



# THE ABSTRACT

*A Monthly Update from the Scientific and Technical Advisory Committee*

February 2013

## *Recent STAC News*

### **CBPO Requests STAC Review of Shellfish Aquaculture Report and Potential for Nutrient Trading**

On January 8, 2013, Chesapeake Bay Program Director, Nick DiPasquale, sent an official request on behalf of the CBP Management Board (MB), requesting that STAC review the June 2012 Mann and Newell study, entitled “Shellfish Aquaculture: Ecosystem Effects, Benthic-Pelagic Coupling, and Potential for Nutrient Trading,” among other relevant studies, in an effort to further examine the use of shellfish aquaculture as a means to reduce nutrient levels in the Chesapeake Bay.

This review was originally brought to the MB by Assistant Secretary of Natural Resources for Chesapeake Bay Restoration Anthony Moore (Virginia Secretary of Natural Resources). The official CBP request complements a NOAA Chesapeake Bay Office (NCBO) sponsored workshop, which was led by STAC member Mark Lukenbach (Virginia Institute of Marine Science - VIMS), and Lisa Kellogg (VIMS).

The MB has asked that STAC consider a number of important questions and concerns in their review. Please see the complete letter, attached at the end of this newsletter for your convenience, which includes twelve specific recommendations for STAC to examine.

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### **Updates from January Management Board Meeting – Annapolis, Md. January 10, 2013**

The CBP MB addressed the proposed STAC Communications Protocol flow chart at their January meeting. The flow chart was designed to establish a more streamlined procedural exchange between STAC and the MB, with the MB Chair acting as the main point of communication for the MB. Pat Buckley (PA Department of Environmental Protection) was concerned that the Chair would be able to approve/disapprove STAC activities without prior consultation with the entire MB. MB Chair, Nick DiPasquale, and the rest of the Board agreed

to revise the protocol language, and ensure that MB members would be consulted before any final response on behalf of the MB.

In other actions, Carin Bisland (GIT 6) presented revised CBP goals for 2013 (presentation attached). Mark Bennett (Modeling Lab Action Team - MLAT) discussed the progression of the Modeling Lab proposal, including potential cost (estimated at \$1.5 million), size, and function. A draft report will be finished by March 2013, and MLAT will present the final report at the May 16 MB meeting. Bennett's presentation is also attached to this newsletter for reference.

Scott Phillips (USGS) announced the release of the Toxic Contaminants Report. The Executive Summary of that report is also attached to this newsletter.

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### **Updates from December 2012 LGAC Quarterly Meeting – Annapolis, Md. December 13-14, 2012**

The Local Government Advisory Committee (LGAC) held a two-day quarterly meeting in Annapolis, MD, which included tours of various Annapolis project sites on Day 1, and a Day 2 Strategic Planning Session focusing on criteria for LGAC involvement in Bay issues, evaluation of core mission, and priorities for 2013-2014.

LGAC Chair Richard Gray (Mayor of Lancaster, PA) presented the role of LGAC and local governments in improving local water quality to the Chesapeake Bay Commission, and also distributed a personal opinion letter regarding controversy surrounding local implementation of WIPs and the Conowingo Dam.

LGAC also proposed a series of workshops to the EPA and National Fish and Wildlife Foundation. These workshops will focus on state implementation issues, and will coincide with state and local government conferences throughout the year.

In other related news, longtime LGAC Coordinator Rick Keister will be stepping down later this year to pursue other professional endeavors.

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### ***STAR Updates***

STAR's Modeling WG held its quarterly meeting in Annapolis on January 9-10. Substantial activity in the CBP Modeling Team and its subcontractors was presented, with foci on (1) the US Army Corps (USACE)-EPA modeling in use for assessing Conowingo sediment inputs, (2) the planned US ACE modeling activities through 2017, (3) a review of AGCHEM nutrient exports relative to nutrient loads and how those will inform the new Phase 6 PQUAL model, (4) a proposal for a model test period for future model adoption and progress reporting in the CBP, (5) new findings on remotely-sensed forest disturbance and nutrient loading, and (6) revisions to atmospheric ammonia flux modeling and CMAQ for the 2017 mid-point assessment (see <http://www.chesapeakebay.net/calendar/event/18873/>).

## ***GIT Updates***

**Editorial Note:** Below are summaries of both recent and upcoming CBP Goal Implementation Team (GIT) and workgroup meetings. All STAC members are **STRONGLY** encouraged to attend or call in to a particular workgroup or GIT of their choosing, and relay information to us for inclusion in the newsletter.

All workgroups and GITs are in need of additional scientific and technical expertise. As a reminder, reimbursement is available for STAC members who wish to attend CBP meetings in-person. For more information on the GITs and workgroups, please visit the CBP committee activities website at:

<http://www.chesapeakebay.net/committeeactivities.aspx?menuitem=14890>.

For additional details regarding any of the meetings below, please visit the CBP calendar at:

<http://archive.chesapeakebay.net/calendar.cfm?RequestDate=05/26/2011&DefaultView=2>.

### **GIT 1 (Sustainable Fisheries)**

The Sustainable Fisheries GIT hosted a discussion with local stakeholders and watermen, and focused on male blue crab reference points, invasive catfish, forage fish, land use, and oyster restoration/aquaculture over three days at their December 6-8, 2012 meeting on Tangier Island. Blue crab reference points are still being established, as are indicators for a number of fish species. Dave Secor (UMCES) represented STAC at the meeting, and can be contacted for comment.

### **GIT 2 (Habitat)**

The Habitat GIT developed a list of solutions on how to decrease time spent obtaining permits for habitat restoration projects at their November 28, 2012 meeting at Cacapon State Park, W. Va. Those potential solutions have been summarized in a letter to CBP Director Nick DiPasquale on behalf of Habitat GIT Chair Jeff Horan.

Additionally, the SAV Workgroup finalized their document, "Strategy to Accelerate the Protection and Restoration of Submerged Aquatic Vegetation in the Chesapeake Bay," and will present their plans to the MB at their upcoming meeting.

### **GIT 3 (Water Quality)**

Water Quality GIT Workgroups are currently working on moving a number of Best Management Practice (BMP) Panels through urban, agricultural, wastewater, and forestry sectors. Urban nutrient management and urban stream restoration BMP Panels are under review. More information on the progress of all BMP Panels can be found on ChesapeakeStat:

[http://stat.chesapeakebay.net/?q=node/130&quicktabs\\_10=3](http://stat.chesapeakebay.net/?q=node/130&quicktabs_10=3)

The next Water Quality GIT conference call will be held on February 11, 2013.

#### **GIT 4 (Healthy Watersheds)**

The Healthy Watersheds GIT presented their new strategy for 2013 at their December 10, 2012 meeting. This strategy plan included reflections on 2012 activities, measurable outcomes for 2013, and proposed collective GIT activities for 2013. The overarching Healthy Watersheds GIT goal, as stated in the strategy plan, is to “maintain local watersheds at optimum health across a range of landscape contexts.”

They held their follow-up conference call on January 17, 2013. The Healthy Watersheds 2013 Strategy document is attached with this newsletter for your convenience.

#### **GIT 5 (Foster Stewardship)**

The *Chesapeake Bay Watershed Public Access Plan* is now complete, and an embargoed copy is attached at the bottom of the newsletter, along with a press release.

The goal of this plan is to develop 300 new public access sites around the Chesapeake Bay by 2025. The first data call reports for new public access sites will begin this year, and will be reviewed at the Foster Stewardship GIT meeting in March, along with implementation issues, potential methods for facilitating review of collected data, and other topics associated with collaboration and public access planning.

The Foster Stewardship GIT’s Education Workgroup is developing “meaningful metrics in support of the MWEE commitment and Mid-Atlantic Elementary and Secondary Environmental Literacy Strategy. All watershed states except for New York are involved in this process, and all have supported the current strategy. Draft metrics will be finished sometime in Spring 2013, and the workgroup will ask the Executive Council (EC) to approve these metrics at the 2013 EC meeting.

The Land Conservation Action Team continues to maintain and improve the LandScope Chesapeake publicly accessible land conservation geographic information and priority system. The Action Team will refresh existing data layers, and add new geographic content this February.

#### **GIT 6 (Partnering and Leadership)**

The Partnering and Leadership GIT received formal approval from the Principals’ Staff Committee (PSC) at their December 5, 2012 meeting, and have since moved forward with development of new goals, governance, and potential agreement for future presentation at upcoming MB and PSC meetings. The Decision Framework Implementation Workgroup met on January 25<sup>th</sup>, and will present their work to date at the February 14<sup>th</sup>, and March 14<sup>th</sup> MB meetings. The next PSC meeting is scheduled for March 7, 2013.

## *Upcoming STAC Events*

### **STAC Workshop: Multiple Management Models in a Regulatory Setting**

**Date:** February 25-26, 2013

**Location:** Annapolis, Md. – Sheraton Hotel

**Details:** The purpose of this workshop will be to gather stakeholders, modeling experts, and regulatory experts to discuss how multiple models have been applied in management situations around the nation, and analyze whether or not the Chesapeake Bay restoration effort may benefit from the use of multiple models in the future.

### **March Quarterly Meeting**

**Date:** March 12-13, 2013

**Location:** Annapolis, Md. – Sheraton Hotel

**Details:** STAC will convene its membership for the fourth quarterly meeting of FY2012. A room block has been set up for STAC members at the Sheraton Hotel in Annapolis, Maryland. Please call 410-266-3131 OR 888-627-8980 and reserve your room by **February 25<sup>th</sup>**.

Additional details are available on the meeting website at:

[http://www.chesapeake.org/stac/meeting.php?activity\\_id=216](http://www.chesapeake.org/stac/meeting.php?activity_id=216)

### **STAC Workshop: Targeting Restoration of Coastal Habitat Complexes**

**Date:** April 16-17, 2013

**Location:** Easton, Md. – Tidewater Inn

**Details:** The Habitat Goal Implementation Team (GIT 2) proposed a workshop to bring together coastal wetland, living shoreline, black duck, and submerged aquatic vegetation (SAV) restoration partners, in order to discuss complementary targeting approaches that will facilitate the development of coastal habitat complexes.

## *STAC Reports*

- *Adapting to Climate Change in the Chesapeake Bay (Published June 2012)*  
[http://www.chesapeake.org/pubs/287\\_Pyke2012.pdf](http://www.chesapeake.org/pubs/287_Pyke2012.pdf)

- *Evaluating the Validity of the Umbrella Criterion Concept for Chesapeake Bay Tidal Water Quality Assessment (Published August 2012)*  
[http://www.chesapeake.org/pubs/289\\_UmbrellaCriterionActionTeamTidalMonitoringandAnalysisWorkgroup2012.pdf](http://www.chesapeake.org/pubs/289_UmbrellaCriterionActionTeamTidalMonitoringandAnalysisWorkgroup2012.pdf)
- *Using Multiple Models for Management in the Chesapeake Bay: A Shallow Water Pilot Project (Published October 2012)*  
[http://www.chesapeake.org/pubs/291\\_Pyke2012.pdf](http://www.chesapeake.org/pubs/291_Pyke2012.pdf)
- *The Role of Natural Landscape Features in the Fate and Transport of Nutrients and Sediment (Published November 2012)*  
[http://www.chesapeake.org/pubs/293\\_2012.pdf](http://www.chesapeake.org/pubs/293_2012.pdf)
- *Chesapeake Bay Goal Line 2025: Opportunities for Enhancing Agricultural Conservation Conference Report (Published December 2012)*  
[http://www.chesapeake.org/pubs/295\\_Meisinger2012.pdf](http://www.chesapeake.org/pubs/295_Meisinger2012.pdf)

## ***STAC Spotlight***



Dr. James Pease will cycle off STAC this year after six years on the committee. Before he sets off on his next venture, we'd like to look back at how his journey to STAC began, years ago and miles away from the Chesapeake Bay watershed, on a small farm in the Midwest.

Pease grew up in Iowa, and attended Iowa State University. With a Bachelor's degree in Political Science, and a Master's and Ph.D. in Agricultural Economics, one might think he planned this career all along. But Pease, like today's college graduates, entered a professional world of mounting uncertainty.

"When I came out of college, there were no jobs available, and I became interested in serving in the Peace Corps," Pease said. "Although I grew up on a farm, I majored in pre-law, and it was a big stretch to work in agriculture in the Peace Corps."

Pease spent the next seven years in Honduras working with the Peace Corps, and other international agencies, before returning to the U.S. to obtain his Masters degree from the University of Wisconsin in 1980. "Then I got tired of people with Ph.D.'s telling me what to do with my life, so that led me to get my Ph.D. at Michigan State University," Pease said.

It was there that he got involved in farm management and agricultural policy, and his experience led to his first faculty position at Penn State University in 1986. His work at PSU offered opportunities to explore both risk and water quality management, and in 1988 he moved to an Assistant Professor position at Virginia Tech.

Nowadays, he spends most of his time conducting research and extension programs, but he still teaches a course on food and agricultural policy at Tech, with a major component examining the environmental implications of agricultural production and policy.

It was also during his tenure at Virginia Tech that he was introduced to STAC. Two colleagues, Waldon Kerns and Saied Mostaghimi (both former STAC members), noticed his work in economics and water quality management, and encouraged him to join.

Pease said what he will miss most about STAC is “the energy that comes from a bunch of people with different expertise, talking and working on issues. The diversity makes the work so much more interesting, whether I’m working with engineers, hydrologists, or oyster specialists; I don’t get enough of that in my normal everyday work. And everyone on the committee has always been so warm and friendly. I will truly miss that,” Pease said. “But, I will not miss the drive to Annapolis.”

Pease plans to stay busy, and said he’ll continue working on the Farm Bill, if it gets the opportunity to pass. “Part of that bill,” he said, “involves a safety net for U.S. farmers known as crop insurance, and I have many economic topics I want to address within the context of that insurance system.” There are other projects in the pipeline, he added, but he’ll have some fun too: “There’s great smallmouth bass fishing within seven to eight miles of campus.”

Thank you, Jim, for your years of commitment to STAC and good luck in your future endeavors.

### *Jim’s Departing Words of Wisdom and Wishful Thinking*

**Q:** If you were king, what would you pursue or enact to insure lower nutrient releases from agricultural activities but still maintain high farm production?

**A:** “I would give farmers “pollution feedback” with a farm-level hydrologic simulation model, require development of a whole-farm nutrient plan for each farm operation, and verify that farmers have followed the plan or pay for offsets to the nutrient pollution caused by the operation.”

**Q:** The farm subsidy program is huge in the U.S. Is it appropriate today as it was when it was initially established? If not, how should it be modified to protect farmers and insure public funds are appropriately spent?

**A:** “The commodity programs were designed to provide price and income support for “family farms.” The later conservation programs were designed to accomplish particular environmental improvements through voluntary participation. In the future, there will be less funding for either kind of effort. However, there will be “safety net” programs such as crop insurance. At a minimum, participants in subsidized crop insurance programs should be required to comply with conservation provisions stricter than the basic “conservation compliance” provisions of today.”

**Q:** In your opinion, is there a practical hope for alternative large-scale (region-wide) uses of animal manures and litter that would prevent massive soil and water accumulations?

**A:** “There has never been a comprehensive research project analyzing the technical and economic feasibility of centralized facilities using waste inputs. Most technologies have some

negative impacts, but it should be possible to break even on large-scale public investments if the technological problems are worked out.”

**Q:** Can nutrient trading really work for the agriculture community, considering the land conservation practices that must be employed just to meet baseline load reductions before trades can occur?

**A:** “NT can only reduce the cost of meeting WQ goals, it cannot be an income generator for the agricultural community. Point to non-point trading is rife with problems, particularly if the non-point source is not bound to the contract for nutrient credits, and public agencies haven’t shown the political backbone to hold the nonpoint sources to the agreements that they make.”

“There are inherent uncertainties that you can’t resolve, in the cost of executing a market-like transaction (which is what NT is supposed to do), they’re inherent in the nature of the beast. Estimating how much pollution is actually being loaded into water supplies is subject to a tremendous amount of uncertainty, and uncertainty in implementation and management of those practices creates an environment of moral hazard. You see people not complying or being able to get by with something less than what they agreed to, and I am pessimistic about the likelihood of success of even a well-organized and implemented PS/NPS program.”