



US Army Corps  
of Engineers  
Baltimore District

## CHESAPEAKE BAY PROGRAM FY2001 ANNUAL REPORT



### Background

The Chesapeake Bay Program (CBP) is a unique partnership that has been directing and conducting the restoration of the Chesapeake Bay since the signing of the historic Chesapeake Bay Agreement in 1983. The CBP partners include the states of Maryland, Pennsylvania, and Virginia; the District of Columbia; the Chesapeake Bay Commission; and the Environmental Protection Agency, representing the Federal government. Again in June 2000, the partners rededicated themselves to the restoration effort by signing the *Chesapeake 2000 Agreement* (C2K). The U.S. Army Corps of Engineers has been actively involved in the Bay Program since 1984. Baltimore District serves as the lead Corps District, representing Norfolk and Philadelphia Districts, and the Waterways Experiment Station. The Corps' participation in the CBP involves coordination, technical support, and planning, design, and construction of restoration projects.

### CBP Hot News in FY01

**Toxics Strategy:** In December 2000, Bay Program partners adopted a new action plan that set comprehensive goals for preventing the release of chemical contaminants in the Bay and its tributaries. The development of the *Toxics 2000 Strategy* fulfilled the first major commitment of the *Chesapeake 2000 Agreement*. It commits the partners to surpass current regulatory requirements and strive to achieve "zero release" of chemical contaminants into the Bay from sources such as agricultural and storm water runoff.

**New Water Quality Restoration Approach:** In August 2001, Bay Program partners released a new process for setting and achieving nutrient and sediment reductions necessary to restore Bay water quality. The new process requires partners to continue to build on previous nitrogen and phosphorus reduction goals, but instead of measuring improvements against broad percentage reduction goals, success will be measured by the response of the Bay's living resources.

**Stormwater Management Directive:** At the annual Executive Council meeting held in December 2001,

Bay restoration leaders announced the Stormwater Management Directive, an innovative plan to improve water quality by controlling storm water's contribution of chemical contaminants, nutrients, and sediment to the Bay and tributaries. The Directive is aimed at federal, state, and District owned lands and encourages the development of new technologies.

**\$8.5 Billion Price Tag for Bay Restoration:** During the summer of 2000, the Chesapeake Bay Foundation developed a cost estimate for achieving the major bay restoration goals over the next ten years. The cost is estimated to be roughly \$8.5 billion and includes the following goals:

- Additional nitrogen removal at sewage treatment plants;
- Establishment of new forested buffers;
- Implementation of farmland water quality plans;
- New urban stormwater management retrofits; and
- Enhanced wetlands and oyster restoration

This translates into a need for \$850 million per year from all federal, state, and local sources. The Foundation encouraged Bay partners to coordinate legislation with and seek significant funding from federal agencies. The Bay Restoration effort was compared to that of the Florida Everglades Restoration Project, estimated to cost \$7.8 billion.

### Chesapeake 2000 Agreement

**Chesapeake 2000 Agreement (C2K) Goals:** The C2K Agreement is a comprehensive blueprint for restoring the Bay and its living resources over the next decade. It identifies more than 90 specific goals that are grouped into the following 5 major goals:

- Living Resources Protection and Restoration
- Vital Habitat Protection and Restoration
- Water Quality Protection and Restoration
- Sound Land Use
- Stewardship and Community Engagement

The Corps identified the goals that are within the Corps' mission areas. They met with various Bay partners to discuss how the Corps can partner with other agencies to help meet these goals. The Corps will continue to have these discussions.

To demonstrate the types of projects that the Corps already has underway that meet these 5 major goals, the Corps developed a table-top display and matching brochure titled "Restoring the Chesapeake." The display has been shown at various meetings and the brochure is being widely distributed.

### Corps CBP Activities in FY01

**Oyster Restoration:** The first goal listed in the C2K Agreement is to achieve a tenfold increase in native oysters in the Bay by 2010. This includes developing and implementing a strategy by 2002. Through the Corps' Oyster Recovery Project, the Corps has taken the lead in this effort and has been working closely with the Bay partners to develop a strategy for the tenfold increase.

A major issue that arose during the year is the potential introduction of a non-native species, the Suminoe oyster, into the Bay waters for aquaculture production. Due to successful results of field experiments conducted by the Virginia Institute of Marine Science (VIMS), this species is becoming a prime candidate for aquaculture in Virginia waters to supplement the native oyster. Through the Living Resources Subcommittee, and the Federal Agencies Committee (FAC), the Corps has been actively involved in evaluating the introduction of such a species. With input from the Corps, the FAC developed recommendations regarding the anticipated proposal to introduce the Suminoe oysters into the Bay. The conclusion was that significant biological, ecological, and economic risk assessments and alternatives analyses need to be conducted prior to making an informed decision on the issue.

**Elizabeth River Environmental Restoration:** The Elizabeth River, one of three *Regions of Concerns* identified by the Chesapeake Bay Program, has levels of organic contaminants that are higher than any known area in the Bay. In November 2001, the Corps received approval to creatively restore 22 acres of estuarine tidal wetlands and remove 60,000 cubic yards of contaminated sediment. The sediment removal portion of the project involves removal and remediation of contaminated sediments for the purpose of environmental enhancement and water quality improvement. This portion of the project will be the first project approved in the nation under the authority of Section 312 (b) of WRDA 1990, as amended.

**Bay Model:** The Chesapeake Bay Environmental Model Package (CBEMP), developed by the Waterways Experiment Station, has been employed for a variety of management purposes since its development over a decade ago. At present, the

CBEMP is guiding management efforts to remove the Bay from an EPA list of impaired water bodies. This effort requires the highest standards of model accuracy. A major milestone was passed in April 2001 when results from the hydrodynamic model were reviewed by an expert panel. The hydrodynamic calculation was judged successful and worthy of use to drive calculations of water quality in the Bay. The water quality component of the CBEMP has undergone numerous revisions and thorough review. The model is presently being employed in exploratory mode to investigate potential effects of various clean-up scenarios.

**SAV Mitigation Policy:** In February 2001, EPA Region III and the Chesapeake Bay Program Office initiated an effort to develop a policy to protect submerged aquatic vegetation (SAV) from dredging impacts permitted by the Corps' Regulatory Program. Representatives from both the Baltimore and Norfolk Districts were actively involved in many discussions regarding this issue. EPA representatives developed and proposed a "no-net loss" policy for dredging projects impacting SAV. The Corps was not in favor of a general SAV mitigation policy or any policy that targets only regulatory actions. The Corps has developed guidelines for protecting SAV and has coordinated these guidelines with the CBP's SAV Workgroup. Ultimately, the "no-net-loss" policy was not approved, and instead, a formal analysis of existing SAV policy implementation, inconsistency, practices, and function across the Bay watershed has been requested by the Implementation Committee.

**Sustainability Conference:** In June 2001, the Corps of Engineers hosted their second Bay workshop titled "Chesapeake Bay 2001 – Integrating Environmental and Facility Management to Create Sustainable Facilities." More than 75 federal facility environmental managers, public works and grounds maintenance personnel, and contractors attended to learn about designing facilities to protect natural resources and reduce energy use. The workshop is part of the Corps' continuing effort to provide leadership in environmental stewardship, habitat protection, and ecosystem restoration.

**Anacostia River Restoration Presentations:** In July 2001, Baltimore District briefed the Federal Agencies Committee (FAC) on the restoration projects the Corps has underway in the Anacostia River watershed. The Anacostia River is one of the three *Regions of Concerns* identified in the Chesapeake Bay Agreement. The Corps, along with many partners, has 15 projects involving ecosystem restoration throughout the watershed. The projects include wetland restoration, fish passages, stream restoration, riparian buffers, and stormwater retrofits.

In September 2001, the FAC visited Ft. Dupont, where the Corps is currently conducting a study to investigate ecosystem restoration projects. The Corps presented ideas to the FAC and received feedback on the potential project.

## Corps Projects and Programs

The Corps has many projects and programs that are helping to meet the goals of the C2K Agreement. Below is a summary of those programs:

**Civil Works Program:** The Corps' Civil Works program has more than 50 projects currently underway that will help restore fish and wildlife habitat to the Bay watershed. A few of the major GI studies/projects include:

- Anacostia River Watershed Restoration
- Anacostia Federal Facilities Impact Assessment
- Baltimore Metro Water Resources – Gwynns Falls
- Chesapeake Bay Oyster Recovery
- Elizabeth River Environmental Restoration
- Embrey Dam Removal, Rappahannock River
- Oyster Habitat Restoration, Tangier Sound
- Smith Island Environmental Restoration

A few of the Continuing Authority Projects are:

- Blackwater National Wildlife Refuge Wetlands Restoration
- Dents Run, PA, Stream Restoration (Acid Mine Drainage)
- Ft. Chaplin/Ft. Dupont, D.C., Stream Restoration
- Hart-Miller Island Restoration
- Saxis Island, VA, Aquatic Ecosystem Restoration
- Tangier Island, VA, Ecosystem Restoration

**Operation and Maintenance Program:** Operations and Maintenance activities include navigation actions, stewardship on Corps lands, and special initiatives such as the Baltimore Harbor Dredged Material Management Plan. Civil works flood control projects consist of fourteen dams and reservoirs (2 dry dams) and thirteen local flood protection projects that are federally maintained. Corps reservoirs are designed for multiple purposes that result in benefits to water quality, sediment retention, and recreational and educational opportunities. Reservoirs are operated during all weather conditions to sustain a minimum flow that supports living resources in downstream waters. Corps land managers continue to coordinate with resource agencies for protection and enhancement of wildlife and aquatic habitat.

Stream bank stabilization was completed at Hammond Lake, Pennsylvania, in 2001. The stabilization includes "hard" shoreline stabilization and weir placement in the stream. The stabilization will

reduce erosion and concomitant water quality effects. The project was completed in cooperation with the Natural Resource and Conservation Service and other state and local agencies. New agricultural leases requirements for stream bank buffers will improve habitat in the Bay watershed by allowing the growth of native herbaceous and, eventually, woody species in the buffer zone. It is anticipated that the naturally occurring vegetation will reduce stream bank erosion and downstream sediment transport.

The Corps strives to beneficially use material dredged from our navigation channels whenever possible. During the summer of 2001, the Corps partnered with many agencies and organizations, including the Baltimore Aquarium, to restore 11 acres of salt marsh at Barren Island. Approximately 140,000 cubic yards of material was dredged from the Honga River navigation channel and placed behind geotextile tubes. Many volunteers participated in planting the saltmarsh. The largest beneficial use project in the Chesapeake Bay is the Restoration of Poplar Island. The project will restore 1,110 acres of wildlife habitat by placing, shaping, and planting approximately 38 million cubic yards of material dredged from the Baltimore Harbor approach channels over a 25-year period. The habitat created will include approximately 555 acres each of intertidal wetland and upland habitat.

**Regulatory Program:** The Corps' Regulatory Program provides a significant function for meeting Chesapeake Bay Program goals. Between Baltimore District and Norfolk District, the Corps reviewed more than 8000 permit applications in FY01. Two of the most significant accomplishments during the year were the development and implementation of new Statewide Programmatic General Permits (SPGP) for the State of Maryland and the Commonwealth of Pennsylvania. These permits allow for greater state-level involvement in relatively small actions, thus freeing Corps regulators to focus on larger actions such as watershed assessments, special area management plans, and Bay Program initiatives, while successfully achieving the major Bay Program goal of no net loss of wetlands. Norfolk District continues to negotiate the terms of a proposed Virginia SPGP with the Commonwealth of Virginia, EPA, and the USFWS.

Another significant accomplishment was the expansion of mitigation banking in Virginia. To date, Norfolk District has signed mitigation banking instrument agreements, consistent with Federal Guidelines, with over 16 commercial and single user bankers. The District also continues to experience success with its in-lieu fee arrangement with the Virginia Nature Conservancy. Banking and in-lieu fee contributions provide additional opportunities for the

public to satisfy mitigation requirements, provide for leveraging resources to produce better mitigation, and achieve the national goal of no net loss of wetlands.

**Military and Support for Others Programs:** The Corps also helps meet the C2K goals by providing planning and environmental support to DOD and other non-Corps agencies for construction and pollution prevention projects throughout the Bay watershed. In 2001, the Corps provided NEPA compliance support for numerous military construction projects. This support included planning for compliance with new, stricter stormwater, habitat, and pollutant regulations.

Pollution prevention has become a major part of the military planning program. During 2001, Spill Pollution Compliance and Countermeasure plans were developed for eleven Maryland Army Reserve National Guard (MDARNG) armories in the Bay watershed. In addition, Hazardous Substances Management Systems were implemented at a number of other military installations.

**Contaminated Site Clean-Up:** The Corps continues to provide design, construction, and technical assistance to the EPA's Superfund Program, which helps to meet the chemical contaminant reduction goals in the Bay Agreement. In July 2001, the Corps and the EPA completed the clean-up of the former Southern Maryland Wood Treatment Plant property. The heavily contaminated site was cleaned up to the highest standard, allowing it to be used for residential, agricultural or industrial development. The project included restoring a pond with floating contamination to a wetland swale.

### Participation in Committees

The Corps actively participates in a number of the CBP committees and subcommittees. All of the committees provide a forum for the Corps and other agencies to learn about each others' activities, as well as identify and coordinate future restoration projects and partnerships.

**Implementation Committee (IC):** The IC is comprised of representatives from many federal and state agencies. Some of the major responsibilities of the IC are to track and evaluate progress on the C2K commitments, provide guidance on priorities, and review and approve strategies and work plans.

**Federal Agencies Committee (FAC):** The FAC is comprised of representatives that either own land in the watershed and/or have missions that impact water quality or the living resources in the Bay watershed. The FAC is responsible for representing federal policies in the CBP, and also provides a forum for

information exchange regarding the numerous federal programs and projects. Federal Agency Agreements were signed in 1994 and 1998 establishing specific goals and commitments for the Federal agencies. The Corps' commitments include preparing and implementing an Anacostia Federal Biennial Workplan, supporting the Elizabeth River Restoration Action Plan, and implementing beneficial use of dredged material projects. The Corps continues to support these commitments. The Corps completed the 1999 Anacostia Federal Biennial Workplan and began work on the next update.

**Living Resources Subcommittee (LRSc):** The purpose of the LRSc is to coordinate the implementation of the Bay Program's efforts to conserve, enhance, and restore the living resources of the Bay watershed. Representatives from Baltimore District's Planning Division and Operations Division are actively involved in this subcommittee. Some of the key issues the LRSc dealt with in FY01 were the non-native oyster introduction, a strategy for SAV protection and restoration, and the identification and ranking of non-native invasive species.

**Modeling Subcommittee:** Under the Support for Others Program, the Corps (Waterways Experiment Station) has continued development of a refined computer model of the Chesapeake Bay. Development of the model is facilitated by quarterly review meetings with technical and management representatives in the Bay Program and national peer review representatives.

### Corps FY01 CBP Funding Summary

The Corps' programs that support Chesapeake Bay restoration objectives include portions of the General Investigations Program, Construction General Program, the Installation Support Program, the Superfund Program, the Regulatory Program, and the Operations and Maintenance Program. The latter four programs are difficult to quantify, so only the civil works environmental study and project costs for FY01 are included below.

**Direct Funding:**  
Chesapeake Bay Program Coordination-\$169,000

**Indirect Funding:**  
General Investigations Program - \$1,751,000  
Construction General - \$42,650,000

**Total FY2001 Program:** \$44,401,000