regional Laboratory in Annapolis, Maryland, to advise and support the Council and committee.

WHAT WILL THE STATES DO?

MARYLAND

Governor Harry Hughes laid out an ambitious program designed to restore the Bay to the condition that existed a generation ago. He proposed that Maryland initiate a set of actions that include capital expenditures, increases in the staff and operating budgets of Bay agencies and new legislation. He suggested that the job will take two decades and proposed that Maryland begin by:

- tripling the state's share of federallysupported sewage treatment improvements;
- funding dechlorination throughout the state;
- implementing conservation plans on all farms in critical areas within 5 years;
- establishing a critical areas commission to control shoreline development;
- protecting non-tidal wetlands;
- arresting the loss of forest lands;
- implementing pretreatment programs;
- computerizing inspection and monitoring data;
- centralizing and enforcing the sediment control program;
- developing management plans for major fish species;
- tripling the shore erosion program;
- restoring oyster and finfish populations;
- building a hatchery for black ducks;
- expanding education programs for students.



VIRGINIA

Governor Charles S. Robb proposed to make the Bay an important state budget item for at least the next decade. Governor Robb pledged to include funds in his budget that constitute what he called a down payment on the future. He defined a program that will begin with constructive first steps in this biennium to be followed by more ambitious and expensive programs. Robb's initiatives for the 1984-86 biennium would improve the Bay by:

- assisting the agricultural community to prevent erosion;
- reducing urban runoff through grants to local governments for staff and for demonstration projects;
- correcting infiltration and inflow problems in old sewer lines;
- installing new systems to replace failing septic systems;
- reducing chlorine and substituting other disinfectants;
- replanting bay grasses;
- monitoring toxic chemicals;
- expanding public education programs;
- miproving fisheries data;
- developing fisheries management
- establishing an administrative tracking system to coordinate in-state programs and monitor their effectiveness.



PENNSYLVANIA

Calling Pennsylvania a "good neighbor," Lieutenant Governor William W. Scranton III announced a plan to reduce Pennsylvania's non-point pollution. The Pennsylvania legislature will appropriate funds, to be matched with federal dollars, that will enable the state to contribute to the Bay clean-up. Efforts will be concentrated in the lower Susquehanna and will reduce Pennsylvania's impact on the upper Bay by:

- increasing the financial assistance available to farmers to implement best management practices;
- providing additional technical staff to accelerate BMP programs;
- conducting an education program that includes the Farmer's Association, the Grange and the Farmers Union;
- developing a pilot program on manure marketing;
- creating a community methane digestion system from animal wastes;
- funding research on nutrient and pesticide loss from no-till farms;
- implementing the Mason-Dixon Erosion Control project.



DISTRICT OF COLUMBIA

Mayor Marion Barry of the District of Columbia spoke about Washington's efforts to clean up the Potomac River — "the nation's river" and talked about what he proposes for the future:

- continuing the Potomac Strategy to develop equitable, technically sound wastewater treatment agreements;
- seeking passage of a Water Pollution Control Act for the District of Columbia;
- correcting erosion and sewer overflow problems in the Anacostia River, in conjunction with Maryland;
- improving erosion and stormwater controls for new developments in the city;
- coordinating Potomac monitoring with the states and EPA;
- designing and implementing dechlorination facilities at Blue Plains;
- changing sewer rate structures to reflect users' pollutant loads;
- developing a fisheries management program.



CHESAPEAKE BAY COMMISSION

Senator Joseph V. Gartlan, Jr., chairman of the Chesapeake Bay Commission, presented the recommendations the commission will make to the the General Assemblies of Maryland and Virginia. Saying that the "critical, essential element in the equation is political leadership," Senator Gartlan listed actions the Commission supports and will sponsor:

- encouraging Congress to amend the Clean Water Act to provide funds for restoration of Chesapeake Bay;
- urging adoption of a national program to address urban and agricultural non-point sources of pollution;
- inviting participation in Commission proceedings by the Pennsylvania legislature;
- providing a periodic forum for evaluation of legislative and budgetary measures proposed by the conference and implemented by the General Assemblies;
- taking a leadership role in working for passage of specific proposals adopted by the Commission in November 1983.

At that time the Commission supported actions that would improve fisheries management, upgrade erosion control programs, encourage more sensitive land development, reduce toxics and nutrients, and create a permanent management structure.



ENVIRONMENTAL PROTECTION AGENCY

William D. Ruckelshaus, Administrator of the Environmental Protection Agency, came to the conference, as he said, "without his checkbook." He did, however, offer that he was "cautiously optimistic" about the possibility of additional federal dollars being committed to the Bay cleanup effort in 1985 and beyond. He assured conferees that EPA remains firm in its intent to support the joint effort to clean up the Bay. Administrator Ruckelshaus cited EPA's plans to spend \$163 million in 1984 in the Bay states for sewage construction grants, and \$15 million to support state water quality programs. In addition, EPA will participate in the cleanup program by:

- targeting \$4.2 million in 1984 to support the liaison office, monitoring, public participation and state cost-sharing;
- initiating a toxics program in Baltimore harbor (one of three such efforts in the U.S.) to investigate solutions to toxics problems;
- coordinating federal activities, including those within the Department of Agriculture, which affect Chesapeake Bay;
- providing technical assistance;
- coordinating further development of the Chesapeake data base;
- chairing the Chesapeake Executive Council.





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