



**THE SECOND BIENNIAL
PROGRESS REPORT**
OF THE
*Agreement of Federal Agencies
on Ecosystem Management
in the Chesapeake Bay*



Chesapeake Bay Program

U.S. Environmental Protection Agency
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**The Chesapeake Bay Program's Federal Agencies Committee
APRIL 1997**

This is the second biennial report of the progress made by Federal agencies on the commitments made in the *Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay*, which was signed on July 14, 1994. It was prepared by the U.S. Environmental Protection Agency's Chesapeake Bay Program Office in cooperation with the Federal signatory agencies to the *Agreement*.

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PROLOGUE

THE ROLE OF THE FEDERAL GOVERNMENT IN THE CHESAPEAKE BAY PROGRAM

THE CHESAPEAKE BAY PROGRAM

The Chesapeake Bay Program (CBP), established in 1983 by the signing of the *Chesapeake Bay Agreement*, is a unique voluntary partnership between Pennsylvania, Maryland, Virginia, the District of Columbia, the tri-state legislative Chesapeake Bay Commission, and the U.S. Environmental Protection Agency (EPA) representing the Federal government. One of the nation's premier ecosystem restoration and management efforts, the Chesapeake Bay Program focuses on North America's largest estuary and its watershed and airshed.

The Chesapeake Bay is approximately 200 miles long and varies in width between five and twenty-five miles. Its watershed comprises 64,000 square miles and stretches from Cooperstown, NY, in the north, to Norfolk, VA, in the south, where the Bay meets the Atlantic Ocean. It includes some of America's most scenic and historic rivers, including the Susquehanna, Potomac, James, York, and Rappahannock. The estuary, whose name derives from a Native American word meaning "great shellfish waters," is well known for its historically abundant and socio-economically significant production of fish and shellfish and for its beauty and recreational pleasures.

The Chesapeake Bay Program relies on wide public support of its goals in carrying out its multi-faceted missions; it employs methods that go beyond environmental laws and regulations by stressing voluntary compliance, strong commitments, and measurable goals. The Program addresses:

- the prevention and abatement of pollution;
- the conservation and restoration of habitat, fish and wildlife;
- the enhancement of public access to the Bay and its tributaries;
- public education; and
- the overall health of the Bay and its watershed.

Federal agencies play a major role as partners in the Bay Program. As the lead Federal representative to the Program and a signatory to the *Chesapeake Bay Agreement*, the EPA

Administrator represents all Federal agencies and serves on the Chesapeake Executive Council along with the other five signatories—the governors of Maryland, Pennsylvania, and Virginia; the mayor of the District of Columbia; and the chair of the Chesapeake Bay Commission. The Executive Council meets annually to assess programs, set new goals, and reaffirm existing goals and commitments of the Bay Program. In the past, implementation of most of the goals and commitments of the Program has been carried out by the states and the District of Columbia on non-Federal lands in the Bay's watershed.

THE FEDERAL AGENCIES COMMITTEE

The Bay Program's Federal Agencies Committee was formed in 1984 and meets regularly to share information among the participating agencies, provide advice and assist with the implementation of goals and commitments of the Chesapeake Bay Program. In 1993, the Committee created two work groups—the Nutrient Reduction Work Group and the Habitat Restoration Work Group—for the primary purpose of implementing the Bay Program's commitments on the nearly 1.6 million acres of Federally-owned lands within the watershed. In 1995, the Committee created the Research Coordination Work Group and, in 1996, the Federal Land Stewardship Work Group. Further, in 1995, the Committee established the Data/GIS Workgroup, which has subsequently been reorganized as the GIS Task Group.

THE AGREEMENT

On July 14, 1994, culminating months of interagency cooperation, the Federal Agencies Committee convened the Chesapeake Bay Federal Summit Meeting at the Department of the Interior in Washington, D.C. Thirty high-level Federal officials representing twenty-four agencies and departments assembled to discuss the Federal role in the Chesapeake Bay Program and to sign the *Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay*.

The Agreement was endorsed and signed by all of the Federal participants and, as "observers," by representatives of the states of Virginia, Maryland, and Pennsylvania; the District of Columbia; the Chesapeake Bay Commission; the Smithsonian Institution; and U.S. Senator Paul Sarbanes (D-MD). (See Appendix A)

The *Agreement* formalized the increasing role of Federal agencies in the Bay Program. There have always been many and varied Federal programs that support Bay Program goals, but they are not all necessarily part of the *Agreement*. Consequently, the commitments enunciated in the *Agreement* do not summarize the total Federal involvement in the Bay Program.

Motivated in part by the Administration's call for "reinventing government" and in part by a desire to improve interagency ecosystem management and planning, the *Agreement* crystallizes the commitments of each agency to those tasks in the Chesapeake Bay region. It provides a coordinated and cooperative framework for action with specific commitments for nutrient and toxic-pollution reduction, habitat restoration, coordination of research and

ecological management tools, and the use of national service opportunities for work on Federal lands.

The *Agreement* sets precedents by establishing certain Federal policies for the Chesapeake Bay watershed that have not been applied elsewhere in the nation. In addition, some of the policies and goals set in the *Agreement* led to similar commitments by the Chesapeake Executive Council. For example, in the *Agreement* the Federal government adopted a policy to favor "the creation of forested buffers along streams, in order to help achieve both nutrient reduction and habitat restoration goals of the Chesapeake Bay Program." This commitment was strengthened a few months later when the states, through the Chesapeake Executive Council, adopted a similar policy, and again in 1996 when the Executive Council adopted a new Riparian Forest Buffer Initiative. The Initiative includes a goal "to increase the use of all riparian buffers and restore riparian forests on 2,010 miles of stream and shoreline in the watershed by the year 2010." The Initiative and its goal are unprecedented in the nation (*see* Commitment 7).

Because of the increasing number of military base closures and disposals of other Federal lands, the *Agreement* seeks to "assure that the ecological value of any Federal facilities proposed for closure within the Chesapeake Bay watershed is addressed in the decision-making process for future land uses." In addition, the *Agreement* formalized the work of the two existing Federal Agency Committee work groups by directing Federal agencies to cooperate with interagency teams doing pollution-prevention and habitat restoration site assessments on Federally-owned lands. The Nutrient Reduction Work Group, in fact, is charged with doing a minimum of five Nutrient Site Assessments annually on Federal facilities throughout the watershed.

FEDERAL AGENCIES INVOLVEMENT

Federal agencies are involved in the Bay Program because they own land in the watershed, carry out natural resource management or environmental protection programs in the watershed, or provide technical assistance for research, monitoring, and other pertinent activities. Each Federal agency has a different role and mission, but they all provide varying degrees of financial and technical assistance to the states, private individuals, and organizations throughout the Chesapeake Bay watershed.

Both within and outside their roles in the Bay Program, Federal agencies conduct many activities that have long-term benefits for the Bay. As landholders, they are stewards with a significant role in preserving, restoring, and managing habitat and natural areas, as well as in managing developed areas. Federal property includes many miles of the shoreline of the Bay and its tributaries as well as extensive park lands, forest lands, wildlife refuges, and other facilities throughout the entire watershed. (*See* Appendix B). Although the majority of those nearly 1.6 million acres are inland and managed by the U.S. Forest Service, they have significant impact on the Bay and contain major economic, recreational, historic and wildlife resources that are of immense public benefit.

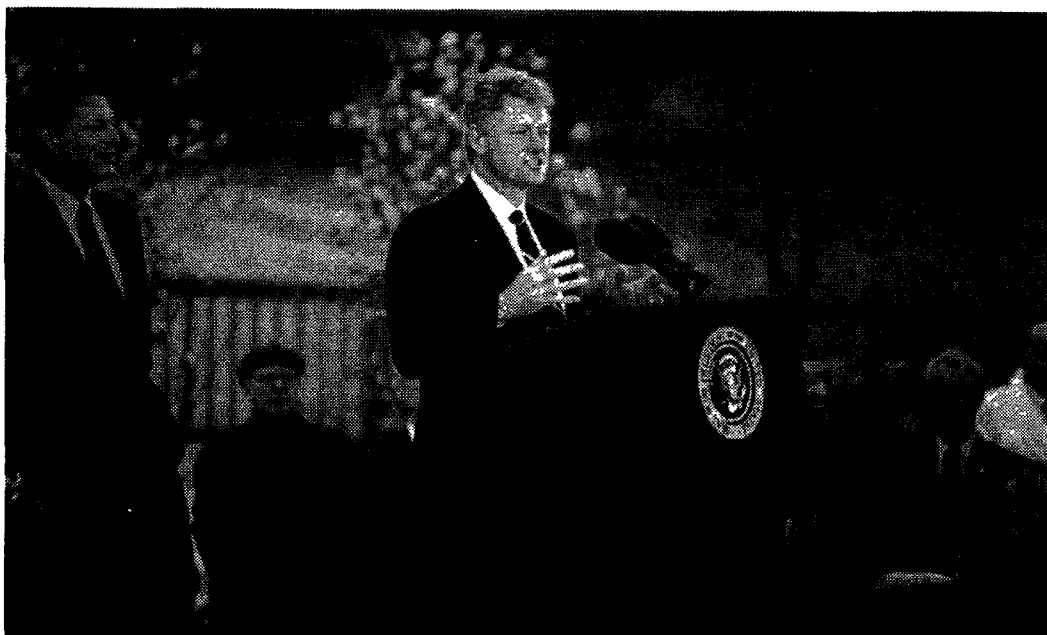
Federal agencies provide financial and technical assistance in many diverse areas. For example, within the U.S. Department of Agriculture, the Natural Resources Conservation Service (formerly the Soil Conservation Service) and the Consolidated Farm Agency (formerly the Agricultural Conservation and Stabilization Service) provide grants, loans, and

technical assistance to farmers to help conserve soil and control polluting runoff. The Farm Service Agency has also provided assistance in resources and manpower to the Bay Program. Through these partnerships, the Bay Program has been able to disseminate information on non-point source pollution from agricultural businesses.

The U.S. Fish and Wildlife Service manages important and sensitive habitat, carries out restoration work, provides public access to wildlife areas, and organizes educational opportunities. The National Oceanic and Atmospheric Administration provides grants and technical assistance for researching and monitoring air and water pollutants, for monitoring and managing coastal development, and for monitoring, researching, restoring and managing Bay fisheries and their habitats.

The U.S. Environmental Protection Agency helps to provide overall funding, coordination, and assistance as well as the technical, computer, staffing, and data-management functions for the Bay Program, and coordinates many other Bay Program activities. It provides assistance to state and local governments in their efforts to improve sewage treatment plants and enforces the Clean Water Act and other Federal laws and regulations.

As a branch of the Department of Agriculture, the U.S. Forest Service is, by far, the largest Federal land owner in the Bay watershed and provides assistance for urban and state forestry activities. The National Park Service manages natural and historic properties for conservation, education, and interpretation and provides assistance in those areas to public and private groups. The U.S. Geological Survey collects and interprets data from the Bay's tributaries about nutrients, sediment, and toxics that impact water quality. This information is used by the Bay Program to set goals and measure progress. The National Biological Service, recently merged with the U.S. Geological Survey, conducts research on



President Clinton and Vice President Gore celebrate Earth Day 1995 on the shores of the Chesapeake Bay in Havre de Grace, MD. The President and Vice President renewed their commitment to a strong Federal role in preserving and restoring the Bay.

living resources and provides technical assistance to other Federal and state agencies involved in the Bay Program.

Branches of the Department of Defense, as managers of large tracts of Federal lands throughout the Bay region, have participated in the Bay Program to bring principles of responsible stewardship to military bases. As the newest partner to the Chesapeake Bay Program, the U.S. Postal Service anticipates making a major contribution to the Program's public outreach efforts.

The U.S. Army Corps of Engineers continues to provide valuable technical expertise and resources to many of the habitat restoration activities promoted by the Bay Program. Though a relatively small presence among Federal landholders in the Bay region, the U.S. Coast Guard has made a significant contribution to the Program through *BayScape* initiatives and by independently undertaking sound land stewardship policies that inure to the benefit of the Bay.

The Federal Highway Administration, an agency of the U.S. Department of Transportation, has played a growing role in the Bay Program's increased understanding and approach to the management of transportation related pollution impacts on the Bay. The AmeriCorps*National Civilian Community Corps has provided essential manpower to habitat restoration projects throughout the Bay region. In so doing, the Corps also taught the responsibilities of individual environmental stewardship to Corps members.

Through these actions and, perhaps most important, through the coordination of these actions within the Chesapeake Bay Program, Federal agencies are helping to restore and protect the Chesapeake Bay and make the Bay Program a national model for ecosystem management.

THIS REPORT

This is the second biennial report—as prescribed by the *Agreement*—on the progress made in implementing the *Agreement*. It is presented on an item-by-item basis according to the twenty specific “commitments” to which the signatories have subscribed.

COMMITMENT PROGRESS REPORT

PARTNERSHIPS

Commitment 1

- ◆ *Work to bring all our programs into the partnership for Chesapeake Bay ecosystem management, and to urge other Federal agencies to become participants with us, where appropriate.*

Since the April 1995 publication of the *First Biennial Progress Report of the Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay*, the Chesapeake Bay Program has been joined as partners by the U.S. Fish and Wildlife Service Pennsylvania Field Office in State College in June 1996 and by the United States Postal Service in November 1996.

The Fish and Wildlife Service Pennsylvania Field Office's participation in the Bay Program provides an opportunity for the expansion of Bay Program principles into the habitat restoration considerations affecting the Pennsylvania portion of the Bay watershed. The U.S. Fish and Wildlife Service Chesapeake Bay Field Office in Annapolis, Maryland, has been a formal partner in the Bay Program since 1984. The Pennsylvania Field Office agreed to designate a coordinator of Chesapeake Bay Program activities and to become a permanent member of the Federal Agencies Committee and its Habitat Restoration Work Group. Further, the Memorandum of Agreement provides that the Pennsylvania Field Office will work to implement the four commitments related to habitat restoration contained in the 1994 *Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay* and will work closely with numerous private organizations on habitat restoration projects. The Memorandum of Agreement also establishes a commitment by the Habitat Restoration Work Group to include at least one project in Pennsylvania on its annual list of priority projects on Federal lands.

The partnership of the U.S. Postal Service with the Bay Program offers a particularly unique opportunity for both public outreach and land stewardship at the Postal Service's eighty-seven regional distribution facilities and nearly 1,500 local post offices throughout the Chesapeake Bay watershed. Further, the relationship between local Postmasters and local governments offers a particularly expedient channel for communication with local decision makers.

The Postal Service's entry into the Bay Program is manifest in its commitment to host a Nutrient Site Assessment at its Brentwood maintenance facility in the District of Columbia during the Spring of 1997 (see Commitment 14). This site assessment is

particularly notable because the Postal Service has encouraged the adjacent Washington Metropolitan Area Transit Authority (METRO) Brentwood Maintenance Yard to participate in the site assessment. METRO's involvement is auspicious as it is a multi-jurisdictional public transportation system supported in part by Federal funding with extensive property holdings throughout Maryland, Virginia and the District of Columbia.

The Memorandum of Understanding formalizing the partnership of the U.S. Postal Service and the Chesapeake Bay Program provides for the Postal Service to:

- assist in areas of ecosystem protection at Postal facilities by actions such as pollution prevention, utilizing best management practices in lawn care and *BayScapes* landscaping, and developing appropriate contingency plans at applicable facilities;
- work with municipalities to implement the Chesapeake Bay Program's *Local Government Partnership Initiative*;
- assist with efforts to increase public awareness of the Chesapeake Bay Program and the Bay restoration at local Postal facilities; and
- develop an action plan for setting goals and implementing these commitments. The first biennial action plan will be developed by September 12, 1997.

The U.S. Coast Guard's partnership in the Bay Program has resulted in a number of activities that demonstrate the benefits of partnership that extend beyond the formal *Agreement*:

- The Coast Guard has contributed positive steps to eliminate the introduction of non-indigenous species from Coast Guard cutters' ballast water into the waters of the U.S., and more specifically the Chesapeake Bay. A second Coast Guard initiative targets commercial vessels exchanging ballast water in the Bay, providing a means to determine compliance with this International Maritime Organization program.
- Coast Guard units in the Chesapeake Bay continue to conduct exercises under the National Preparedness for Response Exercise Program to satisfy all mandated federal oil pollution response exercise requirements established in the Oil Pollution Act of 1990.
- The Coast Guard worked with the Federal Agencies Committee to identify habitat restoration opportunities at its 11 facilities in the Bay watershed (*see* Commitment 5).

The *Special Tributary Strategy for Federal Lands in the District of Columbia*, signed on March 25, 1996, served to welcome the U.S. General Services Administration as a signatory to the pantheon of Federal agencies participating in Chesapeake Bay Program initiatives. The *Special Strategy*, described in greater detail in Commitment 10, prescribes seven specific commitments to be undertaken by signatory Federal landholders in the District of Columbia. In addition to the signatories, Federal participants were encouraged that the signing ceremony included the presence of a representative of the Architect of the Capitol, although the representative declined to sign the *Special Strategy*.

The U.S. Forest Service has provided support to the Bay Program's mission in a variety of ways. In 1995, the Forest Service coordinated the development of a scientific consensus on the water quality functions of riparian forest buffers (published by EPA in 1995). This technology transfer publication is now in use not only in the Chesapeake Bay watershed

but is considered one of the premier references on this subject in the world. In 1996, the Forest Service completed and presented to the Bay Program an assessment of forest status and trends in the watershed. This document evaluates how forest resources have changed in the Bay watershed and the implications of those changes for the ecological and economic health of the Bay region. In 1997, in cooperation with the Forest Service, Pennsylvania State University completed a GIS Inventory of riparian forests in the Bay watershed. Additional outreach and education products have also been completed by the Forest Service in 1995-96, such as an Educational Video, Case Study Guide, Demonstration Site Guide, Field Handbook, and training for over 300 state and Federal landowner assistance, local government, and citizen organization personnel. In addition to direct support of Bay Program goals, the Forest Service continues to work with the states to plant and protect forest lands through its cooperative forestry programs.

The partnership of the Bay Program has been greatly enhanced by the decision of the National Park Service to staff a full-time Coordinator position at the Chesapeake Bay Program Office and by the decision of the U.S. Forest Service to add a second full-time staff liaison to its complement at the Bay Program Office. In addition, although not a formal partner in the Chesapeake Bay Program, the U.S. Department of Housing and Urban Development has participated in Chesapeake Bay Program meetings.

The National Park Service's participation in the Bay Program has demonstrated the benefits of partnership that extend beyond the formal *Agreement*. These activities include: the establishment of a field office for its Rivers, Trails and Conservation Assistance Program to provide technical assistance in the Potomac River Watershed; the initiation of work on a heritage framework for the Bay; and the hosting of a Potomac Heritage Festival through Prince William Forest Park, VA. Through the leadership at George Washington Birthplace National Monument and Thomas Stone National Historic Site, the Park Service worked with the Chesapeake Bay Program to create Bay educational wayside signs, which were erected at George Washington Birthplace and Ft. McHenry National Military Historic Site in 1995; the Park Service created and distributed *The Noblest Bay: 11,000 Years of Chesapeake History* brochure in 1996; and George Washington Birthplace nominated a riparian forest buffer restoration project that was placed on the Federal Agencies Committee 1996 Habitat Restoration Priority List.

The National Aeronautics and Space Administration (NASA) has enhanced its role in the Bay Program by assigning staff to regularly participate in Bay Program meetings. Further, NASA has expressed an interest in negotiating a Memorandum of Agreement to formalize its participation in the Bay Program.

In 1996, the U.S. Geological Survey established a Chesapeake Bay Initiative, which is a component of its Ecosystem Program, and represents yet again the benefits to be derived from the collaborative sharing of ideas and resources that has characterized the Federal Agencies Committee and the Chesapeake Bay Program. The Chesapeake Bay Initiative was established to enable the Geological Survey to enhance its multi-disciplinary scientific assistance to resource managers. Through a three- to five-year effort in the Chesapeake Bay region, the Geological Survey will intensify its provision of scientific information tailored to the specific management needs of the ecosystem. Disciplines of investigation include land characterization, surface modeling, geospatial database management, ground and surface water hydrology, geophysics, ecology, geochemistry, paleontology, hydrologic modeling, and contaminant, sediment and nutrient dynamics.

Finally, the National Biological Service, a Federal Agencies Committee member, had its functions merged in October 1996 with the U.S. Geological Survey as the new Biological Resources Division.

RESEARCH

Commitment 2

- ◆ *Coordinate our research agendas in consultation with the Bay Program's Scientific and Technical Advisory Committee, to address priority management needs for restoration of the Chesapeake Bay; initially including the role of atmospheric deposition in nutrient and toxic pollution of the Bay and the impact on the natural system. (NOAA lead)*

To fulfill this commitment, the Federal Agencies Committee established the Research Coordination Work Group in 1995, chaired by the National Oceanic and Atmospheric Administration (NOAA). In 1997, the Work Group will be co-chaired by the U.S. Geological Survey. Members of the Work Group include NOAA, U.S. Geological Survey, National Biological Service (now part of the U.S. Geological Survey), U.S. Fish and Wildlife Service, EPA, Department of Agriculture, NASA, and the Chesapeake Research Consortium (a non-Federal entity representing the Scientific and Technical Advisory Committee of the Bay Program).

The Work Group has adopted a mission statement, a preliminary inventory of Federal research expenditures in the Bay region, and planning efforts for a basinwide Federal research coordination symposium in the fall of 1997.

The Work Group conducted a preliminary inventory of Fiscal Year 1995 Federal agency research programs that directly support Chesapeake Bay protection and restoration. Even though EPA's Chesapeake Bay Program Office spent only \$430,885 on research, other Federal agencies spent a total of approximately \$22 million in FY 1995. A narrow definition of "research" was used for this initial analysis, focusing on issues such as nutrient dynamics, contaminant transport, fate and effects, nonpoint source pollution, etc. Some notable activities left out of this estimate include water quality monitoring and modeling work funded by EPA's Chesapeake Bay Program; Federal projects conducted by the U.S. Army Corps of Engineers and other Department of Defense agencies throughout the watershed; and basic research funded by the National Science Foundation at major research institutions in the Bay region. The U.S. Fish and Wildlife Service and the National Park Service have funded research in the past, but their research units were moved into the National Biological Service, which subsequently moved into the U.S. Geological Survey.

The Work Group is organizing the first Federal interagency Bay research symposium, planned for September 1997. The objective will be to provide a forum for exchanging information on the full range of research interests, capabilities, and ongoing investigations, as well as to identify opportunities for interagency collaboration, in the context of ecosystem management. Federal programs conducting or funding research in the Bay watershed will be invited to exhibit and present information on their efforts.

DATA COORDINATION

Commitment 3

- ◆ *Establish a Work Group under the Federal Agencies Committee to assess and evaluate existing ecological resource inventories used by Federal agencies, and to make recommendations to improve coordination, compatibility, standardization, GIS-based data layers and interagency transfer of information by December 31, 1995. (EPA Lead)*

The Federal Agencies Committee Data/GIS Work Group was established in 1995 to evaluate existing ecological resource inventories used by Federal agencies in the Chesapeake Bay basin. A final report was delivered to the Federal Agencies Committee and reported to the Chesapeake Bay Program's Implementation Committee in December 1995. The report was also published on the Chesapeake Bay webpage (www.epa.gov/chesapeake) for public access.

The report inventoried a full range of data, including computerized data files and geographic information system (GIS) files maintained by the Chesapeake Bay Program, EPA, U.S. Geological Survey, NOAA, U.S. Army Corps of Engineers, National Park Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and the Natural Resources Conservation Service. The report also specified those data needed by the respective agencies for their near-term work. This list of data needs was used by the Bay Program's Data Center Work Group to help develop its FY 1997 priorities.

One of the recommendations of the report was that the Work Group should be expanded to include non-Federal agencies, since a large amount of Chesapeake Bay basin data is not managed by Federal agencies. The Federal Agencies Committee and Implementation Committee agreed to this proposal, and the Data/GIS Work Group was reconvened as the GIS Task Group under the Bay Program's Data Center Work Group in March 1996. The GIS Task Group has been chaired by U.S. Geological Survey. As of October 1996, the Data Center Work Group was renamed the Information Management Subcommittee and the GIS Task Group was renamed the GIS Work Group.

The Data/GIS Work Group report of December 1995 is being updated by the GIS Task Group and the Information Management Subcommittee for re-publication in June 1997. That report will take on a slightly different form, probably as a searchable database, since the inventory of Federal, state, and local information sources is so large. That report will be available through the Chesapeake Bay Program webpage.

In addition, the National Park Service's Inventory and Monitoring Program is working on baseline ecological inventories for all parks, including those in the Chesapeake Bay watershed.

ANACOSTIA RIVER

Commitment 4

- ◆ *Provide full support to the Anacostia River Demonstration Project as an opportunity to provide ecosystem management concepts in an urban environment, through a coordinated biennial Federal workplan beginning in FY 1995, in concert with the Anacostia Watershed Restoration Committee. (Corps of Engineers lead)*

The *First Biennial Federal Workplan for the Anacostia River Watershed* will be published in April 1997. This Workplan is a key initiative of Federal agencies to promote both ecosystem management concepts in this inter-state watershed and the establishment of the Anacostia as a National Urban Watershed Restoration Model.

This Workplan outlines the continuing Federal support for the Anacostia watershed restoration effort. Applying the six restoration goals identified in the Anacostia Watershed Restoration Committee's *A Six Point Action Plan to Restore the Anacostia River*, Federal programs were examined to determine what goals are being fulfilled and what gaps could be remedied by additional Federal support. The Workplan then identifies recommendations for further restoration efforts collectively supported by the Federal agencies.

A third Federal workshop was held on October 31, 1996, at NASA's Goddard Space Flight Center to gather input and comments on the draft Workplan. Forty-four Federal representatives attended the workshop, representing 10 Federal facilities and 12 Federal agencies. The group recommended that the Workplan include specific action items for and commitments by Federal agencies. In addition to the extensive review by Federal agencies, the Workplan was reviewed by municipalities, citizen groups, and technical organizations. Overall, comments were highly supportive of the Federal efforts in the Anacostia watershed.



The U.S. Army Corps of Engineers, with the help of citizen volunteers, removes floatables and other debris from the Anacostia River.

The Workplan is a living document that will be updated every two years to highlight successes in the Federal restoration effort and, more important, to facilitate strategic planning of projects and programs to meet local restoration needs. Increased communication and coordinated action have been and will continue to be facilitated through this Workplan and many other ongoing Anacostia initiatives.

EPA has provided additional support to the Anacostia restoration efforts over the past two years. In May 1995, EPA Region III, through its Chesapeake Bay Program Office, hired a community liaison for the Anacostia River restoration project. In May 1996, EPA formalized its support of the restoration efforts by signing a Memorandum of Understanding with the Anacostia Watershed Restoration Committee. EPA has also set up an Anacostia Ecosystem Initiative website at: <http://www.epa.gov/chesapeake/anacostia/>

HABITAT RESTORATION

- ◆ *Support full implementation of the Bay Program's Habitat Restoration Strategy and related plans by:*

Commitment 5

- (1) *Including innovative use of public and private funding sources, restoration of habitat at Federal facilities, and development annually of a list of priority projects for habitat restoration on Federal lands in the watershed. (FWS lead)*

The Federal Agencies Committee's Habitat Restoration Work Group, created in 1993, and chaired by the U.S. Fish and Wildlife Service was given the lead to implement this Commitment. In 1997, the chair of the Work Group will rotate to the U.S. Forest Service. In 1996 the Federal Agencies Habitat Restoration Work Group assisted the U.S. Coast Guard, the U.S. Navy, and the National Park Service with prioritized habitat restoration planning and projects.

The Work Group assisted the U.S. Coast Guard in identifying habitat restoration opportunities on all of its Chesapeake Bay facilities. Site reviews were conducted on 11 Coast Guard Stations located in the tidal portion of the watershed, and recommendations were incorporated into reports generated for each facility. The reports highlighted habitat restoration opportunities, nonpoint source pollution abatement strategies, and existing natural resource values. Several of the Stations are using the reports to target on-the-ground projects. Future projects include wetland restoration (Station Stillpond, MD), phragmites control (Coast Guard Yard Curtis Bay, MD, and Integrated Support Command, Portsmouth, VA).

During 1996, Coast Guard facilities began implementing the recommendations made in the initial survey. Activities included:

- Bird box building and wildflower meadow planting at Station Annapolis, MD;
- Bat box construction in partnership with a local school at St. Inigoes, MD;
- Development of a *BayScaping* plan at Station Crisfield, MD (in cooperation with the Alliance for the Chesapeake Bay);

- Bird and bat box construction, plus planting of native plants, at Station Little Creek, VA;
- Wood duck box construction at Station Milford Haven, VA;
- Completion of a small erosion control project at Station Stillpond, MD;
- Eco-friendly maintenance changes at Station Little Creek and Station Crisfield, MD; and
- 18 acres of mowing reduction at Station Taylor's Island, MD, property.

The Habitat Restoration Work Group assisted the U.S. Navy in incorporating a variety of habitat restoration initiatives in the Greenbury Point, MD, Natural Resource Management Plan. Technical assistance was provided to erect osprey nesting platforms, and 20 acres of warm-season grasses have been restored. Future plans at the facility include shoreline erosion control in conjunction with tidal wetlands restoration.

During 1996, the Work Group assisted the Army Environmental Center at Aberdeen Proving Ground, MD, by providing technical assistance for monitoring of submerged aquatic vegetation (SAV) near the base. Information will be used in planning SAV monitoring and restoration projects in 1997, with ongoing technical assistance from the Work Group.

1996 HABITAT RESTORATION PRIORITY LIST

The Federal Agencies Committee Habitat Restoration Work Group compiled the second annual list of priority habitat restoration projects on Federal lands for 1996. The list is not static, and additional projects may be added. A new list will be issued annually. The projects are all supported by the Federal agencies, and all will receive various types of assistance. The 1996 Priority List includes:

- **Bloodsworth Island, MD**—Replacement of heron nesting platforms. (U.S. Navy)
- **Prince William Forest Park, VA**—Stream restoration and riparian forest buffer work on Quantico Creek as part of a mine tailings site restoration. The Park Service has nearly completed the re-vegetation of a 5–7 acre mine tailings site within the riparian zone of Quantico Creek. Stream restoration will require further effort and funding. (National Park Service)
- **Presquile National Wildlife Refuge, VA**—Erosion control and wetland restoration using clean dredged material. (U.S. Fish and Wildlife Service)
- **Aberdeen Proving Ground, MD**—Incorporating habitat restoration projects as part of ongoing Resource Management Plan. (U.S. Army)
- **Stillpond Station, MD**—Technical assistance to conduct maintenance dredging and wetland restoration. (U.S. Coast Guard)
- **U.S. Naval Academy, MD**—Design work for *BayScaping* at the Naval Academy Golf Course and at the Academy "Yard." Continue forest buffer and grass restoration work at Greenbury Point. Additionally, the Academy would like to monitor water quality around Greenbury Point. (U.S. Navy)
- **George Washington Birthplace National Monument, VA**—The Work Group, in conjunction with Park Service and the Virginia Department of Forestry assisted in the de-

velopment of a riparian forest buffer reforestation and riparian restoration plan. (National Park Service)

- **Bolling Air Force Base, DC**—Habitat restoration and water monitoring project at the Base marina on the Potomac River. (U.S. Air Force)
- **Crisfield Station, MD**—*BayScaping*, including uplands and dune habitats, to enhance diversity and provide habitat for neotropical birds. (U.S. Coast Guard)
- **Letterkenny Army Depot, PA**—Creation of two five-acre impoundments and associated wetlands in a previously agricultural area. (U.S. Army)
- **Raystown Lake, PA**—Creation of fish nursery habitat and placement of osprey nesting platforms. (U.S. Army Corps of Engineers)
- **Langley Air Force Base, VA**—Restore a fill area to saltmarsh. Technical assistance in fine tuning the plans and obtaining permits. (U.S. Air Force)
- **Andrews Air Force Base, MD**—Assist the Base in developing and selecting Best Management Practices to implement as part of its stormwater management plan. (U.S. Air Force)
- **Eastern Neck Island National Wildlife Refuge, MD**—Vegetating the expanded intertidal zone at the Eastern Neck restoration site. (U.S. Fish and Wildlife Service)
- **Indian Head Naval Surface Warfare Center, MD**—Assistance in establishing a monitoring program in the waters adjacent to the Base for the five water quality parameters—suspended solids, chlorophyll-a, dissolved nitrogen, dissolved phosphorous, light attenuation—necessary for SAV. Support will include site selection, equipment acquisition, and Quality Assurance/Quality Control advice. The monitoring program will target potential SAV restoration sites (including Mattawoman Creek) and track SAV distribution. (U.S. Navy)
- **Coast Guard Yard, Curtis Bay, MD**—Phragmites eradication and erosion control project incorporating tidal wetland restoration. (U.S. Coast Guard)

In 1996, the U.S. Fish and Wildlife Service Pennsylvania Field Office, through the Pennsylvania Partners for Wildlife Program, continued to improve water quality and fish and wildlife habitat in the Pennsylvania portion of the Chesapeake Bay watershed. Through the combined efforts of the Partners in the Susquehanna and Potomac drainages, 80 acres of wetlands were restored, 16 miles of streambanks were fenced to improve riparian habitat, and 300 acres of native, warm-season grasses were planted.

Commitment 6

- (2) *Fully implementing all habitat restoration authorities to improve the condition of aquatic, riparian and upland fish and wildlife habitat and assuring beneficial use of clean dredged material to support fish, migratory waterfowl, and other wildlife habitat in the Bay.* (Corps of Engineers lead)

The Baltimore, Norfolk, and Philadelphia Districts of the U.S. Army Corps of Engineers have the lead for habitat restoration projects described below. The success of these projects to date reflects the cooperation among Federal agencies. In addition, initiatives are under-



Scores of volunteers, local school children, and community activists joined Interior Secretary Bruce Babbitt, Environmental Protection Agency Administrator Carol Browner, National Park Service Regional Director Robert Stanton (now retired), and District of Columbia City Councilman Kevin Chavous for Earth Week conservation activities on the shores of the Anacostia River at the National Park Service's Kenilworth Park and Aquatic Gardens on April 23, 1996. The Park contains a restored 32-acre tidal wetland, which was constructed using dredged material.

way to establish a process for continued cooperative efforts among the Federal agencies and the Chesapeake Bay Program. The process would encourage agency involvement in the Bay Program in all project stages from initiation through development to implementation.

INVESTIGATIONS¹

- **Little Falls Dam, Potomac River, VA and MD**—Design and construction of a fish ladder to restore spawning area for anadromous fish.
- **Anacostia River and Tributaries, D.C. and MD (AHC)**—The second feasibility study will address additional fish and wildlife restoration, concentrating in the Northwest Branch sub-basin of the Anacostia watershed.
- **Baltimore Metropolitan Water Resources, MD (ER)**—Evaluation of stream channel and bank restoration; creation of in-stream habitat; creation of new stormwater management ponds; retrofitting of existing stormwater management ponds; wetland creation; restoration of riparian vegetation; and removal of fish passage blockages in the Gwynns Falls, Tiber/Hudson and Deep Run basins.

¹ Key: FDP = Flood Damage Prevention; SP = Shoreline Protection; FC = Flood Control
ER = Ecosystem Restoration; N = Navigation; AHC = Wetland and other Aquatic Habitat Creation.

- **Patuxent River Water Resources, MD (ER)**—Development of a comprehensive watershed management study identifying needs and problem solutions regarding environmental restoration, wetland protection, navigation, flood damage reduction, environmental infrastructure, and recreation.
- **Susquehanna River Basin Water Management, NY, PA & MD (FDP, AHC)**—Development of a comprehensive plan to manage existing reservoir storage in an effort to maintain and restore aquatic resources, as well as to minimize flood-related damage in the basin.
- **North Branch Potomac River Environmental Restoration, WV & MD (FDP, ER)**—Ecosystem enhancement to restore fish and wildlife habitat and other environmental restoration opportunities in the upper North Branch.
- **Anacostia River Federal Facilities Impact Assessment, MD & DC (ER)**—Identification of adverse impacts on the watershed from Federal facilities, review current plans to mitigate such impacts, and production of a blueprint of environmental management measures to assist in the mitigation of such impacts.
- **Smith Island Environmental Restoration and Protection, MD (SP,N, AHC)**—Restoration of fish and wildlife habitat lost from previous construction activities and erosion control.
- **Chemung River Basin Environmental Restoration, NY (ER); Upper Susquehanna River Basin Environmental Restoration, NY and PA (SP ,ER); Lower West Branch Susquehanna River Basin Environmental Restoration, PA (SP, ER)**—Identification of needs and problem solutions regarding environmental restoration, erosion protection, stormwater management, flood damage reduction and water quality improvements.
- **Tioga River Watershed, PA (ER)**—Restoration of fish and wildlife habitat and other opportunities including environmental restoration, flood damage reduction, and preparation of a comprehensive ecosystem management plan.
- **Lower Potomac Estuary Watershed Study, VA & MD (ER, N, SP ,FDP)**—Identification of needs and problem solutions regarding navigation, environmental restoration, erosion protection, and flood damage reduction.
- **Bodkin Island Investigation, MD (AHC, ER)**—Provide island and marsh habitat for black ducks using dredged material.
- **Hart-Miller Island South Cell Environmental Restoration Investigation, MD (ER)**—Creation of approximately 335 acres of wetland, upland, island, and aquatic habitat at the dredged material placement site.

CONSTRUCTION PROJECTS

- **Anacostia River and Tributaries, MD & DC (AHC)**—Modifications to the Anacostia River Basin, District of Columbia and Maryland Flood Control, Navigation, and Channel Improvement Projects which were completed in 1959 and 1974. The modifications would complete a vital ecological link between the existing habitat upstream, downstream, and adjacent to the study area and restore a part of the natural filtering capacity of the watershed.

- **Chesapeake Bay Oyster Recovery, MD (AHC)**—Multi-agency efforts to restore oyster populations in the Maryland portion of the Chesapeake Bay. Project elements include: construction or rehabilitation of oyster reefs to create disease-free oyster habitat, monitoring, and planting of oyster seed.
- **Fort Eustis Shoreline, James River, VA**—In concert with comprehensive shoreline protection project and habitat restoration, created tidal wetlands along shoreline to provide habitat and shoreline protection.
- **Fort Story, Virginia Beach, VA**—Construction of dune system using geotextile containers filled with sand and planting of dune grasses.
- **Norfolk Naval Air Station, VA**—Wetlands were created and enhanced for stormwater retention and treatment.
- **Poplar Island, MD (AHC)**—Use of approximately 38 million cubic yards of dredged material from the southern approach channels of the Baltimore Harbor and Channels Navigation Project to restore 1,110 acres of remote habitat. Approximately 550 acres will be wetlands habitat and 550 acres will be upland habitat.
- **Rooster Island, Dorchester County, MD (AHC)**—Beneficial use of material previously dredged from the Corps' navigation channel at Cambridge Harbor to restore lost habitat at Rooster Island.
- **Tedious Creek, MD**—Primary project purpose is construction of breakwaters to protect fishing harbor. Material dredged to stabilize the breakwater foundation was placed behind geotextile tubes, and wetlands were created.

OPERATIONS AND MAINTENANCE DREDGING

- **Smith Island, MD**—Geotextile tubes and wetland creation.
- **Honga River—Barren Island National Wildlife Refuge**—Geotextile tubes and wetland creation.
- **Pokomoke River, MD**—Geotextile tubes and wetland creation.

In addition, the National Parks East resource management staff are working toward the reestablishment of Kenilworth Marsh. Park Service staff from Fredericksburg & Spotsylvania National Battlefield Park are working with the Fish and Wildlife Foundation to restore native grass habitat to enhance quail populations and are working with Mary Washington College to complete a fish inventory of the Park. Resource management staff at Colonial National Historical Park are working with state and local agencies to complete fishery inventories and establish baseline water quality monitoring programs at the Park.

Commitment 7

- (3) *Supporting development in the Bay watershed of a policy favoring the creation of forested buffers along streams, in order to help achieve both nutrient reduction and habitat restoration goals of the Chesapeake Bay Program. (U.S. Forest Service lead)*

Following the October 1994 signing of Executive Council Directive 94-1 on Riparian Forest Buffers, a Panel was convened to develop goals and a comprehensive riparian forest buffer policy for the Bay Program. This 31-member Panel included a diverse membership of Federal, state, local, scientific, citizen, industry, and environmental interests. Federal members of the Panel included the Forest Service, Natural Resources Conservation Service, and the Fish and Wildlife Service. The Forest Service provided a Riparian Technical Team which supported the Panel in synthesizing scientific, programmatic, and public comment information. The Team also facilitated a series of Issue Forums where landowners and stakeholders were able to present their views.

In addition, in April 1996, a Federal Lands Forum identified the need for Federal lands to serve as models for the protection of riparian forests. Other recommendations included a need to review management and development guidelines and practices, provide opportunities for demonstration and research sites on federal lands, and to enhance the delivery of federal assistance programs to private lands.

In October 1996, the Chesapeake Executive Council kicked off a new initiative by accepting the Riparian Forest Buffer Panel report and, in addition, adopting a goal "to increase the use of all riparian buffers and restore riparian forests on 2,010 miles of stream and shoreline in the watershed by the year 2010, targeting efforts where they will be of greatest value to water quality and living resources."

The Chesapeake Bay Riparian Forest Buffer Initiative is unprecedented in the nation. As part of the Initiative, each of the states and the Federal government will develop an implementation strategy for the Initiative by June 30, 1998. A Federal Team led by the Forest Service and including other Federal land managers such as the Department of Defense, National Park Service, and Fish and Wildlife Service are working together with other members of the Federal Agencies Committee to develop a strategy for Federal lands and private land assistance programs.

At the National Park Service's Prince William Forest Park, with 6,000 hours of volunteer assistance, over 5,000 trees of five native species have been planted in the riparian zone of Quantico Creek as part of a pyrite mine restoration project.

Commitment 8

- (4) *Providing technical assistance in fish passage design, providing stock for restoring newly opened spawning habitat, and determining needs for restoring upstream spawning habitat. (NOAA lead)*

Federal agencies have been working closely with state and private organizations to re-open blocked spawning reaches, restock species, and provide upstream habitat protection. The Fish Passage Work Group of the Chesapeake Bay Program's Living Resources

Subcommittee, chaired by the U.S. Fish and Wildlife Service, is leading efforts with funding and management support from EPA, the Corps of Engineers, NOAA/National Marine Fisheries Service, the states, and electric companies. As a result of these and other cooperative efforts, a total of 271.8 cumulative miles were opened to anadromous and migratory fish by the end of 1996 (93.4 of those miles were opened in 1995 and 1996). Significant gains were made in the James River watershed in Virginia and the Susquehanna in Pennsylvania.

EPA, through an Interagency Agreement with the National Marine Fisheries Service, issued grants to reopen blocked spawning reaches (Urieville/Morgan Run Dam and Cypress Mill Dam on the Chester River in Maryland and Rock Hill on the Conestoga River in Pennsylvania), to assist stocking efforts (above Little Falls Dam on the Potomac River), and to facilitate upstream impediment surveys (on the Susquehanna and Rappahannock rivers).

A planned Memorandum of Agreement between thirteen Federal, state, and local government entities and the National Marine Fisheries Service created a framework for reestablishing anadromous fish access and restoring an American shad population to the 10-mile stretch of the Potomac River below Great Falls, blocked by the Little Falls Dam. The Corps of Engineers approved the fish passage project and has provided \$128,000 in Fiscal Year 1997. Construction should begin by September 1997, with fishway completion by March 1998. An Interagency Agreement was signed between EPA and the Fish and Wildlife Service to fund stocking and monitoring of juvenile American shad above Little Falls Dam. Biologists from the Interstate Commission on the Potomac River Basin and the Fish and Wildlife Service's Harrison Lake National Fish Hatchery worked cooperatively to release more than 1 million American shad fry in the spring of 1995.

The Susquehanna River Anadromous Fish Restoration Cooperative reported that approximately 34,000 American shad were successfully transported upstream of the Conowingo Dam and 2,000 were tagged and stocked above Safe Harbor Dam. A total of 7.466 million American shad fry were reared and stocked into the Susquehanna drainage during 1996. Maryland stocked approximately 3.545 million fry, including hickory shad, below the Conowingo Dam in the Susquehanna River and in the Patuxent and Choptank rivers, while Virginia stocked over 10 million fry into the James, York, Potomac, and Pamunkey rivers.

In October 1996, NOAA's Chesapeake Bay Office funded a facilitator for an innovative Chesapeake Bay Program "Apollo 13" workshop—using only currently available data—to develop a method for prioritizing Bay watersheds for upstream habitat protection or restoration. This workshop was held because fish will be returning to formerly blocked parts of the Bay basin when fish passage construction at key dams is completed within the next seven years. Participants working in small teams identified a range of approaches for ranking sub-watersheds for upstream habitat improvements or simply for protecting high quality rivers and streams.

The Chesapeake Bay Program is currently revising its Alosid Fishery Management Plan (FMP) to incorporate the Atlantic States Marine Fisheries Commission's anticipated 1997 American Shad Federal Management Plan amendment and stock assessment. The Bay Program also plans to separate its current Alosid FMP into two separate American shad and river herring FMPs. The revised shad FMP will focus more on habitat requirements and restoration needs than does the existing FMP.

The NOAA Chesapeake Bay Office is working cooperatively with the Fish and Wildlife Service to conduct a workshop in 1997 on alosid monitoring needs in the Bay system. There are currently a variety of ongoing shad and herring monitoring surveys in the mainstream Bay and tributaries, but there is no Bay-wide consistency nor are there any standard indicators of the status of alosid stocks. The workshop will be directed to standardizing Bay-wide survey methods, identifying standard indicators of the status of alosid stocks, identifying the best options for improved monitoring, and identifying remaining research needs.

The National Park Service is working on the Little Falls Dam project on the Potomac River and has also removed two barriers to fish passage on Rock Creek.

NUTRIENT REDUCTION

- ◆ *Commit to do our share to meet the goal to reduce by 40% reduction the loadings of nutrients to the Bay by 2000 through:*

Commitment 9

- (1) *Supporting the goals and action items of the tributary strategies as they are affected by Federal lands and programs.*

The Bay Program continues to work to ensure communication and coordination between the states and Federal landholders as the state tributary strategies move from the planning to the implementation stages. During the fall of 1996, the Federal Agencies Committee created the Federal Land Stewardship Work Group as a permanent body charged with the mission of developing, identifying, and promoting opportunities for natural resource protection, restoration, and stewardship on Federal lands. The Work Group has selected as one of its immediate priorities the development of a comprehensive stormwater management assessment program to assist Federal landholders in the broad array of issues that arise in stormwater management. These issues pertain directly to the implementation of state tributary strategies within watersheds affected by such Federal stormwater runoff.

In addition, by using the *Priorities for Action for Land, Growth and Stewardship in the Chesapeake Bay Region* as a guide, the Work Group is identifying opportunities for coordinated Federal environmental and natural resource protection, restoration, and stewardship by: 1) utilizing Federal lands to serve as models for technical transfer demonstration areas; 2) acting as facilitators of positive action in Federal policy assessment and integration, and 3) finding innovative ways to utilize Federal information to benefit non-Federal land management.

The National Park Service's Colonial National Historical Park is working with North Carolina State University to develop an erosion sedimentation management system manual for the Park.

Commitment 10

- (2) *Developing by December 31, 1995, a Special Tributary Strategy for Federal lands in the District of Columbia, where the Federal Government is a major landholder. (EPA lead)*

Federal agencies completed the *Special Tributary Strategy for Federal Lands in the District of Columbia* in December 1995. On March 25, 1996, seventeen partners including Federal agencies, the District of Columbia, and regional commissions voluntarily signed the *Strategy*. The goal of the *Strategy* is to reduce the amount of nutrients, principally nitrogen and phosphorous, entering the tributaries of the Chesapeake Bay. This *Strategy* is the first comprehensive effort to address the activities on all Federal lands in the District of Columbia—comprising 40% of the land area of the District—and their impacts on water quality and the Chesapeake Bay. The *Strategy* is a direct result of the 1994 *Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay* and will provide a model for other tributary strategies to reduce the flow of nutrients.

The *Strategy* provides seven resolutions:

- **Stormwater Pollution Prevention Plans and Management:** review stormwater pollution prevention plans at Federal facilities, addressing, *inter alia*, storage capacity for the initial half-inch of rainfall for the total impervious surface area.
- **Nutrient Management:** review existing nutrient management plans and create and implement plans as needed.
- **Landscaping:** encourage the development and implementation of landscaping practices and designs that are economically and environmentally beneficial in accordance with the 1994 *Presidential Memorandum on Environmentally and Economically Beneficial Practices on Federal Landscaped Grounds*.



EPA Administrator Carol M. Browner, flanked by Department of Agriculture's Deputy Secretary, Richard E. Rominger (right), and EPA's Region III Administrator, W. Michael McCabe (left), at the signing ceremony for the Special Tributary Strategy for Federal Lands in the District of Columbia at the U.S. National Arboretum on March 25, 1996.

- **Federal Funding:** participate fully in convening and attending an annual workshop focusing on Federal financial assistance vehicles available to the District of Columbia and Federal agencies that further the goal of the *Special Strategy*.
- **Federal Facility Site Assessments:** conduct and participate in at least one Federal facility site assessment per year through the year 2000 on Federal properties in the District of Columbia, stressing issues of nutrient management, turf management, nonpoint source pollution control and landscaping. During 1996, the Federal Agencies Committee conducted a Nutrient Site Assessment at Rock Creek Park in the District of Columbia (see Commitment 13). During 1997, the Federal Agencies Committee has scheduled a Nutrient Site Assessment with the U.S. Postal Service Brentwood Facility in the District of Columbia.
- **Education and Technical Assistance:** participate fully in convening and attending an annual technology transfer workshop designed to assist Federal agencies with improving urban nutrient management and stormwater controls. During 1996, Federal Agency Committee members met with representatives from the Department of Defense to share information on nutrient management and stormwater runoff plans. In addition, the Federal Agencies Committee developed a nutrient worksheet to serve as an information resource to Federal facilities in the District of Columbia.
- **Coordination, Evaluation and Reporting:** participate fully in a coordination and communication group of Federal and District of Columbia agencies to share information, provide assistance, and improve interagency coordination. Ensure that the commitments of this *Special Strategy* are met. Provide an annual progress report to the signatories of the *Special Strategy*. The Federal Agencies Committee is scheduled to issue its first report in July 1997.

Commitment 11

- (3) *Delivery of Federal assistance by integrated resources planning on a watershed basis to deal with nonpoint sources of pollution, consistent with the 1993 Agreement between the USDA and the Bay Program.* (Natural Resources Conservation Service lead)

Since 1985, the Natural Resources Conservation Service, with conservation partners that include soil conservation districts, state agencies, the Cooperative Extension Service, and the Consolidated Farm Services Agency, has aggressively developed conservation plans that address many of the concerns identified in Ecosystem Based Assistance (EBA).

The Natural Resources Conservation Service and its partners have aligned EBA with the tributary strategies of Virginia, Pennsylvania, and Maryland. This has required a significant shift in management focus and the development of staffing plans to improve technical assistance from the field offices. Further, in Maryland, a pilot state in the development and implementation of EBA, all field office employees, including partnership employees, are receiving intensive training in EBA subjects. Similar efforts are under way in other Bay states.

Through the cooperative efforts of the conservation partnership that includes the private sector, farmers in the Bay watershed have accelerated their efforts to reduce nitrogen and phosphorous nonpoint source pollution through: nearly 1,500 animal waste systems to

contain manure; nutrient management plans on 1.6 million acres of farmland to keep nutrients from washing into or infiltrating water supplies; dead bird composting facilities on more than one third of watershed poultry operations; workshops for homeowners on lawn care and proper fertilization methods; and resource management systems applied to more than 100,000 acres to reduce water runoff from agricultural lands. A new \$7 million program created by the Natural Resources Conservation Service in partnership with West Virginia is designed to reduce the level of bacteria and nutrients arising from agricultural land use along the upper reaches of the Potomac River and its tributaries.

Blizzards and hurricanes brought record amounts of fresh water into the Chesapeake Bay in 1996. Since July 1995, the Conservation Service has provided over \$25 million in Virginia, West Virginia, Maryland, and Pennsylvania through the Emergency Watershed Protection Program to repair and stabilize streams and streambanks damaged by flooding.

Volunteers with the Natural Resources Conservation Service and conservation districts have donated over 20,000 hours for conservation education, stream clean-ups, water monitoring, and citizen outreach. In addition, the Park Service's Colonial National Historical Park and the Fredericksburg & Spotsylvania National Battlefields have developed nutrient management plans for their agricultural leasing programs. These plans are valuable in effectively transmitting nutrient management plans to farmers in the private sector.

Commitment 12

(4) Completing upgrades of wastewater treatment facilities to remove nutrients at federal facilities, with priority on facilities in excess of 0.5m gallons per day being upgraded by January 31, 2000, to levels consistent with the applicable tributary strategy. (DoD Lead)

The Federal Agencies Committee continues to track Federally-owned wastewater treatment plants to ensure that all pertinent facilities are identified and that nutrient upgrades are implemented in accordance with Bay Program commitments. The list of Federally-owned wastewater plants has expanded recently to include lower flow facilities and selected industrial facilities. Upgrade efforts, however, have focussed on the eleven major Federal facilities (those facilities having a flow in excess of 0.5 million gallons per day). Identifying and tracking discharges from these plants provides an additional information tool for tributary strategy and nutrient reduction planning.

The majority of the 30 identified Federally-owned facilities have design capacities well below 0.5 million gallons per day. Twenty-two facilities fall under the Department of Defense. Three of these are industrial facilities and are currently being evaluated to determine whether nutrients are present at a level sufficient to warrant tracking under this commitment. Other Federal facility owners are the U.S. Fish and Wildlife Service (2), the National Park Service (1), Department of Agriculture (2), Department of Transportation (1), Federal Emergency Management Agency (1), and the National Institutes of Health (1). The eleven major Federally-owned wastewater plants are all under the jurisdiction of the Department of Defense.

The Federal Agencies Committee conducted a detailed Biological Nutrient Removal (BNR) feasibility analysis for six of the eleven major facilities in 1995. Implementation of

recommendations from this analysis are underway at selected facilities, six of the eleven wastewater plants have completed or are conducting upgrades, and one plant is being connected to a publicly-owned treatment plant. This study and other Federal studies indicate that many of the existing facilities practice advanced treatment for nutrients, reducing the discharge of nitrogen and phosphorous to the Bay. Upgrades and management changes at additional facilities will contribute significantly to achieving the nutrient reductions specified in associated tributary strategies. It is important to note that many of the major Federally-owned wastewater plants operate at flow volumes below their design capacities and that actual discharges to the Bay and its tributaries are lower than would be predicted based purely upon design data.

Examples of nutrient upgrade work at major Federally-owned wastewater plants include:

- **Aberdeen Proving Ground Wastewater Treatment Plant, MD (Army)**—Coordination of project design and funding is being conducted in 1997. BNR upgrades of the wastewater facility will occur over the next few years and will be designed in accordance with the recommendations of the Federal Agency Committee BNR/nutrient study.
- **Fort Eustis, VA (Army)**—The Base is in the process of connecting its 1.7 million gallon per day plant to a publicly-owned treatment plant and will no longer be operated as a Federal facility. Transfer to a publicly-owned facility should ensure that all wastewater is handled in accordance with applicable tributary strategies.
- **Naval Surface Warfare Center, Dahlgren, VA (Navy)**—Expansion and significant upgrades are nearing completion for this Navy-owned treatment plant. The upgraded plant will include ultraviolet disinfection and a constructed wetland for nutrient removal. The new plant is scheduled to come on-line in May 1997. The upgrades will increase the design capacity of the wastewater treatment plant from 0.4 to 0.72 million gallons-per-day to accommodate an increase in personnel, while simultaneously upgrading the nutrient removal capability of the plant. The new plant permit calls for ammonia limits and increased toxicity testing to ensure that nutrient removal and toxicity limits are achieved. Wetlands construction will begin once restoration of the planned site is completed.
- **Marine Corps Base Quantico, VA (Navy)**—Progress continues on the \$19.1 million upgrade of this wastewater plant. This large-scale BNR implementation serves as a demonstration for other military and Federal wastewater facilities. The existing 2 million gallons-per-day plant is being upgraded to 2.2 million gallons, designed to accommodate a 20-year base growth planning forecast. To achieve nutrient reduction, the plant's existing nitrification capacity is being doubled and the denitrification process is being added. Construction is approximately 50 percent completed as of March 1997 and is being conducted in phases to allow continual plant operation. It is anticipated that the upgraded nitrification and denitrification processes will be on-line by late April 1997.
- **Naval Surface Warfare Center, Indian Head Division, MD (Navy)**—The Navy completed the installation of a new photocatalytic oxidation treatment system in 1996. This upgrade ties in with other nutrient reduction efforts at the installation.
- **Fort A.P. Hill, VA (Army)**—The Army completed a major nutrient upgrade in 1992, including ultraviolet disinfection and advanced treatment for phosphorous and nitrogen.

- **Fort Meade, MD (Army)**—This Base represents a relatively new plant, and processes include advance treatment for removal of phosphorous, nitrogen, and chlorine. There are no additional upgrades planned for Fort Meade or for the Federally-owned treatment works at the Letterkenny Army Depot (PA) at this time.
- **Aberdeen Proving Grounds, Edgewood, MD (Army)**—This wastewater facility was not identified as requiring upgrades during initial studies, but the Army will conduct a more detailed study of this plant in 1997. Similarly, assessment of options for major facilities located at the U.S. Naval Academy in Annapolis, MD, and at Fort Dietrick, MD, will continue.

BNR studies will be continued during 1997 and 1998 to evaluate feasibility of upgrades for the remaining Federal facilities. In addition to the major wastewater plants, upgrades have been implemented at smaller plants, contributing to the reduction of nutrient discharges to the Bay. Examples include:

- **Andrews Air Force Base, MD (Air Force)**—The Air Force recently completed a construction project upgrading two wastewater treatment plants at their Davidson Transmitter Station, located within the Chesapeake Bay watershed area, in Davidson, Maryland. The two batch plants are designed to treat 10 thousand gallons per day and will ensure that discharges meet the requirements of the NPDES permit and support the nutrient reduction initiatives of the Chesapeake Bay Program.
- **Vint Hill Farms, VA (Army)**—This facility is currently undergoing closure as part of the Base Realignment and Closure process. The wastewater treatment plant was upgraded to use ultraviolet disinfection and will likely be transferred to the community as part of the closure process.

Commitment 13

- (5) *Completing demonstration site assessments for nutrient management using interagency teams on at least one Federal facility in each of the four jurisdictions (DC, MD, PA, VA) by December 31, 1994. (EPA Lead)*

During 1995, the Federal Agencies Committee performed nutrient management site assessments at: the National Plant Materials Center (USDA), MD, in July; the Coast Guard Reserve Training Center at Yorktown, VA, in August; Antietam National Battlefield (National Park Service), MD, facility in November; Bolling Air Force Base in October; and the George Washington Parkway (National Park Service), VA, in December.

During 1996, the Federal Agencies Committee performed nutrient management site assessments at the Indian Head Naval Surface Warfare Center, MD, and the Beltsville Agricultural Research Center, MD, in July and at Rock Creek National Park in the District of Columbia in October. Two scheduled assessments were canceled due to inclement weather and staff changes at the Chesapeake Bay Program Office.

The assessments continue to demonstrate the enormous potential of drawing upon the expertise and resources of interagency teams. State and local government participation brought further technical assistance opportunities to the attention of the agencies and facilities. Bay Program goals and objectives were demonstrated to all agencies involved, further promoting partnership and enhancing cooperation. Specific ideas and suggestions were

provided to the facilities to enhance natural resource management. At the same time many positive and beneficial activities at the facilities were brought to the attention of the Bay Program and the state and local governments.

1. **National Plant Materials Center**—Managed by the U.S. Department of Agriculture, the Center was established in 1938 on 140 acres of the Beltsville Agricultural Research Center. The primary mission of the Center is to help field centers across the country acquire plant materials for their regional testing programs. The Nutrient Site Assessment Team found the Center has made strides toward streamlining and improving its applications of fertilizers and pesticides, particularly with the recent acquisition of a chemical injection sprayer during 1994. The Team recommended several changes in pesticide storage practices and record keeping protocols. The Team also discussed the Center's effort to implement a wetland restoration project and recommended that the Chesapeake Bay Program Office provide advice on noregulatory approaches to restoring and maintaining such sites. The Team provided a number of suggestions to the Center pertaining to weeds and erosion controls in fields, by use of low-cost available materials. The Team also recommended a change in field watering schedules to avoid the heat of the day.
2. **U.S. Coast Guard Reserve Training Center**—Located in Yorktown, Virginia, the 154 acre facility is bordered on the north by the York River and on the south by Wormley Creek. The facility is adjacent to the 9,300 acre Colonial National Historical Park. The Site Assessment Team was aided by the Training Center's Master Plan, its Habitat/Natural Resource Preservation Plan, and relevant Geographic Information System survey data. Jointly, these sources of information provided the Team with an in-depth preview of the Coast Guard's site development plan.

The Team found that a variety of habitat restoration and resource conservation opportunities existed. The Team recommended that the Coast Guard implement *BayScaping* practices around its buildings. The Team commended the facility's grounds maintenance practices and recommended enhancement of the integrated pest management (IPM) program by the creation of a facility-wide IPM plan. Also, the Team recommended the creation of a wetland along the York River shoreline using a segmented offshore breakwater system.

3. **Antietam National Battlefield**—This 3,300-acre facility is administered by the National Park Service and located in western Maryland adjacent to the Potomac River. The Nutrient Site Assessment Team was impressed with the Antietam Park Service staff's high level of awareness of the Chesapeake Bay Program's restoration goals and policies for the Bay and its tributaries. Antietam has a good working relationship with the local Natural Resources Conservation Service field office and the Washington County Soil Conservation District. Also, Antietam has a strong IPM Program on its Park Service land. Antietam's 345-acre West Woods forest restoration project appears to be a success story. Finally, the Park Service's Antietam natural resources staff conducts an array of environmental programs through interpretive tours and information provided to the public.

The Team recommended that Antietam develop a nutrient tracking system in conjunction with local farm owners to facilitate both Battlefield nutrient reduction and to serve as a positive example for the surrounding community. The Park Service adopted

a number of the Team's recommendations toward alleviating the erosion along Antietam Creek. The Federal Agencies Committee and the Antietam Park Service staff will continue to work together to enhance the dissemination of Chesapeake Bay issues through Park Service's interpretation programs.

4. **Bolling Air Force Base**—This 607-acre installation on the shoreline of the Potomac River (at the confluence with the Anacostia River) has 37 stormwater discharges to the Potomac. The Potomac Shoreline Restoration Project, completed in late 1994, provided structures to prevent erosion. Bolling operates a strong IPM Program, nutrient management program, and a centralized toxics management program (the "Pharmacy"). Team members were extremely impressed with Bolling's hazardous and toxic materials management programs and noted that new residents at the base are required to undergo specific training on pesticide, nutrient, and toxics handling issues before they are given a key to their residence. Team recommendations include: installation of a sewage pump-out station at the base marina; creation of a revegetation/habitat project on the peninsula of land separating the marina from the Potomac River; revegetation of areas affected by riprap from the shoreline hardening project; and protecting the healthy submerged aquatic vegetation (SAV) beds at the marina basin. The Team also made specific stormwater control recommendations.
5. **George Washington Memorial Parkway**—The 33-mile Parkway is located in Virginia along the Potomac River and connects Mount Vernon to Great Falls. The Parkway and its adjacent lands are administered by the National Park Service and serves as a riparian buffer strip (7,500 acres) for much of its length along the Potomac River. The Park Service is using strong IPM and nutrient management programs. The Team recommended a variety of stormwater and land use proposals to Parkway managers pertaining to the five assessed sites along the Parkway. Of particular interest is the controversial plan to close the heavily eroded Belle Haven Marina and the issue of development of a steeply graded ravine behind Arlington House by the managers of the Arlington National Cemetery.
6. **Indian Head Naval Surface Warfare Center**—The Center is located along the east bank of the Potomac River in Charles County, Maryland, and bounded on its eastern side by Mattawoman Creek. The Team assessed the site for the potential for restoration of SAV and recommended that restoration efforts concentrate on the Mattawoman side of the facility where SAV is already established. The Team assembled water quality data available from monitoring stations operated by the MD Department of Natural Resources and will share that data with the facility managers.
7. **Beltsville Agricultural Research Center**—At 6,800 acres, the Research Center is the largest single farm in Prince George's County, Maryland. The Center is located within the Patuxent River watershed and uses an aggressive program of IPM on all roads and grounds. Facility managers state that IPM has saved money over conventional pesticide use. The Research Center also was commended for its extensive promotion of woody buffer strips along streams and for using grassy swales and conservation buffer strips along fields. The Site Assessment Team examined the wastewater management practices around the dairy operation, which includes a 1.6 million gallon lagoon that drains into Beaverdam Creek. Better manure management at the airport is recommended. The Team had an opportunity to examine a wetlands mitigation project con-

structed by METRO, and made several recommendations to improve that effort. The Team also recommended that the Research Center install a trash sweeping boom over Indian Creek. The Team noted that all engineers at the Center are participating in stormwater management training. The Research Center offered an unusual opportunity to observe the impact of deer population on native forest vegetation in a controlled area.

8. **Rock Creek Park**—Rock Creek Park is a national park administered by the National Park Service. The Park abounds the Rock Creek from the D.C.-Maryland border to the Creek's mouth at the Potomac River. As an urban recreational resource, the Park is impacted by heavy recreational, commuter, and commercial uses. The Park encompasses 3,000 acres, though not all parcels are contiguous. The Site Assessment Team was impressed with Park Service's efforts to maintain the quality of the Park but was concerned with the impact of an aging municipal water system that traverses the park via 60 sanitary sewage lines and 375 stormwater outfalls. The Team made several recommendations to reduce the impact of stormwater erosion; to more effectively manage manure loads at stable facilities; and to control soil erosion caused by heavy recreational use. Park Service negotiations with the District of Columbia over improvement of the sewage and stormwater systems are difficult, but the Park Service is reaching out to local businesses and facilities to attempt to correct leakage and illegal hookup problems.

In all of the above assessments, Team members and the facilities learned more about the Bay Program and each other's management challenges. Contacts made as a result of these assessments continue to reap benefits for both the Program and the facilities.

Commitment 14

- (6) *Development of an assessment protocol based upon these demonstration projects for use in completing at least five additional assessments annually at Federal facilities in the Basin until September 30, 2000. (EPA Lead)*

The Federal Agencies Committee Nutrient Reduction Work Group has developed a Nutrient Site Assessment Protocol (most recently revised in September 1996) that has been used successfully to guide assessments undertaken pursuant to this program. The goal has been to expand from a focus exclusively on nutrient reduction to one that encompasses wider Bay Program goals and pollution prevention opportunities.

The Work Group continues to review candidate site for visits in 1997 and 1998, specifically for their potential contributions to the Special D.C. Tributary Strategy (*see* Commitment 10). Sites for 1997 have been nominated by the Department of Defense (U.S.Army), the National Park Service, and the U.S. Postal Service.

TOXIC REDUCTIONS

- ◆ *Aid in the reduction of toxic loadings to the Chesapeake and its tributaries by:*

Commitment 15

- (1) *Significantly increasing the adoption of Integrated Pest Management in the watershed consistent with the Administration's commitment to having Integrated Pest Management implemented on 75% of the country's agricultural lands by the year 2000. (USDA lead)*

This commitment helped to lead the Chesapeake Executive Council to adopt a more comprehensive and specific *Chesapeake Bay Basinwide Toxics Reduction and Prevention Strategy* in 1994. That *Strategy* commits the Bay Program partners to implement voluntary integrated pest management (IPM) practices on 75 percent of all agricultural, recreational, and public lands within the Chesapeake Bay Basin, 50 percent for all commercial land, and 25 percent of all residential land by the year 2000. During 1995, IPM was used on over one million acres of cropland in the basin, an increase of approximately 37,000 acres since 1994. The Department of Agriculture's Cooperative State Research, Education and Extension Service, through representatives to the Bay Program and the individual states, will continue to help implement these commitments on Federal, state and private lands throughout the watershed.

The Department of Defense issued a Pest Management Program Instruction in April 1996. This instruction sets Department-wide policy to establish and maintain safe, effective and environmentally sound IPM programs. Measures of Merit for this program include adoption of IPM on all Department of Defense facilities by FY 1997 and implementation of plans and demonstrated reduction in volumes of pesticide used by FY 2000. The IPM programs also are designed to achieve nutrient reduction. For example, newly adopted fertilization programs used for all grounds maintenance on Langley Air Force Base has cut fertilizer use by 50%.

Excluding administrative buildings leased from General Services Administration, the U.S. Coast Guard owns 706 acres and leases an additional 225 acres of land within the Chesapeake Bay watershed. IPM is formally used on at least 345 acres (49%), and somewhat less formally on an additional 200 acres (77% overall). In addition, the National Park Service, since 1978, has continued to implement IPM practices into park management programs.

Commitment 16

- (2) *Using the existing "BayScapes" and other successful programs to expedite compliance with the President's directive on environmentally and economically beneficial landscaping practices on Federal facilities in the Bay watershed. (USFWS lead)*

BayScapes is an environmental education and outreach program that encourages environmentally sound landscape practices that benefit people, wildlife, and the Chesapeake

Bay. *BayScape* principles include conservation landscaping, creating wildlife habitat using native plants, conserving water, enhancing biodiversity, and utilizing Integrated Pest Management. Having completed development of *BayScapes* informational material, the program now focuses on implementing on-the-ground demonstration projects and expanding the program through various outreach activities. *BayScapes* has been expanded from a homeowners' awareness and action campaign to one that emphasizes and facilitates strong participation from large-scale land managers, including Federal facilities, corporate landowners, communities, and state and local governments.

During 1996, renewed coordination between the U.S. Fish and Wildlife Service and the Alliance for the Chesapeake Bay led to the development of a long-term workplan, including a grant provided by EPA through the Chesapeake Bay Program to support several model and demonstration projects throughout the watershed, signage for demonstration sites, and a series of regional *BayScapes* workshops for land managers and others who will then become sources of technical assistance. The Fish and Wildlife Service designed demonstration sites at four Federal facilities, totaling up to 2.9 acres converted to *BayScapes*: the Anacostia Naval Station (D.C.), Naval Academy Golf Course (Annapolis, MD), Oxford Cooperative Laboratory (Talbot County, MD), and the Fish and Wildlife Service Chesapeake Bay Field Office (Annapolis, MD). The Anacostia project has been planted, and others are due for completion in early 1997. Technical assistance on project planning was provided at several non-Federal sites. Plans for 10–20 more demonstration projects are underway for 1997.

Exhibits, presentations, and informational materials reached thousands of citizens and professionals throughout the watershed. Other program partners in various *BayScapes* activities include the MD Department of Natural Resources, the Wildlife Habitat Council, and MD Department of Agriculture.

The U.S. Coast Guard, with the assistance of the Alliance for the Chesapeake Bay, initiated several *BayScape* projects in 1995 and 1996. Station Little Creek, a Coast Guard station in Norfolk, VA, that was completely rebuilt during this time period, used native plants in its new landscaping plan. These plants were not all originally part of the plan, but the Station Officer-in-Charge requested the changes to comply with Chesapeake Bay Program goals. Station Crisfield, MD, worked with the Alliance to develop a comprehensive *BayScapes* plan for the facility. The plan, which is divided into three zones to facilitate partial implementation if necessary, will be planted during spring 1997. In order to comply with this *BayScapes* Commitment and the President's directive, the Coast Guard Information Systems Center developed a *BayScapes* plan for landscaping around the new front gate area. This *BayScape* will be planted during 1997.

The AmeriCorps*National Civilian Community Corps at Perry Point, MD, has trained Corps members to apply *BayScape* concepts in their projects, whenever possible.

Commitment 17

- (3) *Highlighting releases of the Bay's priority "Toxics of Concern" from Federal facilities in reports under Executive Order #12856. (EPA lead)*

Federal facilities reported their 1994 releases and off-site transfers of chemicals required for reporting under the Emergency Planning and Community Right-to-Know Act (EPCRA) Executive Order 12856 for the first time. Releases and off-site transfers from Federal facilities within the watershed were compiled in the summer of 1996, when the data were released. These data will be used as a baseline to measure progress in achieving the following commitment in the Chesapeake Bay Program's 1994 *Chesapeake Bay Basinwide Toxics Reduction and Prevention Strategy*.

By 2000, achieve a 75 percent voluntary reduction in releases and off-site transfers of Chesapeake Bay Toxics of Concern and chemicals listed under section 313(c) of the Emergency Planning and Community Right-to-Know Act, from a 1994 baseline, for federal facilities within the Chesapeake Bay basin.

The Federal Agencies Committee will work with the Bay Program's Toxics Subcommittee to develop a strategy for achieving this commitment by the year 2000.

The National Park Service is using bioremediation and other techniques to remove PCBs, coal tars, and other toxics originating from historic contamination at various park sites in and around the District of Columbia. Further, the Park Service is working with EPA, the U.S. Navy, and the Virginia Department of Environmental Quality on a hazardous materials study and mitigation measures on underground storage tanks and Superfund sites impacting Park Service trust lands from U.S. Navy lands. The Park Service is also working with the Virginia Institute of Marine Sciences to mitigate ground water nutrient impacts from urban areas adjacent to the park.

FEDERAL FACILITIES

Commitment 18

- ◆ *Assure that the ecological value of any Federal facilities proposed for closure within the Chesapeake Bay watershed is addressed in the decision-making process for future land uses . (DoD Lead)*

The most recent round of Base Realignment and Closure (BRAC) recommendations was completed in 1995. Final disposition of bases listed for closure is ongoing, and Department of Defense representatives continue to work actively with the Bay Program to monitor property transfer studies. Ecological studies are one of the many components of the BRAC process, and BRAC transfers typically are thoroughly evaluated as part of a National Environmental Policy Act process.

Significant closure activities and studies are continuing at Fort Ritchie (Army), Vint Hill Farms (Army), the Naval Surface Warfare Center at White Oak, and as part of the transfer of the Naval Radio Transmitter Facility to the Naval Academy. Potential partnering on ecological considerations for these facilities continues to be investigated and may have particular environmental benefits associated with the Naval Radio Transmitter Facility. Examples of BRAC activities in the watershed includes:

1. **Cameron Station (Army), Alexandria, VA** — The 164-acre facility officially closed on September 30, 1995, and was sold in December 1996. The property was divided into three pieces, one of which was transferred to the City of Alexandria for park and public access uses, and another parcel (including a lake) was transferred to the National Park Service.
2. **Vint Hill Farms Station (Army), Warrenton, VA** — The 701-acre facility is transferring from the Army to the local community in September 1997. The Army is continuing base transition coordination until that time.
3. **Fort Ritchie (Army), Washington County, MD** — The 640-acre facility will be transferred in October 1998 to Washington County. The facility's Integrated Natural Resources Management Plan was recently updated and is being used as a reference during the transfer process. The Army and the County continue to work together on preservation and transfer details.
4. **Woodbridge Army Research Facility/Harry Diamond Laboratory (Army), Woodbridge, VA** — The 579-acre facility, located in Prince William County, is scheduled for transfer to the U.S. Fish and Wildlife Service on June 1, 1997. The property is located along the Potomac River and offers wetlands, shorelines, and natural areas and is well known for its quality bird habitat.
5. **Naval Surface Warfare Center (Navy), Annapolis, MD** — On-going transfer studies include an emphasis on approaches to redevelopment, transportation, and public access issues and waterfront protection considerations. The Navy plans to conduct a cultural resources study on the property prior to transfer. The 44-acre facility is unique in that it is "landlocked" by the Naval Station, Annapolis. The southeast portion of this developed facility is bounded by the Severn River, and the waterfront location is considered a valuable asset and important consideration in future land use planning.

As part of a separate interagency effort, the Department of Defense participates in the EPA's Federal Interagency Working Group on Brownfields. Through this Working Group, the Department of Defense is working to additionally consider the role that closing excess lands can play in community revitalization when these lands are located within an identified Brownfields pilot project location. Efforts such as these ensure that adequate care is given to all aspects of land management decision making during the BRAC property transfer process.

NATIONAL SERVICE

Commitment 19

- ◆ *Provide mutual benefits to the Bay and to national service through environmental improvement training and project proposals and other opportunities to work with 250 Corps members and 45 staff being located in Aberdeen as part of the National Civilian Community Corps, as well as other initiatives of the Corporation for National Service (A*NCCC lead).*

The AmeriCorps*National Civilian Community Corps (A*NCCC) moved its location from Aberdeen to Perry Point, Maryland, reduced staff, and cut the number of Corps members to 68. The A*NCCC, however, has continued its strong support for Bay restoration activities.

On October 10, 1996, the Chesapeake Executive Council held its annual meeting in Harrisburg, PA. The Council adopted a Riparian Forest Buffer Initiative for the entire Chesapeake Bay watershed, which includes a goal of restoring 2,010 miles of buffers by the year 2010. To highlight this new initiative, the A*NCCC at Perry Point was asked to prepare a demonstration site planting of a riparian forest buffer along the Susquehanna River on the morning of the Executive Council meeting. The planting occurred on one of the last privately-held segments of what has become the Capital Area Greenbelt, which encircles the entire City of Harrisburg. A*NCCC Corps members worked with officials from EPA, the U.S. Forest Service, PA's Department of Conservation and Natural Resources, PA's Department of Environmental Protection, the City of Harrisburg, and local conservation groups to design and plant the trees. They also participated in a tree planting ceremony at which officials from the states and EPA planted a ceremonial state tree.

The Bay Program has worked to increase participation and involvement with the A*NCCC and to introduce Corps partnerships with Federal, State, local, and private entities that are working on various projects in the Bay watershed. Bay Program representatives have participated in training Corps members about Bay Program goals, ecology and technical issues. The Bay Program has also provided the A*NCCC with specific project proposals and assisted in forming partnerships between the A*NCCC and other groups. The A*NCCC has worked closely with the Alliance for the Chesapeake Bay on a number of restoration projects throughout the Bay watershed, and the two groups have formed a partnership in a Statement of Understanding.

The A*NCCC began its third year by concentrating on projects within a one-hour drive of their location at Perry Point. The year consisted of projects throughout the Bay watershed. The following are among the environmental and conservation activities undertaken by the A*NCCC in the Chesapeake Bay watershed which further the commitments and goals of the Bay Program.

- **Boordy Vineyard, Gittings, MD**—Along a $\frac{3}{4}$ -mile stretch of a newly planted riparian forest buffer (500 trees) beside Long Green Creek, the A*NCCC cleared away thick multi-flora rose bushes and developed riparian forest buffer maintenance guidelines for landowners.



EPA Administrator Carol M. Browner and Governor Parris N. Glendening “break ground” for the planting of a riparian forest buffer on the shores of the Severn River in Annapolis, Maryland. The Administrator and Governor were joined by volunteers from the U.S. Naval Academy and AmeriCorps. The planting took place on property owned by the U.S. Naval Academy on March 19, 1997. (Photo courtesy of Richard Tomlinson, Governor’s Press Office)

- **Hart-Miller Island, MD**—The A*NCCC removed storm debris from 500 yards of shoreline where 162 trees were planted in 1995.
- **John Evans Memorial Park**—Along 200 yards of shoreline on the Octoraro River, the A*NCCC cleared natural flood debris away from the trunks of 50 trees, filled and graded a small dirt parking area, and erected a 500 foot fence around the park.
- **Gunpowder Falls State Park, MD**—The A*NCCC constructed rock cribbing along a ¼-mile stretch of trail; stabilized existing wood cribbing; constructed one wooden water bar and one rock water bar; and created log and rock stream crossings.
- **Little Pipe Creek, Union Bridge, MD**—The A*NCCC drew a site map for a half mile stretch of the Little Pipe Creek. In addition, Corps members constructed six permanent site-markers that are used for surveying the stream and monitoring its level and rate of degradation, and surveyed and recorded one area of the stream.
- **Long Green Run, Madonna, MD**—The A*NCCC planted 1,300 small trees to create a riparian forest buffer along a ¾-mile stretch of Long Green Run,, and removed tree shelters from approximately 100 river birch trees.

- **Chickahominy River, Richmond, Virginia**—In Joseph Bryan Park, along the Chickahominy River, the A*NCCC planted sixty-seven 10–20 foot trees and potted over 100 small trees.

Benefit to the Community

In the course of their work, the A*NCCC Trailblazers created riparian forest buffer maintenance guidelines for landowners. The A*NCCC also promotes a message that the youth of America are interested in investing their time and energy in environmental preservation projects. Further, the riparian forest buffer projects undertaken by the A*NCCC promote the Chesapeake Bay Program's new Riparian Forest Buffer Initiative.

Benefit to the A*NCCC

The projects undertaken by the A*NCCC provided Corps members with an opportunity to learn about the effects of degraded tributaries to the Chesapeake Bay and about the benefits derived from riparian forest buffers. Members were also introduced to the skills of surveying and to alternative landscaping options available through *BayScaping*. The A*NCCC, at Perry Point, MD, has trained Corps members to apply *BayScape* concepts in their projects whenever possible. A*NCCC members were exposed to a broad array of career opportunities and volunteer opportunities in the environmental field.

REPORTING

Commitment 20

- ◆ *Finally, we agree to report biennially on progress in the implementation of this agreement, beginning April 1, 1995. (EPA lead)*

This document is the second of the biennial progress reports.

APPENDIX A



Chesapeake Bay Program

AGREEMENT OF FEDERAL AGENCIES ON ECOSYSTEM MANAGEMENT IN THE CHESAPEAKE BAY

July 14, 1994



WHEREAS, the National Performance Review under the direction of the Vice President has called upon Federal agencies to develop cross-agency ecosystem planning and management; and

WHEREAS, the restoration of the Chesapeake Bay is a readily accessible example of ecosystem management carried out by a partnership of State and Federal agencies engaged in the integrated management of the waters, the air, the living resources, and human dimensions of the landscapes of the Bay Region, all with the common goal of restoring the Chesapeake watershed to a healthy ecosystem; and

WHEREAS, this partnership is embodied in the 1987 *Chesapeake Bay Agreement*, signed by the States of Maryland, Pennsylvania and Virginia, the District of Columbia, the Chesapeake Bay Commission, and the Federal Government, which reaffirms the commitments of all parties "to restore and protect the ecological integrity, productivity and beneficial uses of the Chesapeake Bay system;" and

WHEREAS, the thirteen Federal agencies which have signed formal agreements to be part of the Chesapeake Bay Program manage public lands, support state implementation through cooperative programs, and bring a broad range of expertise in land, water, air, and living resource management to the restoration effort, and believe the Bay partnership can provide even greater opportunities to achieve ecosystem-based planning and management; and

WHEREAS, the Chesapeake Bay Program is a national leader in the use of sound science to set clear goals and to measure progress in such areas as reductions in nutrient and

toxic loadings to the Bay and its tributaries, the recovery of underwater grasses, and the removal of blockages to migratory fish; and

WHEREAS, the Federal Agencies Committee of the Chesapeake Bay Program has supported these efforts through, among other actions, the establishment of Work Groups on Nutrient Reduction and Habitat Restoration, which have initiated a program of nutrient and habitat assessments of major Federal facilities in the Bay watershed; and

WHEREAS, the President, in a Memorandum of April 26, 1994, for the Heads of Executive Departments and Agencies, has directed agencies to adopt environmentally and economically beneficial practices on Federal landscaped grounds, which practices are in many cases similar to those already being proposed in the facility assessments being undertaken by the Chesapeake Bay Federal Agencies Committee; and

WHEREAS, toxic emissions and releases from private industry to the Chesapeake Bay have been reduced by over 50% in five years, and the President, in Executive Order #12856 has recently called for a similar 50% reduction in toxic releases from Federal facilities by 1999, along with progress reporting to begin July 1, 1995; and

WHEREAS, the President with the support of Congress, has established the Corporation for National and Community Service under the National and Community Service Trust Act, under which the National Civilian Community Corps has established its first Operations and Training Center at Aberdeen Proving Ground, on the Chesapeake.

Now, therefore, we, the undersigned representatives of the participating Federal agencies, commit ourselves to managing the Chesapeake Bay watershed as a cohesive ecosystem, and recommit to working together and with the states and other parties to achieve the goals of the *Chesapeake Bay Agreement*. Specifically, we agree to:

- partnership* ♦ work to bring all our programs into the partnership for Chesapeake Bay ecosystem management, and to urge other Federal agencies to become participants with us, where appropriate;
- research* ♦ coordinate our research agendas in consultation with the Bay Program's Scientific and Technical Advisory Committee, to address priority management needs for restoration of the Chesapeake Bay; initially including the role of atmospheric deposition in nutrient and toxic pollution of the Bay and the impact on the natural system (NOAA lead);
- data coordination* ♦ establish a Work Group under the Federal Agencies Committee to assess and evaluate existing ecological resource inventories used by Federal agencies, and to make recommendations to improve coordination,

compatibility, standardization, GIS-based data layers and interagency transfer of information by December 31, 1995 (EPA lead);

- Anacostia River* ♦ provide full support to the Anacostia River Demonstration Project as an opportunity to apply ecosystem management concepts in an urban environment, through a coordinated biennial Federal workplan beginning in FY 1995, in concert with the Anacostia Watershed Restoration Committee (Corps of Engineers lead);
- habitat restoration* ♦ support full implementation of the Bay Program's Habitat Restoration Strategy and related plans by:
- (1) including innovative use of public and private funding sources, restoration of habitat at Federal facilities, and development annually of a list of priority projects for habitat restoration on Federal lands in the watershed (FWS lead);
 - (2) fully implementing all habitat restoration authorities to improve the condition of aquatic, riparian and upland fish and wildlife habitat and assuring beneficial use of clean dredged material to support fish, migratory waterfowl, and other wildlife habitat in the Bay (Corps of Engineers lead);
 - (3) supporting development in the Bay watershed of a policy favoring the creation of forested buffers along streams, in order to help achieve both nutrient reduction and habitat restoration goals of the Chesapeake Bay Program (USFS lead); and
 - (4) providing technical assistance in fish passage design, providing stock for restoring newly opened spawning habitat, and determining needs for restoring upstream spawning habitat (NOAA lead);
- nutrient reduction* ♦ commit to do our share to meet the goal to reduce by 40% the loadings of nutrients to the Bay by 2000 through:
- (1) supporting the goals and action items of the tributary strategies as they are affected by Federal lands and programs;
 - (2) developing by December 31, 1995, a Special Tributary Strategy for Federal lands in the District of Columbia, where the Federal Government is a major landholder (EPA lead);
 - (3) delivery of Federal assistance by integrated resources planning on a watershed basis to deal with nonpoint sources of pollution, consistent with the 1993 Agreement between the USDA and the Bay Program (SCS lead);
 - (4) completing upgrades of wastewater treatment facilities to remove nutrients at Federal facilities, with priority on facilities in excess of 0.5m gallons per day being upgraded by January 31, 2000, to levels consistent with the applicable tributary strategy (DOD lead);
 - (5) completing demonstration site assessments for nutrient management using interagency teams on at least one Federal facility in each of the four jurisdictions (DC, MD, PA, VA) by December 31, 1994 (EPA lead); and
 - (6) development of an assessment protocol based upon these demonstration projects for use in completing at least five additional assessments annually at Federal facilities in the Basin until September 30, 2000 (EPA lead);
- toxic reductions* ♦ aid in the reduction of toxic loadings to the Chesapeake and its tributaries by:
- (1) significantly increasing the adoption of Integrated Pest Management in the watershed consistent with the Administration's commitment to having Integrated Pest Management implemented on 75% of the country's agricultural lands by the year 2000 (USDA lead);
 - (2) using the existing "BayScapes" and other successful programs to expedite compliance with the President's directive on environmentally and economically beneficial landscaping practices on Federal facilities in the Bay watershed (FWS lead); and
 - (3) highlighting releases of the Bay's priority *Toxics of Concern* from Federal facilities in reports under Executive Order #12856 (EPA lead);
- federal facilities* ♦ assure that the ecological value of any Federal facilities proposed for closure within the Chesapeake Bay watershed is addressed in the decision-making process for future land uses (DOD lead);
- national service* ♦ provide mutual benefits to the Bay and to national service through environmental improvement training and project proposals and other opportunities to work with the 250 Corps members and 45 staff being located in Aberdeen as part of the National Civilian Community Corps, as well as with other initiatives of the Corporation for National and Community Service (NCCC lead).

Finally, we agree to report biennially on progress in the implementation of this agreement, beginning April 1, 1995 (EPA lead).

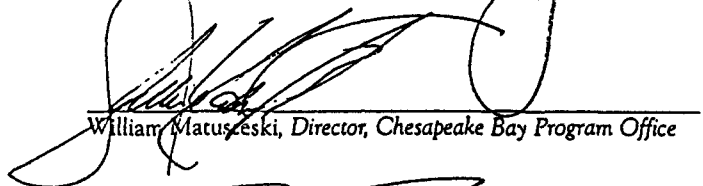
FOR THE U.S. ENVIRONMENTAL
PROTECTION AGENCY




Carol M. Browner, Administrator


Robert Perciasepe, Assistant Administrator for Water


Peter H. Kostmayer, Regional Administrator, Region III


William Matuszeski, Director, Chesapeake Bay Program Office

FOR THE DEPARTMENT OF THE INTERIOR



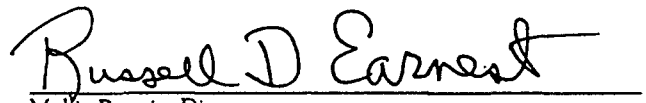

Bruce Babbitt, Secretary


George T. Frampton, Jr., Assistant Secretary for Fish & Wildlife
& Parks


Elizabeth Ann Rieke, Assistant Secretary for Water & Science

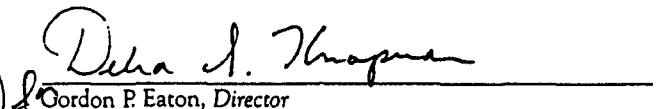
FOR THE U.S. FISH & WILDLIFE SERVICE




Mollie Beattie, Director

FOR THE U.S. GEOLOGICAL SURVEY




Gordon P. Eaton, Director

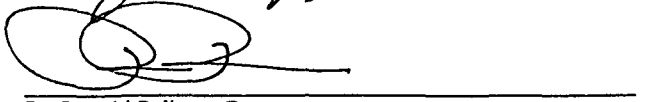
FOR THE NATIONAL PARK SERVICE




Roger G. Kennedy, Director

FOR THE NATIONAL BIOLOGICAL SURVEY

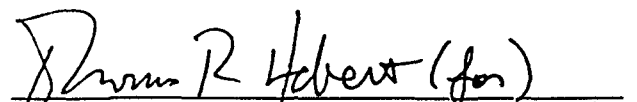



Dr. Ronald Pulliam, Director

FOR THE DEPARTMENT OF AGRICULTURE

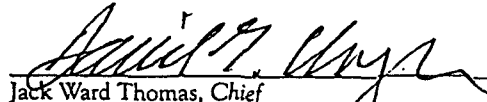



Richard E. Rominger, Deputy Secretary


James R. Lyons, Assistant Secretary for Natural Resources and
Environment


FOR THE U.S. FOREST SERVICE




Jack Ward Thomas, Chief

FOR THE SOIL CONSERVATION SERVICE




Paul W. Johnson, Chief


FOR THE EXTENSION SERVICE




Dr. Leodrey Williams, Acting Administrator


FOR THE AGRICULTURAL STABILIZATION
AND CONSERVATION SERVICE




Grant Buntrock, Administrator


FOR THE DEPARTMENT OF DEFENSE




Sherri Wasserman Goodman, Deputy Under Secretary of Defense
(Environmental Security)

FOR THE DEPARTMENT OF THE NAVY




Robert Pirie, Jr., Assistant Secretary for Installations and
Environment

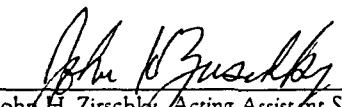
FOR THE DEPARTMENT OF THE ARMY




Robert M. Walker, Assistant Secretary for Installations, Logistics
and Environment


FOR THE DEPARTMENT OF THE ARMY




John H. Zirschky, Acting Assistant Secretary for Civil Works

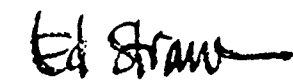
FOR THE DEPARTMENT OF THE
AIR FORCE




Rodney A. Coleman, Assistant Secretary for Manpower, Reserve
Affairs, Installations, and Environment


FOR THE DEFENSE LOGISTICS AGENCY




Vice Admiral Edward M. Straw, Director

FOR THE NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION




D. James Baker, Under Secretary for Oceans and Atmosphere and
Administrator

FOR THE U.S. COAST GUARD




Rear Admiral William J. Ecker, Commander, Fifth District

FOR THE FEDERAL HIGHWAY ADMINISTRATION




Jane Garvey, Deputy Administrator

FOR THE CORPORATION FOR
NATIONAL AND COMMUNITY SERVICE


Eli Segal, President and Executive Officer

FOR THE NATIONAL CIVILIAN
COMMUNITY CORPS




Brigadier General Donald L. Scott, Director

FOR THE SUSQUEHANNA RIVER
BASIN COMMISSION




Ken Cole, Federal Member, U.S. Commissioner


Observers:
FOR THE SMITHSONIAN INSTITUTION




Robert McC Adams, The Secretary

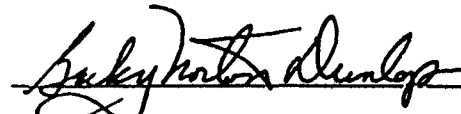
FOR THE COMMONWEALTH OF
PENNSYLVANIA





FOR THE COMMONWEALTH OF
VIRGINIA






FOR THE STATE OF MARYLAND





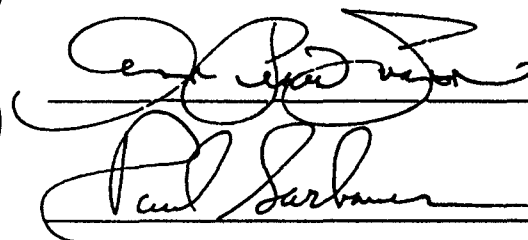
FOR THE DISTRICT OF COLUMBIA





FOR THE CHESAPEAKE BAY COMMISSION





U.S. SENATOR PAUL SARBANES

APPENDIX B Federal Landholdings in the Chesapeake Bay Watershed¹			
Department	Agency	Number of Facilities	Total Acreage
AGRICULTURE	Agricultural Research Service	7	7,998
	Animal Plant Health Inspection Service	1	128
	Natural Resources Conservation Service	2	803
	US Forest Service	3	824,720
	Total Agriculture	13	833,649
COMMERCE	National Oceanic and Atmospheric Administration	3	435
DEFENSE	Corps of Engineers	18	80,296
	Air Force	3	10,880
	Army	21	205,643
	Navy ²	40	129,019
	Defense Logistics Agency	2	1,485
Total Defense		84	427,323
INTERIOR	US Fish and Wildlife Service	16	45,370
	National Park Service	26	286,000
Total Interior		42	331,370
TRANSPORTATION	Coast Guard	11	706
INDEPENDENT AGENCIES	National Aeronautics and Space Admin.	2	1,927
	Smithsonian Institution	1	2,600
Total, Independent Agencies		3	4,527
GRAND TOTAL		155	1,598,000

¹Does not represent total Federal landholdings as not all agencies with property in the area are represented in the CBP.

²Includes the Marine Corps Base, Quantico, VA



United States
Environmental Protection Agency
Chesapeake Bay Program
410 Severn Avenue, Suite 109
Annapolis, MD 21403

Official Business
Penalty for Private Use
\$300

U.S. Environmental Protection Agency
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