



# *The Army's* Chesapeake Review

April 1999



## Army Installations Honored Around the Bay

*Story and photos provided by the U.S. Army Environmental Center Public Affairs Office.  
View the AEC website for more information about environmental awards, [aec-www.apgea.army.mil](http://aec-www.apgea.army.mil).*



**At Fort Belvoir, Bald Eagle management zones protect the species' nesting and foraging habitat while allowing for non-disruptive training.**

Two installations in the Chesapeake Bay Watershed were among 17 winners of the 1998 Secretary of the Army Environmental Awards, which were announced in an official memorandum issued from the Pentagon on December 26, 1998. Fort Belvoir was an award winner for the Natural Resources Conservation, small installation category, and Aberdeen Proving Ground (APG) won the award for Pollution Prevention, non-industrial installation category. They prevented pollution, protected natural resources, and improved conditions on Army installations — while sustaining readiness and saving million of dollars. By their example, the winners of the 1998 Secretary of the Army Environmental Awards showed why ideas and innovation are among the Army's most valuable environmental assets.

Fort Belvoir was recognized by the Secretary of the Army, Louis Caldera, for superior management of its 8,656 acres of natural resources located in mostly urban Fairfax County, Virginia. Fort Belvoir is a key partner in the Army's Chesapeake Bay Program and oversees wetlands conservation programs and stream restorations that have served as models for the surrounding community and other military installations in the region. Fort Belvoir has established two wildlife refuges, preserved a riparian buffer zone, and maintained strong partnerships with local and regional natural resource managers to protect the Chesapeake Bay.

APG covers more than 72,500 acres on the Chesapeake Bay between the Susquehanna and Gunpowder Rivers. The installation was honored by Secretary Caldera for an extensive, well-managed pollution prevention program that ranged from the creation of a "HAZMART" for distributing and controlling hazardous materials, to the replacement of more than 30,000 light fixtures with more efficient ones. After more than 80 years of testing and training, the proper management and disposal of hazardous materials is a high priority for the installation. Some highlights of APG's program include the following: replacing paint solvent with the use of dry ice, high-pressure water, or glass or plastic beads; researching environmentally preferable paints, which is part of a project to reduce hazards from paint products on post; encouraging organizations on post to choose environmentally preferable office supplies and other products (non-aerosol, recycled, reusable, non-chemical, or without hazardous chemicals).

Each year, the Secretary of the Army Environmental Awards program recognizes installation, team, and individual efforts in Natural Resources Conservation, Cultural Resources Management, Environmental Quality, Pollution Prevention, Recycling, and Environmental Cleanup. On April 26, the Army presented a total of 17 awards — 10 installation, three team, and four individual at a Pentagon ceremony. Each Army award winner competed in its respective category for the Secretary of Defense Environmental Security Awards presented at a Pentagon ceremony on April 27. Fort Belvoir received the Secretary of Defense Environmental Award for natural resources conservation.

**Karl Griffen, a chief quality inspector at Aberdeen Proving Ground, uses a compressed-air sprayer to apply a citrus-based degreaser to an engine. Both the cleaner and the sprayer replace products that were more hazardous to use and more harmful to the environment.**



# Important FACts

The Federal Agencies Committee (FAC) met on January 7 and February 18, 1999, at the Chesapeake Bay Program Office in Annapolis, Maryland. Announcements and highlights from these meetings included:

- The FAC discussed the commitments under the Federal Agencies Chesapeake Ecosystem Unified Plan (FACEUP) with deadlines that fall between now and January 1, 2000.
- The pilot program for the Bay Partner Facility Program is ready. Facilities being considered for the pilot include U.S. Army Garrison Fort Belvoir, Langley Air Force Base in Virginia, and Patuxent Naval Air Station in Maryland. Contact Ms. Aileen Smith at (757) 444-3009, ext. 386 for more information.
- A demonstration site for implementing stream corridor restoration technology has been completed at the U.S. Department of Agriculture's Beltsville Agricultural Research Center.
- Technical assistance and training for development of nutrient management plans is available to Federal landholders through the Natural Resource Conservation Service (NRCS). Contact Jerry Griswold of NRCS at (410) 267-5754 for more information.
- Several potential pollution prevention initiative mentors, including Army and Navy facilities, have been identified for the Business for the Bay Program.
- Glenn Eugster with EPA, who is the River Navigator for the Potomac American Heritage River Initiative, and Karen Zachary, Executive Director for Friends of the Potomac, discussed the Federal role within the Potomac River initiative and announced efforts to form a Federal Team to work with the Friends' leadership in implementing initiatives. Mr. Eugster can be contacted at (202) 260-2772 or at EUGSTER.GLENN@epamail.epa.gov.
- Bob Campbell of the National Park Service discussed the Chesapeake Bay Gateways and Watertrails legislation that promotes a linked system of "gateways" that are representative of Chesapeake Bay cultural and natural history. For FY 00, approximately \$1 million in grant money is available for access and interpretive projects jointly funded with non-Federal monies.
- The Chesapeake Bay Program is in the process of undergoing internal and external assessments to evaluate the Program's progress toward achieving its goals, and to define priority goals and commitments for the Chesapeake Bay Program into the next millennium. The resulting evaluation will be to prepare a new Chesapeake Bay Agreement, which will be signed by the Executive Council in April 2000.
- The Federal Agencies Committee is preparing a BayScaping and Conservation Landscaping Guide.
- The Fish and Wildlife Service has a new web page that contains links to BayScape information. The new web page address is: <http://www.fws.gov/r5cbfo>.

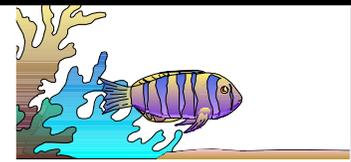


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# The State of the Bay



## The Status of Flow and Water Quality Data and Phytoplankton in 1998

Diane Switzer, CBPO, presented an overview of 1998 flow and water quality data for the Chesapeake Bay mainstem at the January 14, 1999 IC meeting. Flow data records date back to 1951. The average annual river flow from 1951 to 1998 was 78,000 cubic feet per second (cfs). The period between 1951 and 1971 was characterized by years with relatively low flow. This period was followed by a time of high and mixed flows that peaked every 3 to 4 years until 1996. From 1996 to 1998, there were wide fluctuations in flow. The highest river flow on record occurred in 1996. 1998 had the eighth highest average river flow at 97,700 cfs.

The first 6 months of 1998 had the highest flow of any year on record. In comparison with 1996, the high flows of 1998 extended later into the spring. Ms. Switzer reported that low salinity waters extended much farther into the mainstem of the Bay in 1998 as a result of the extended high-flow period. Although more data are needed for 1998, the extensive lower salinity waters can provide an increased area for anadromous fish spawning.

Data indicated low dissolved oxygen concentrations in the bottom layers of the Bay in May 1998, possibly due to increased stratification caused by low salinity waters meeting high salinity waters. Dissolved oxygen levels were normal for the remainder of 1998.

Richard Lacouture, Academy of Natural Sciences, presented information on phytoplankton blooms in the Chesapeake Bay. Numbers of phytoplankton are generally measured using chlorophyll and carbon data.

Last year was characterized by relatively high densities of blue-green algae in certain tidal-fresh and semi-saline areas of the Chesapeake Bay estuary during summer months. *Microcystis aeruginosa*, a type of blue-green algae, achieved relatively high densities in the upper Potomac River and in the upper Chesapeake Bay. *M. aeruginosa* is a concern because it can be toxic when ingested.

There was also an increase of blue green algae in the mainstem of the Bay. This may be due to a change in the ratio of nitrogen to phosphorous. Mr. Jim Collier, DC Department of Health, noted that the increase in blue green algae could also be due to meteorological changes, water flow, and water clarity.

## SAV in the Tangier Sound Region

At the February 25, 1999 IC meeting, Rob Magnien, Maryland Department of Natural Resources, Peter Bergstrom, U.S. Fish & Wildlife Service, and Bill Streener, Chesapeake Bay Foundation, spoke about the status of submerged aquatic vegetation (SAV) in the Tangier Sound region of the Chesapeake Bay. Dr. Magnien said that SAV was on a steady increase from the early 1980's until 1992. Since 1992, a steady decline has been recorded in the entire Bay, especially in the Tangier Sound region. In a 1998 *Bay Journal* article, Dr. Magnien notes that 1992 SAV acreage in the Tangier Sound region totaled 18,113 while 1997 acreage was only 9,453, a decrease of 48%. This includes an almost complete SAV loss from Bloodsworth and Southmarsh Islands. Researchers are also noticing a direct relationship between the decline in SAV and the decline in the Bay's blue crab population. The Bay lost 24,000 acres of blue crab settlement and habitat between 1992 and 1998.

Mr. Streener noted that the loss of SAV in the Tangier Sound region is a result of both local and Chesapeake Bay-wide environmental changes. The major Bay-wide causes are nutrient enrichment, loss of system resiliency, and an increase in total suspended solids resulting in low water quality. Local causes include clam dredging, shoreline erosion (loss of islands affects clam beds), water depth changes, sediment and current changes, and biological disruptions resulting from grazing cow-nosed rays and mute swan. Mr. Bergstrom reported that the most significant problems affecting SAV appear to be total suspended solids and low water clarity, which are occurring throughout the Bay. Other problems that need to be further examined are increasing nitrogen and phosphorus levels from agricultural runoff.

Although the Scientific and Technical Advisory Committee (STAC) does not currently have enough information to support a cause of action to reduce SAV losses, they will continue their research with the SAV workgroup. The 3D model developed by the modeling subcommittee will play a significant role in the research. The sediment model can be run in conjunction with the water quality model to pinpoint where problems are originating. STAC will try to isolate the Tangier Sound region in their model runs.



# IC Highlights

Implementation Committee (IC) meetings were held on January 14 and February 25, 1999, at the Chesapeake Bay Program Office (CBPO) in Annapolis, Maryland. Announcements and highlights from these meetings include the following:

- A Community Watershed Task Force is being developed in accordance with the Community Watershed Initiative Adoption Statement. The Task Force will be a subset of the IC and will meet for the first time before the February IC meeting. Amanda Bassow, CBPO, will take the lead to organize the group.
- Lewis Linker, CBPO, presented key findings from the lower Virginia tributaries model scenarios and discussed implications for setting nutrient and sediment goals for the five tributary basins. The models examine the responses of algae, submerged aquatic vegetation, and dissolved oxygen to sediment and nutrient load changes. Mr. Linker indicated that the water quality model for the entire Chesapeake Bay would be fully operational by the end of March 1999.
- Gary Moll from American Forest, discussed his organization's work in analyzing forest cover changes in urbanizing areas of the Chesapeake Bay watershed. One finding is a 60% loss in heavy forest canopy in the Baltimore/Washington/Annapolis corridor since 1973.
- Waldon Kerns reviewed the outcomes of the Application of Growth Analysis for the Chesapeake Bay. Several goals were identified including identifying a course of action that would enable the Chesapeake Bay Program, including state and local partners, to efficiently assess and identify alternative development strategies that will minimize the impacts of development on local waterways, nutrient loads, and the Bay.
- Carolyn Watson, Maryland Department of Natural Resources, updated the IC on the implementation of the Wetland Directive (Directive 97-2). Although many deadlines will not be met, the National Wetlands Inventory mapping will be completed in time for the next Executive Council Meeting.
- Kate Naughten of the CBPO updated the IC on the progress made in meeting Education Directive goals. Internal workgroups from MD, VA, PA, and DC were formed and will attend the Communications meeting on March 16, 1999, along with representatives from the Chesapeake Bay Program (CBP) and Chesapeake Bay Commission. The CBP will host its first Educational Summit in 1999.
- As part of the Chesapeake 2000 Internal Assessment, Bill Matuszeski announced that the IC will evaluate the 1987 Chesapeake Bay Agreement and determine the extent to which the Bay Program has met the articles of the Agreement. A draft report of the IC's findings will be presented at the next IC meeting.
- Mike Fritz of the Environmental Protection Agency (EPA) announced that the Living Resources Subcommittee is working with the Geographic Information System workgroup and a panel of experts from MD, VA, PA, EPA, and the National Oceanic and Atmospheric Administration to determine the best system to monitor land use and land cover. A final report will be presented at the April IC meeting for the committee's consideration.
- Bob Campbell of the National Park Service announced that legislation was just passed regarding the Chesapeake Gateways and Water Trails Program. The program now offers grant assistance to support public access and interpretation projects.
- Kelly Eisenman of the CBPO announced that the preliminary results of the toxic characterization study are available. These results were based on sediment, fish tissue, and water quality data. The study attempts to identify areas where toxins may pose a threat to aquatic life in the Chesapeake Bay watershed.