

**Chesapeake Bay Committee, Subcommittee, and Workgroup Activities for STAC
February 2006**

Topics of Interest for STAC Members:

Education:

- Highlights of Workgroup's History** p. 4-5
- Jamestown Anniversary and Related Projects** p. 5

Forestry:

- Watershed Management Tool** p. 6
- Federal Tax Incentives for Buffer Conservation Strategies** p. 6

Living Resources:

- Virginia NOAA Office Activities** p. 7
- Chesapeake Bay Perception Survey Revisited (2002)** p. 7-8
- Ad Hoc Panel Report on Non-Native Oyster Proposal** p. 8-9
- State Strategic Plans:**
 - Maryland** p. 9
 - Virginia** p. 9-10
 - Pennsylvania** p. 10
- Status, Trends, and Distribution of Wintering Birds in Chesapeake Bay** p. 10-11

Urban Stormwater:

- State of the bay Restoration** p. 2
- Stormwater Management Data Needs** p. 2-3
- Street Sweeping Project Update** p. 3
- NC Stormwater Survey Highlights** p. 3-4

Urban Stormwater Workgroup Conference Call (December 12, 2005)

Jeff Sweeney (UMD CBPO) presented the indicators for the annual integrated assessment of the State of the Bay Restoration effort for the Bay Program. His presentation can be viewed at:

<http://www.chesapeakebay.net/calendar.cfm?EventDetails=6957&DefaultView=2>

The environmental indicators are in four major categories:

1. Managing pollutants and land use,
2. Managing habitats,
3. Managing fisheries, and
4. Fostering stewardship.

Under pollutants and land use are agricultural and development BMP implementation, municipal and industrial wastewater nutrient loads, point and non-point source composite, as well as air quality BMP implementation. Under managing habitats are forest buffers planted, wetlands restored, fish passage restoration, and aquatic/oyster reef construction. Under managing fisheries are crab, oyster, striped bass, shad, and menhaden fisheries management plan implementations.

Wastewater enhancements:

- Progress is measured relative to the 1985 base year and a load cap of 39.7M lbs nitrogen and 3.01M lbs phosphorus.
- By 2004, 63% of nitrogen and 80% phosphorus goals had been achieved.

Tracking reported implementation of agricultural practices:

- Progress is an integration of implementation levels of agricultural BMP's reported by the states. Implementation is measured against tributary strategy goals with 1985 as the base year.
- By 2004, 44% of nitrogen, 49% of phosphorus, and 41% of sediment implementation goals had been achieved.

Reported BMP implementation levels for the individual practices of nutrient management plans and cover crops:

- These are presented at the diagnostic indicator level for the most significant non-point source BMP's across air pollutant source sectors.
- By 2004, actions were taken to achieve 74% of nutrient management plans and 40% of cover crop strategy goals.

Tracking reported implementation of development practices:

- This measure of progress is based on watershed model loads, which incorporate the effects of a suite of BMP's on urban and other non-agriculture lands as well as septic systems.
- The increase in the number of septic systems offsets use of new septic technologies and improved maintenance practices.
- By 2004, actions were taken to achieve 9% stormwater management and 24% erosion and sediment control strategy goals.

Jeff Sweeney (UMD CBPO) earlier presentation also included the data needs for stormwater management. The list of data needs include:

- Locations of Phase 1 and 2 regions being acquired by the Bay Program office.
- Estimates of the current acreage of land (percent of total urban area) covered by existing stormwater practices at jurisdiction scale.

- Need review of the Bay Program defaults from tier development to be used in the Phase 5 calibration.

Still need answers to the following questions:

- Estimates of the percent of future development that will have mandatory stormwater controls in 2020 and 2030.
- Estimates of the percent of existing land that will be retrofitted with stormwater controls in the next 25 years.
- Proposal for phase 5 watershed model calibration for stormwater management implementation levels.

Ideally, Jeff would like data to include best professional judgment on stormwater management acreage or percent coverage, type of stormwater management with BMP details, data for each year from 1984-2002, and location information at the county level.

Neely Law (Center for Watershed Protection) presented an update on the street sweeping project titled “Deriving reliable pollutant removal rates for municipal street sweeping and storm drain cleanout programs in the Chesapeake Bay Basin”. The goal of the two year project is to gain a better understanding of the impact street sweeping and storm drain cleanouts have on reducing pollutant loadings to surface water. To achieve this project goal, five organizations and six laboratories are involved, in part, with the following five tasks:

1. *Literature review of street sweeping storm draining cleanout behavior* – to characterize and evaluate street sweeping and storm drain cleanout performance in the removal of nutrients and other pollutants.
2. *Survey of current municipal practice in the Chesapeake Bay* – to provide data on current street sweeping and storm drain cleanout practices and how communities compute nutrient removal efficiencies for these practices.
3. *Runoff and baseflow sampling in two urban catchments* – to characterize the effects of different street sweeping and catch basin cleanout activities in two urban catchments based on baseflow and storm event monitoring.
4. *Street surface sediment and pollutant monitoring* – to determine how street surface accumulation and washoff rates change in relationship to sweeping frequency. Street sediment samples will be collected and analyzed to determine their physical and chemical characteristics.
5. *Characterization of storm drain inlet behavior* – this task will involve extensive sampling of sediment behavior within each catch basin in Baltimore County, MD that will involve the measurement of sediment depth and chemical analyses of the sediment collected.

Work on the project began in October 2005 with the initial focus on the literature review. Elements of tasks 2-5 are concurrently being done. To date, the literature review study has revealed that there is limited field data collected on the newer street sweeping technologies is being placed on modeling studies.

Norm Goulet (Northern VA region, Chair USWG) shared through email new stormwater results from the North Carolina Division of Water Quality study “Stormwater Knowledge, Attitude and Behaviors: A 2005 Survey of North Carolina Residents”. It can be found at the following website:

http://www.ncstormwater.org/pdfs/storwater_survey_12506.pdf

The document is 117 pages in total length but the body of the report is contained in the first 29 pages, with the remainder being the survey instrument, frequency tables and cross tabs. The study included a literature review and a random sample survey of 1,000 households. Margin of error for most questions is about 4%. While there may well be some sampling bias, and transferability is an open question, the findings make for some interesting reading.

- Only a minority, about 38% of the residents knew that stormwater flows to the closest waterway.
- Urban audiences in EPA Phase I localities, where stormwater programs are underway, were not shown to be anymore aware of the link between their behaviors and water quality than those in rural areas.
- Respondents' knowledge levels and water protective behaviors did not rise in association with formal education levels.
- There were no correlations between respondents' perceptions of water quality of waterways and race, gender, income, education or dwelling area.
- Soil testers did not apply any less fertilizer than those who did not test their soil.
- A surprisingly large number of NC's wealthy respondents reported that they apply fertilizer themselves, rather than hiring a lawn care company.
- Five percent of the respondents reported that they fertilized on a monthly basis.
- Those earning more than \$100,000 annual salary reported applying fertilizer more than any other income level, with those in the 35-45 year old age group (12%) more likely than any other age group to fertilize monthly.
- While fewer than 17% reported changing their own motor oil, the report recommends that the impact of dumping even small quantities of used motor oil in local waterways makes this message too important to be neglected.

Two follow-up surveys are planned for 2006 and 2007 in order to obtain trend data.

Education Workgroup Meeting (January 12, 2006)

Ann Regn (VA DEQ, Chair Education Workgroup) gave a briefing on the Education Workgroup's history highlighting the following:

- Various Education Directives
- Multiple Chesapeake 2000 education commitments
- January 2005 Executive Council's endorsement of MWEE (Meaningful Watershed Educational Experience)
- Most recent education agreement signed at the November 2005 National Geographic Education Summit in Washington, DC

Shelby Laubhan (CRC Fellow) reviewed the Bay Program Education Summit evaluation results and feedback summary with the workgroup. The responses ranked "very good" on average. Workgroup members analyzed these results and suggested the following recommendations for the 2007 Summit:

- Define a comprehensive summit purpose and theme, as well as provide various missions with objectives tailored to differing audiences that will be attending
- Separate summit tracks according to the audience make-up or viewpoint

- Convene the next summit at the VA Beach Conference Center or another VA vicinity near to the Bay mouth so as to highlight the John Smith Trail and/or Jamestown Anniversary

Shannon Sprague (NOAA, Education Coordinator) presented the workgroup with a draft copy of the “2005 Status of Chesapeake Bay Program Education Workgroup”. This document provides CBP partners, government and state education officials with a comprehensive account of the workgroup’s origin and accomplishments since the last Education Summit in 2003. The sections “MWEE State Implementation” and “Next Steps” for the workgroup serve as the bulk of the document, while appendices include policy related documents and the 2005 CB Education Summit Report.

Alta Cassady (Jamestown 2007) and **Daman Irby (VA Center of Politics)** gave an overview of their current projects. Their presentations can be viewed at the following website:

<http://www.chesapeakebay.net/calendar.cfm?EventDetails=6643&DefaultView=2&RequestDate=01/19/2006>

Students are invited to participate in America’s 400th Anniversary historic Teach-In on November 9, 2006. Themes for the event reflect legacies of Jamestown, such as modern democracy, free enterprise, rules of law, cultural diversity, and exploration. Program elements include:

- One hour national live web-cast
- One hour production made for television
- Essay contest to determine two students from every state to participate in the live Teach-In

For more details on education resources for these events, please check out the following:

<http://www.jamestownjourney.org>

<http://www.americas400thanniversary.com>

Other related projects with the Jamestown Anniversary event include:

- VA DCR’s Captain John Smith’s Trail on the James River – boating and driving tour that chronicles Smith’s explorations of the waterway between 1607 and 1609. Retrace Smith’s journeys in the classroom as well as by kayak by visiting: <http://www.JohnSmithTrail.org>
- NOAA, National Geographic Society, and National Park Service are partnering to install educational and interpretative buoys along the John Smith Trail for navigation, water quality testing, place markers, etc.
- The Elizabeth River Project has received two new grants to aid in the publishing of three children’s books about Jamestown and new interpretative costumes
- Friends of Rappahannock will be restoring their cabins for camping and educational purposes
- The Hampton Roads Alliance for Environmental Education, a coalition consisting of 175 non-formal educators, will begin an annual conference tradition at either the historic Triangle Host Community or Colonial Williamsburg

Forestry Workgroup Meeting (January 12, 2006)

All presentations and materials for this meeting can be found at the following webpage:

<http://chesapeakebay.net/calendar.cfm?EventDetails=6852&DefaultView=2&RequestDate=01/14/2006>

Mary Searing (Watershed Management Program Administrator for Anne Arundel County) presented the counties scheme for prioritizing potential restoration sites. Anne Arundel County faces many environmental problems ranging from stormwater quantity and quality issues as well as pollution and illegal dump sites. The county developed a watershed management master plan (land management planning) and its watershed management tool, a desktop watershed condition indicator. This tool is a comprehensive watershed database with GIS, field and monitored data with a composite of weighted indicators including habitat, infrastructure, hydrology and hydraulics. This was used to develop the prioritization scheme for potential stream restoration projects in Anne Arundel County. The scheme was implemented through the Capital Improvement Program and with the Dept. of Public Works and community groups.

Rich Widmann (USFS) presented the forest inventory and analysis, past, present, and future that is conducted and maintained by US Forestry Service research at their Northeastern Station. How data are collected, shared, and the quality of the data was discussed as well as a summation of forest and ownership trends in the Bay watershed. A survey on woodland ownership characteristics showed family-owned forest owners are the biggest percentage of forest owner's classes. Family owned forests are the biggest number of forests but not the biggest number of acres. Industrial forests constitute the largest acres not the biggest number. The number of family owned forests in the Bay watershed are increasing.

Bryan Seipp and Colleen Langan (Potomac Conservancy) provided an overview of the Growing Native program. In 2005, a record 20,000 lbs of seeds were collected. This was the first year that PA participated. Many new partners including Casey Tree's and Thorpewood joined last year and the year was full of educational strides. The curriculum for K-12 is being developed to include MWEE, kiosks for seed drop-off will be constructed, an ambassador training will be implemented, as well as grow-out stations expanded and direct seedling sites established.

Derrick McDonald (PA DEP) discussed increasing federal tax incentives for buffer conservation strategies. In PA, Emily Cooper completed a survey asking Conservation Reserve Enhancement Program (CREP) owners if they would be interested in permanent easements and many were. PA is working on ways to contact property owners and assist them with permanent easements. PA would like to target existing CREP owners nearing their contract expiration and target owners who want to do more. Currently in PA, the CREP program is not buying land, instead land is entered into a 15 year contract.

- In VA purchasing permanent easements at \$500 per acre the easement holder has the option of taking a tax deduction.
- Other programs to consider are Forest Legacy, Farmland Protection, State Revolving Fund, and a tax buffer credit for timber areas with riparian buffer zones.

Announcements:

- The Urban Tree Canopy Workshop is scheduled for March 7-8, 2006 at the Maryland Inn, Annapolis. Email Al Todd at atodd@fs.fed.us to register. This is a two-day workshop designed to give practical instruction on tools and methods for enhancing urban tree canopy cover. The course will cover administrative considerations, canopy assessment techniques, goal setting and implementation strategies, and a new framework for attaining diverse social and ecological goals through urban forestry.
- The Center for Watershed Protection will publish the Urban Watershed Forestry Manual Part II in early March 2006. Part III is in review and is scheduled to be published May/June 2006.

Living Resources Analysis Workgroup Meeting (January 20, 2006)

Paula Jasinski (NOAA VA office) led a discussion of NOAA staff and activities out of the NOAA VA offices at VIMS, Gloucester Point, and the Nauticus Museum in Norfolk.

Habitat Suitability Indices – The fisheries management planning and coordination workgroup has requested habitat suitability indices models for the five targeted species, beginning with alosids, to include in the fisheries management plans. The results of the fisheries monitoring workshop scheduled for February may be useful in addressing ways to expand surveying in smaller tributaries.

Database Integration - Veridyne (CBPO) has been tasked with creating a combined relational database for fisheries independent data collected by the states of MD and VA. Andree Stratton (Veridyne) has fairly well-completed the integration of the seine surveys for MD and VA. Work on incorporating the state trawl surveys is expected to be completed soon.

Oysters – The restoration indicator has been completed, but the biomass indicator is waiting for MD data which should be available in the next week or so. There is also an effort with the help of Ken Paynter (UMES) to build a database for oyster restoration (linking plantings and monitoring).

Ecosystem Explorer – This NOAA funded project also known as Think Map is an interactive tool visually showing community food web linkages and linking back to multi-dimensional data.

Environmental Sensitivity Index – This is a valuable planning tool that prioritizes shoreline areas for clean-up after an oil spill based on sensitivity. The inventory of VA resources is done but there is a shortfall of money for MD data (mostly overflights).

Chris Conner (ACB, Communications Coordinator CBPO) presented the latest look at the indicator layout for the CBP restoration report as well as discussed the Bay Perception Survey conducted in 2002. It is due to be run again in 2007 and the overall results indicated that 88-90% of people surveyed in the Bay watershed were somewhat to very concerned about the Bay. The survey conducted by Virginia Tech was titled “A Survey of Knowledge, Attitudes, and Behaviors Towards Chesapeake Bay Watershed Water Quality Issues”. The reason for the

survey was more actively engage the citizens of the Bay watershed about the need to protect and restore the Bay and its rivers, we first need to better understand a few key questions:

- What do citizens currently understand?
- Who are the target audiences?
- What is the best way to reach them?
- What information do they need?

The 2002 results were drawn from over 1900 random telephone surveys that included Bay watershed residents in all jurisdictions. The participants were asked 31 questions and the overall margin of error is 2.2%. Regions included: NY, north central PA, south central PA, Baltimore-Washington metro, north central VA, Shenandoah and western Potomac, Tidewater, and Delmarva. 48.2% of respondents correctly identified the definition of a watershed from four options. Demographics, perceptions, and behaviors changed slightly from an original CBP survey conducted in 1994.

Implications from the survey were the following:

- There was a clear connection between level of knowledge/concern and level of activism
- However, knowledge and concern do not always occur together
- The right kind of information delivered to the right people should go a long way in promoting action
- The potential for stewardship action in any given region or for any given demographic group clearly is considerably higher than currently realized
- In each case, the concern and interest are there, if only they had the knowledge

For more details about this survey: <http://www.chesapeakebay.net/survey.htm>

Ben Longstaff (NOAA UMCES) presented the current status of and actions needed to prepare the March Health and Stressors Report for the CBP. The following indicators were discussed with the workgroup; Phytoplankton IBI, Blue Crab, SAV, Oysters, Striped Bass and Menhaden.

Living Resources Subcommittee Meeting (January 26, 2006)

All materials and presentations can be found at the following website:

<http://www.chesapeakebay.net/calendar.cfm?EventDetails=6636>

Jennie Niewood (CRC Fellow) gave an update on the most recent proposal to the Ad Hoc Panel; a proposal by COMB, UMBI “Evaluation of *Crassostrea ariakensis*” as a Potential Sink or Reservoir for pathogens and Parasites of Human and Shellfish”. You can view the full report and the Ad Hoc Panel’s recommendations at the following weblink:

<http://www.chesapeakebay.net/calendar.cfm?EventDetails=6962>

The recommendation from the Ad Hoc Panel on transporting non-native oysters was:

- There is concern regarding the transport and bio-security of non-native oysters between laboratories. The panel realizes that sharing resources is economical because of the short supply but that the panel is unclear where the oysters are being transported. The panel recommended that the Living Resources Subcommittee make state regulatory representatives aware that transportation may be occurring without proper clearance under the project permit. The panel believes that it must be stated in the project proposal and must be approved by the panel and the state agency that the oysters are going to be transported rather than be destroyed after testing.

- The panel recommended that Living Resources Subcommittee contact the state permitting agencies to address the above issue. A written document expressing the LRSC's concern is most appropriate.

The following updates will serve as guidance for LRSC to address water quality issues within the Bay watershed and also to create a strategic plan for LRSC to help the states implement their strategies:

Maryland: Jamie Baxter (MD DNR)

- Point source – Approval of the nutrient strategies and the adoption of the “flush tax” has helped MD implement their tributary strategy. Local jurisdictions, within MD, are quickly signing up for cost share opportunities that will be used to upgrade sewage treatment plants that will ultimately reduce nutrients.
- Non-point Source – MD has experienced greater challenges with agriculture non-point source pollution. They have begun looking at implementation rates that will hopefully increase the amount of cover crops, forest buffers, and animal waste and transport. They are receiving an increase in funding each year to help with animal manure nutrient reduction. Portions of the “flush tax” go to farmers so that they can plant cover crops and riparian buffers and restore wetlands.
- Forested buffers vs. grass buffers – MD has set large goals for completion of forested and grass buffers. The CREP program in MD is back online and has provided more landowners opportunity to reserve wetlands. Research in MD shows that landowners prefer grass buffers better than forested buffers.
- Urban stormwater – MD is now seeing better water quality standards in the field. The techniques are more standard and regular across the board. Each year more funding has been allocated for stormwater management. Septics are a small piece of the nutrient allocation. There is now \$6 to \$8 million available per year to home owners for upgrading older septic systems to a denitrification system. MD is now working on a program as a “middle man” between the homeowners and the state to help facilitate the upgrades.
- Corsica River Project – A targeted watershed initiative which looks at the effort required to fulfill tributary strategy goals within this watershed. The objective is to see how much resources and effort it will take to complete tributary strategy requirements on one watershed. DNR realizes that working with farmers is very important to make sure that BMP's are implemented such as cover crops. This project will also highlight how the state can work with local people to help maintain the BMP's and objectives.

Virginia: Rick Hall (VA DCR)

- VA's goals are ambitious, to highlight restoration numbers; wetlands (171K acres), forested buffers (370K acres or 44K miles), and grass buffers (115K acres). All acreage totals for restoration of wetlands and buffers equals approximately $\frac{3}{4}$ of a million acres. There is significant habitat and water quality gains associated with these restoration acreage totals but they are not realistic. \$30 million in last years funding went towards a full range of non-point source pollution improvements and VA is hopeful that more money will be allocated in future years.
- VA is struggling with large restoration acreages within their tributary strategies. Many of the acreage estimates have been model driven. It has become a challenging task for

VA to gain support of stake holders. VA acknowledges that centering focus on the whole Bay estuary and not on local water quality has become a very real problem. It is hard to convince landowners of potential benefits of water quality issues because they are not focusing specifically on their backyard.

- Rick has become a proponent for the protection of headwater streams. An ongoing project called the “Blue/Green Project” will try to assess stream health throughout the coastal zone. Part of this project includes a completed interactive stream assessment resource (INSTAR) which is an internet based (ArcIMS) program that supports user-driven database queries, mapping functions, and quantitative biological and habitat assessments of stream reaches and watersheds, using algorithms and ecological models that compare selected sites to appropriate regional reference conditions.

Pennsylvania: Frank Payer (PA DEP)

- PA’s tributary strategy is built on 13 strategies for watersheds in the Susquehanna and Potomac basins. This approach will promote locally developed and implemented watershed planning efforts to meet local stream and Bay water quality goals. Planning and community involvement are key components of PA’s tributary strategy effort.
- PA counties are encouraged to develop local implementation plans to support broader state tributary strategy. Priority BMP implementation includes cover crops, no-till agriculture, precision agriculture, etc. Funding to support these plans and larger tributary strategy are not limited to CBP funds but also include programs like CREP and Growing Greener.
- Since 2000, Growing Greener has provided funding to preserve farmland and protect open space; cleanup abandoned mines, restore watersheds, and provide new upgraded water and sewer systems. Over 467 projects have been funded to date. Other programs such as the Chesapeake Bay Small Watershed Grants and Conservation Reserve Enhancement Program (CREP) has helped to fund many watershed restoration projects.
- Riparian forest buffers – PA’s tributary strategy includes the restoration of 10,000 miles of forest buffers. PA is developing a conservation easement program to protect riparian buffers in perpetuity. A pilot program will be implemented in at least two months in the Bay watershed between 2005 and 2006.
- In 2004, a new farm management initiative was proposed that would be broader than federal regulations. Agriculture, Communities, Rural Environment (ACRE) was signed in 2005. Farming operations that are required to implement nutrient management will increase from 810 to 5,210. This legislation will also focus on water quality problems in agriculturally impaired watersheds.
- Sewer infrastructure – In 2004, \$250 million was provided in new bond money for sewer and water infrastructure. \$200 million was directed to upgrade, rehabilitate, and expand wastewater and water supply systems connected to economic development projects with priority to brownfields. \$50 million was directed in grant funds to finance nutrient reduction technology installation and to address combined sewer and sanitary sewer overflows.

Please see PA’s tributary strategy powerpoint presentation at the following:

<http://www.chesapeakebay.net/calendar.cfm?EventDetails=6636>

Doug Forsell (US FWS) gave a presentation on the “Distribution, Abundance and Population Trends of Diving Ducks, Sea Ducks, and Waterbirds Wintering on the Chesapeake Bay”.

Highlights include the following:

- Each year a mid-winter waterfowl survey is completed within the shore zone which is 300-400 meters between the land and offshore. The survey is done by flying transects of the bay and its goal is to control invasive species, restore SAV, preserve and restore coastal wetlands, provide open water sanctuaries and understand ecosystem linkages. Some wintering waterfowl on the Bay will migrate as far as western Alaska. Most waterfowl found on the Bay are Geese, Diving Ducks, Dabbling Ducks, and Sea Ducks.
- Over the years, the Tundra Swan has been in steady decline and the invasive Mute Swan is slowly taking over with destructive force. Through banding efforts done on many Tundra Swans, it has found that many migrate from the north slope of Alaska. As for the most abundant goose species on the Bay, it can be concluded that Canada goose takes first place. Resident Canadian geese cause major agricultural problems in many states including the destruction of wild rice.
- Canvasback and Redhead ducks are frequent seasonal visitors of the bay. They feed primarily on SAV. With the recent decline of SAV in the Bay, there has been a decline with these ducks populations. The possible return of SAV may bring back many of these ducks back but now many will continue to winter in the Gulf of Mexico where SAV is more abundant. Many of these ducks were radio collared to see if SAV beds could be mapped by tracking where they go to feed. The ducks were found too difficult to map and the data was eventually found to be inconclusive.