



**Scientific and Technical Advisory Committee
June 9-10, 2015 Quarterly Meeting Minutes
DoubleTree Hotel – Williamsburg, VA**

Tuesday, June 9th Minutes

Attendance:

Members: Adel Shirmohammadi, Andrew Miller (T), Brian Benham, Carl Friedrichs, Carl Hershner, Chancee Lundy (T), David Newburn, David Sample (T), Donna Bilkovic, Gene Yagow, Glenn Moglen, Hamid Karimi, James Glancey (T), Joshua Behr, Kathleen Boomer (T), Kirk Havens, Kurt Gottschalk, Kurt Stephenson, Lara Fowler, Marc Ribauda (T), Maria Herrmann (T), Marjy Friedrichs, Mark Luckenbach, Peter Kleinman (T), Robert Hirsch, Susan Julius (T), Thomas Ihde, Zachary Easton

Guests: Bruce Vogt, Ben Coverdale, Bill Crowell, Brian Churchill, Brooke Landry, Carin Bisland (T), Emilie Franke, Gary Shenk, Greg Johnson, James Davis-Martin, Jeff Brainard, Jeremy Hanson, John Schneider, Julie Walker, Karl Blankenship, Lew Linker, Mark Trice, Mike Foreman, Nick DiPasquale, Renee Thompson (T), Sue Kriebel, Tuana Phillips

Administration: Bill Ball, Melissa Fagan, Natalie Gardner, Rachel Dixon, Renee Kelly.

Call to Order- Kirk Havens (STAC Chair/Virginia Institute of Marine Science - VIMS)

Havens called the meeting to order shortly after 10:00 am. Following introductions, Havens announced a vacancy on the STAC Executive Board (EB). Havens requested a motion to approve the nomination of Mark Luckenbach (VIMS), who previously accepted the EB nomination to fill the vacancy, which STAC approved. Havens requested a motion to approve the March 2015 quarterly meeting (QM) minutes. One member noted that a particular action item needed clarification. STAC agreed to approve the minutes, pending modification of the action item in question. Havens then requested a motion to approve the May STAC EB minutes. Tom Ihde (ERT) suggested additional language be added regarding a description of the *ad hoc* group's amendments to workshop protocols described in the May STAC EB minutes. Ihde agreed to send revisions to Natalie Gardner, Chesapeake Research Consortium (CRC). EB minutes will be finalized including proposed edits.

Havens presented the idea of a possible STAC retreat in fall 2015. This idea was suggested by Lisa Wainger (UMCES), along with a list of potential agenda items, including: developing goals to serve multiple upcoming activities, priorities when funding workshops, engaging with the new

CRC Director Bill Ball and staffers in establishing priorities for STAC, and addressing lingering concerns over time spent on biophysical and social science issues within STAC. Havens opened up the discussion to STAC regarding the potential retreat. Feedback from STAC included: (1) there is a need to define a clear objective, (2) whether or not it would focus on institutional issues or on Bay related issues not receiving enough STAC attention, (3) whether the retreat be facilitated or open, and (4) respecting current commitments to the Chesapeake Bay Program's (CBP) science needs and review schedule. Although some members felt this would be an excellent time for a retreat, others felt that it would derail STAC's focus on current issues, such as assisting the GITs in the monitoring and analysis phase for management strategies (MS) and upcoming midpoint assessment reviews. Another member suggested scheduling the retreat in spring, so fall is designated to the upcoming FY15 activities and reviews. Ball felt there should be time allotted to brainstorm potential review panels for the upcoming midpoint assessment reviews. Havens proposed an *ad hoc* group of STAC members be formed to oversee the retreat planning process.

VOTE: Havens requested a motion for the approval of the March QM minutes. Result: Motion carried – the March 2015 meeting minutes were approved on Tuesday, June 9th.

VOTE: Havens requested a motion to approve Luckenbach as a member of the STAC EB. Result: Motion carried – Luckenbach will serve on the EB for a two-year term.

VOTE: Havens requested a motion to approve the May EB minutes. Result: Motion carried – the May EB minutes were approved, pending additional language provided by Ihde.

ACTION: STAC staff will review the March QM video to correct an unclear action item in the draft March QM minutes.

ACTION: Ihde will send Gardner additional language regarding descriptions of the *ad hoc* group's amendments to workshop protocols described in the May STAC EB minutes.

ACTION: Havens requested that an *ad hoc* group assist Wainger with development of a retreat agenda based on the conversations and discussions at the meeting. Volunteers include: Lara Fowler (PSU), Ihde, Ball, Kathy Boomer (TNC), and Bob Hirsch (USGS). If other STAC members are interested, please contact Renee Kelly (CRC) at kellyr@si.edu.

Amendments to Workshop Protocols and Request for proposals (RFP's) – Kirk Havens (STAC-VIMS)

Havens provided a brief overview of the protocol amendment process and progress made by STAC staff and the *ad hoc* group to date. Prior to the meeting, STAC was provided the revised workshop protocols and RFP's, standardized report format, and guidelines for future reports. Havens turned the discussion over to STAC staff, Rachel Dixon (CRC). Dixon provided STAC with an update of the *ad hoc* group's amendments to the protocols including: combining the requirements in the RFP's and protocols into a single document, adding a mission statement describing "Why do we have workshops", adjusting the RFP process timeline to ensure sufficient time to review proposals prior to the March QM, requesting written consent from the identified STAC member for each proposal, and requiring a rationale for why a STAC workshop is the appropriate activity. STAC members suggested adding an additional bullet point to ensure that one of STAC's main roles is to be responsive to science based questions from the CBP. STAC was created based on a service mission to the CBP, Executive Council (EC), and Principals Staff Committee (PSC).

Members discussed the previous amendments which required workshop reports be produced and returned to STAC within 90 days of the workshop. STAC members debated an extendable deadline by request, with approval from the STAC Chair. Havens emphasized the importance of keeping reports timely so they are useful to their audiences. Some STAC members advised keeping the strict 90 day deadline to ensure that steering committees are planning ahead from the beginning of a workshop. Gardner then introduced a standardized report template and guidelines to streamline with report drafting process. Havens suggested that the *ad hoc* group work with Dixon to incorporate member suggested edits including: a 90 day responsive report deadline with an extendable deadline by request, and the addition of an option for proposers to submit their anticipated deadline for a report.

Dixon presented the proposal scoring rubric and discussed the process STAC staff used to determine rankings for FY15 activities. Members proposed three approaches to normalize rankings including: a cumulative ranking scheme, a ranking system that allows points to a proposal and use averages to determine rankings, and a two-step National Science Foundation (NSF) style grading model with predetermined grades to select from. Members discussed the positive and negative aspects of each suggestion. Many agreed that a NSF-style worked well in the past, and would also allow members the opportunity to alter their original rankings. STAC would have the opportunity to hear a general discussion of the proposals after the initial ranking process. This would provide non-experts an opportunity to submit more educated rankings or change their votes, if the discussion helped clarify specific proposals. STAC members also requested a single page document of bulleted guidelines be provided with the scoring rubric which will remind STAC of the criteria when ranking proposals. Marjy Friedrichs (VIMS)

volunteered to work with STAC staff and the *ad hoc* group to amend the ranking system. The group will also review the proposal process to incorporate a member-wide initial review, as opposed to the EB providing this.

ACTION: Friedrichs and the *ad hoc* group will work with Dixon to amend the workshop protocols and ranking system. The *ad hoc* group will work to incorporate suggested edits from the June meeting. Please contact Dixon at dixonra@si.edu for more details.

Chesapeake Bay Program Director's Program Updates – Nick DiPasquale (EPA-CBPO)

DiPasquale's presentation briefly touched on an array of topics and activities occurring across the Chesapeake Bay Partnership. There were fourteen different updates by DiPasquale, and below are a few specific updates related to recent STAC activities and interests:

DiPasquale presented the 2017 midpoint assessment Highlights, including the Water Quality Goal Implementation Team's (WQGIT) month-by-month schedule of decisions and briefings associated with the midpoint assessment priorities, announcement of a webinar to discuss local land use data, and key upcoming deadlines. DiPasquale discussed revisions to the Best Management Practice (BMP) Expert Panel (EP) Protocols which were discussed at meetings with STAC, Citizens Advisory Committee (CAC), and Local Government Advisory Committee (LGAC) prior to the June PSC meeting. Some suggested recommendations from the advisory committees included: revise language regarding conflict of interest, the consideration of local practitioners as potential panel members, and the panels functioning in accordance with the National Academy of Science (NAS) practice standards. Recommendations were incorporated into the protocols and will be presented to the WQGIT for final approval on July 13th. STAC was also provided updates on the BMP verification, including an announcement of the June meeting with the review panel. The panel will review the plans and provide feedback in August to the jurisdictions. Jurisdictions have a year from June 2015 to update their plans. DiPasquale emphasized a foundational element of the restoration effort is to check functionality of the BMPs put in place. Additionally, STAC was updated on the status of the Climate Change Coordinator position. Although DiPasquale was unable to release any specific details, an offer had been made for the position and an announcement would follow later in June. DiPasquale then provided an overview of the draft MS process and discussed feedback received during the public comment period. Most feedback focused on climate resiliency, diversity, stewardship, and local leadership. GITs have addressed all other public comments, and MS are on track to meet the June 30 release date. STAC should remain focused on the upcoming monitoring and analysis phase and biennial workplans. Other topics discussed by DiPasquale included: 2014 Interim Milestone Highlights, High Resolution Land Cover Initiative, FY15 Goal Team Funding, Citizens and Non-Traditional Monitoring, Agreement Biennial workplans, Independent

Evaluator, Shad Abundance Indicator, Federal Fiscal Year (FFY) 2015 CBPO Budget, and Federal Facility Targets Protocols.

CRC Environmental Management Career Development Program

CRC's Environmental Management Career Development Program provides early career professionals with a stepping stone to a future career in the fields of environmental science, policy and management, and outreach and education. Staffers provide technical and administrative support to the various Chesapeake Bay Program partnership committees, teams, and workgroups. The Maintaining Healthy Watersheds GIT staffer, Tuana Phillips (CRC), and the Fostering Chesapeake Stewardship GIT staffer, Julie Walker (CRC), provided an update on current team activities, as well as their own work and future career plans.

FY15 STAC Activities – Gary Shenk (EPA-CBPO) and Natalie Gardner (CRC)

Shenk opened the discussion with a table displaying the seven upcoming FY15 STAC review topics that will support the midpoint assessment. Shenk announced that the 2015 Chesapeake Bay Criteria Addendum is in the process of being finalized with the assistance of Rich Batiuk (EPA-CBPO) and Peter Tango (USGS). Once completed, the documents will be distributed to a STAC review committee for review during summer 2015. Shenk emphasized that the reviews will focus on major changes and avoid reviewing items already reviewed with the models.

Following Shenk's discussion, Gardner provided an update to STAC regarding a recent presentation of the review process to the WQGIT. Gardner displayed a list of the STAC *ad hoc* review committee members who were charged. Gardner emphasized the importance of constant communication between STAC, the review committee, and the CBP workgroup requesting the review. Gardner then provided the steps in the review process: (1) STAC receives the charge questions and documentation, (2) STAC will review the draft questions/background/documentation and follow up with the CBP workgroup on any clarifications needed for the charge, while developing the review committee, (3) Review committee will meet with the CBP scientific technical staff to get prepped and answer any questions before the review takes place, (4) Review teams meet privately and draft report to STAC, (5) STAC reviews, approves, and submits the final report to CBP, and (6) CBP responds to the reviews.

Shenk emphasized that STAC will not be asked to review anything it has already reviewed. Instead, the review requests will be of new inclusions or new items that have not been reviewed by STAC.

Lessons Learned from Management Strategies – Kirk Havens (STAC-VIMS), Carin Bisland (EPA-CBPO), and GIT Chairs

Havens updated STAC on the status of the draft MS and conclusion of the public comment period. Havens then welcomed a panel discussion focused on the lessons learned during development of the MS and how STAC helped or hindered the development. The panel consisted of: Mike Foreman (VA-DCR), Bruce Vogt (NOAA), James Davis-Martin (VA-DEQ), Renee Thompson (USGS), and Bisland. Prior to the meeting Mark Bryer (TNC) submitted a document containing a summary of the Healthy Watersheds GITs lessons learned.

Bisland began the panel discussion with future goals of MS and workplan development. Workplans will be a learning process, but should continue to develop around the decision framework that STAC recommends. Leadership GIT Chair, Foreman suggested the biggest lessons learned during MS development was to help sustain energy/drive throughout and establish metrics/baselines for “softer” MS. Fisheries GIT Coordinator Vogt mentioned that development could have gone smoother if more team members were familiar with the decision framework concept. Team members were able to contribute content, but unable to help in the actual drafting process. Vogt also dealt with fatigue and expects it to move into workplan development. Vogt suggested that due to the timeframe of MS development, prioritization of factors influencing did not take place, and that STAC can help fill the gap by looking across MS for common “factors influencing” and link them to other MS. Lastly, WQGIT Chair Davis-Martin mentioned the biggest lessons taught, not necessarily learned, were settling for sub-standard products due to tight timelines. Davis-Martin requested STAC’s help to develop a better strategy to deal with the timing issue. Davis-Martin condoned STAC particularly for assisting with establishing framework and identifying components prior to MS development. Davis-Martin voiced his concern over the set-backs that the public comment brought to meeting deadlines. DiPasquale responded to this concern by reiterating that the purpose of the public comment period was to allow those who were not involved in the development process an opportunity to voice opinions. The plan moving forward is to allow for more input during development so challenges are resolved before public release.

Havens posed the question “How should STAC continue to assist in the monitoring and analysis phase of the MS?” Havens believes it is critical to the adaptive management process to make necessary changes to MS that may need more research or adjustments. Davis-Martin suggested that STAC review the draft agreement workplan template to review for consistency and its appropriate inclusion of adaptive management and accountability. The STAC Scientific Comments on Agreement Team (SCAT) will review and offer revisions to the current state of the workplan template. Vogt suggested STAC tier MS in order of clarity to determine which are in need of the most evaluation. DiPasquale believes that the workplan template will guide priorities. Moving forward, many of the GITs requested that STAC provide expertise/answers to science gaps and monitoring questions, assist in developing metrics, and provide validation to

monitoring plans. Throughout the next phase of workplan development all members agreed that it is essential to keep the timeline in mind.

ACTION: The SCAT will review the draft workplan template for its appropriate inclusion of adaptive management and accountability. That group includes: Donna Bilkovic (VIMS), Carl Hershner (VIMS), Alix Fink (Longwood U.), Chris Pyke (USGBC), Boomer, Kurt Gottschalk (USFS), Ihde, Havens. In addition, if any STAC member is interested in joining a group of CBP Management Board (MB) members to discuss issues with the workplan template, please contact Gardner at gardnern@si.edu. There is a meeting scheduled for 6/16 from 10-12 if you are able to attend.

Nanoparticles (NP) in the Aquatic Environment – Mark Wiesner (Duke), Presented by Bill Ball (CRC)

On behalf of Wiesner, Ball presented a discussion on the effects of NP in the aquatic environment. Ball opened with a broad overview of natural/engineered NP and how they are commonly found in many consumer based products, such as: paint, medicines, televisions, plastics, and common food additives in marshmallows. The National Nanotechnology Initiative (NNI) supplies funding for research on the effects of NP in the environment. NP are released into the environment through oxidation, absorption by plants and animals, trophic transfer through biomagnification and/or dilution, and attaching to other elements in nature transforming them into toxic elements. Ball suggested that NP properties are largely controlled by size, shape, and surface chemistry. Some take home points are that NPs (whether engineered or natural) can be taken up by plants and animals; NP are subject to trophic transfer; attachment efficiencies appear to be a promising way of predicting NP behavior; toxicity issue. A model diagram from Wiesner's study was presented to display the social and system properties that interact with NP properties and lead to exposure, risk, and hazard. Ball reiterated that NP are an important element of environmental concern and requires further research and regulation.

Open Discussions with STAC on BMP EP Protocols – Kirk Havens (STAC-VIMS) and Brian Benham (STAC-VT)

On April 30th, CAC and STAC sent a letter to CBP regarding revisions to the BMP EP protocols. This discussion was an opportunity for STAC members to be updated on that letter and participate in an open dialogue to provide recommended revisions. Benham announced that a three person standing STAC panel was suggested to assess Conflict of Interest (COI) declarations, and that CAC suggested using a NAS template as a guideline to prepare the declaration of COI. STAC members continued to discuss options for reviewing and assessing the determination of COI. Following Benham's STAC panel suggestion, DiPasquale suggested an idea to allow the dispersion of CV's and declarations of COI to advisory committees and

workgroups, so they are responsible for assessing COI. DiPasquale believed a three member STAC panel would take STAC beyond the requirements of advisory roles. Members agreed that the overall goal is to increase transparency, and bring expertise to the panels so that the best assessments are made to prevent COI issues. Benham offered to review the existing NAS COI protocols and provide STAC and CBP with suggested revisions to better fit the process for the CBP BMP EP protocols. Benham also suggested another *ad hoc* group review the suggested revisions to the BMP EP and forward comments to Lucinda Power (EPA-CBPO).

ACTION: The BMP EP protocols have already been circulated to the membership via the June meeting packet. Members should submit suggested edits to gardnern@si.edu by **COB 6/16**. The *ad hoc* BMP EP group will review the suggested revisions and forward STAC's comments to Power by 6/26/15.

ACTION: Benham will lead the STAC effort to look at the NAS protocols and provide CBP with suggested revisions to better fit the process for BMP EP protocols.

Wednesday, June 10th Minutes

Attendance:

Members: Adel Shirmohammadi, Andrew Miller (T), Brian Benham, Carl Friedrichs, Carl Hershner, David Newburn, David Sample (T), Donna Bilkovic, Gene Yagow, Glenn Moglen, Hamid Karimi, James Glancey (T), Joshua Behr, Kathleen Boomer (T), Kirk Havens, Kurt Gottschalk, Kurt Stephenson, Zachary Easton.

Guests: Ben Coverdale, Brian Churchill, Brooke Landry, Bryan Ashby, Erik Lichtenberg (T), Frank Coale, Gary Shenk, Greg Johnson, Jeremy Hanson, John Schneider, Julie Walker, Karl Blankenship, Ken Staver, Lew Linker, Molly Ward, Nick DiPasquale, Tuana Phillips.

Administration: Bill Ball, Melissa Fagan, Natalie Gardner, Rachel Dixon, Renee Kelly.

CBP response to the STAC Phosphorus (P) Review – Gary Shenk (EPA-CBPO)

Shenk provided an overview of the 2011 STAC P workgroup and the process of developing the CBP response. Shenk reported that most of the changes made to the P simulation in the Chesapeake Bay Watershed Model (CBWM) for the 2017 midpoint assessment are a direct results of: (1) the report, (2) other STAC activities noted in the report, and (3) interaction between STAC and other CBP groups. The overall result of the review is that the Phase 6 CBWM should account for P on cropland/pasture based on the review. Shenk presented the twenty one recommendations including: modeling recommendations related to soil P, modeling

recommendations related to management of P inputs, and general modeling recommendations. In response to some of the recommendations, CBP is implementing a spreadsheet model called the Annual Phosphorus Loss Estimator (APLE), that simulates dissolved and sediment bound phosphorus loss in surface runoff. APLE will be used to estimate variability in export due to soil P levels, P inputs, plant uptake, and physical characteristics. The CBP will be forming a new P implementation panel to address the modeling recommendations related to the management of P inputs. In response to the recommendation to consider climate change, CBP is relying on the midpoint assessment to evaluate this. Shenk also presented a list of future data needs, including: baseline soil P levels, information on P application methods, spatial/temporal data, and systematic stormwater sampling in agricultural watersheds. The discussion concluded with a Q&A session regarding APLE and the long term effects of better P management practices.

Future STAC Goals and Decisions: Routine Considerations – Tom Ihde (STAC-NCBO)

Ihde and Havens led a discussion to suggest altering the course of STAC discussions somewhat, to routinely include living resource considerations in future STAC goals and decisions. Water Quality (WQ) has been the major focus of STAC and CBP since the 2009 Executive Order. Ihde emphasized the need to extend the effects of WQ on other factors in the ecosystem. With the release of the MS, STAC now has the capabilities to broaden its focus to additional living resource topics. Ihde encouraged STAC to focus not just on living resources, but on social science and socioeconomic effects and their effect on Total Maximum Daily Loads (TMDLs), specifically, expanding the realm of topics that STAC routinely considers. DiPasquale added that with the creation of the Chesapeake Bay Watershed Agreement (CBWA), that connections to other parts of the ecosystem are becoming more apparent, and the focus is shifting to those factors influencing. STAC members were encouraged to begin thinking about factors that STAC should routinely consider. Some suggestions were: to develop an integration team, establish an integration workshop, use MS outcomes to select different factors influencing, and include more social scientists in STAC's membership. STAC members who provided comments were requested to join an *ad hoc* group to further the discussion with Ihde and Wainger, charged with discussing what and how other elements of the ecosystem should be incorporated into routine STAC considerations. The results of this discussion will be revisited at the September retreat.

ACTION: The group of STAC members that provided comments during the living resources conversation will work with Ihde and Wainger to further discuss integrating other elements of the ecosystem that STAC should routinely consider. Volunteers include: Zachary Easton (VT), Fowler, Hershner, Joshua Behr (ODU), Adel Shirmohammadi (UMD), Luckenbach, and Ihde.

Executive Council Report – Kirk Havens (STAC-VIMS)

Havens updated STAC on the upcoming annual CBP Executive Council (EC) meeting scheduled for July 21st and STAC's annual recommendation report to the EC. The report is due to the Bay Program on July 1st. Havens announced that advisory committee Chairs scheduled a private meeting on July 15th with the EC Chair, Virginia Governor Terry McAuliffe. Havens requested discussion points for STAC to provide to the EC. Some points suggested at the meeting include: emerging scientific issues, a summary of recent and upcoming STAC activities, next steps in the adaptive management process, climate change, population growth, and phosphorus. A large portion of this discussion focused on the elements driving P increases, which include: trucking the excess manure off of agricultural land, and that the Conowingo Dam is no longer effectively trapping P. The update would recognize that the program is not yet accomplishing everything it needs to and that communication with the public is key to meeting the goals of the midpoint assessment. Havens requested that STAC members provide any additional topics not mentioned at the meeting, but to also be available to sit on future calls during EC discussions.

<p>ACTION: Havens requested that STAC members provide additional topics for the STAC EC report, not mentioned at the meeting by 6/19/15. The EC report will be reviewed by the STAC EB and distributed to the CBP by 7/1/15.</p>

Phosphorous Management Tool (PMT) Science and Economic Implications – Frank Coale (UMD) and Erik Lichtenberg (UMD)

Coale and Lichtenberg gave a joint presentation on the PMT. Coale provided STAC with a better understanding of the science behind the PMT. Coale presented Maryland's qualifications of soil critically effected by P and provided an overview of the old tools used known as the P Tool and the Phosphorus Site Index (PSI) tool. The PMT determines P loss risk across pathways by adding (P loss risk by surface runoff) + (P loss risk by erosion of particulate P) + (P loss risk by subsurface drainage of dissolved P). The PMT looks at an estimate of relative losses through different sources of input including: runoff, leaching, erosion, and subsurface flow. The PMT was developed to: accurately assess relative risk of P transport across diverse landscapes, include new science, and increase emphasis on the impact of farm management decisions. The major changes found in the current PMT from the PSI are: its new name, the elimination of the "very high" interpretative category, all recommendations are now based on P management, and the arithmetic separation of the three major transport pathways.

Lichtenberg joined via webinar to present on the economic implications due to data issues and to discuss the initial economic background of cropland application of poultry litter. This application process yields the highest value use of the litter. With that said, reports state that there is more than enough cropland available for poultry litter application to be environmentally sustainable. The caveat with the data is that cropland absorption capacity may have been

overestimated. This means more P was applied than the land is able to absorb leading to higher levels of P. In the past, allowable rates of application may have been excessive leading to P buildup in soil. The implications are therefore going to be stricter regulations unlikely to require much export or alternative use of poultry litter. Lichtenberg's conclusion is that with the incorrect data, the stricter regulation of poultry litter cropland allocation is likely to have modest effects on: the need to export or find alternative uses of poultry litter and corn production costs. Restrictions may be needed if P continues to build in soils.

PSC Chair – Hon. Molly Ward (Virginia Secretary of Natural Resources)

Havens introduced Virginia Secretary of Natural Resources and PSC Chair Ward. As the current Chair of the PSC, Ward discussed the importance of the advice and science that STAC provides. Since her acceptance of the position, Ward immediately realized the importance of involvement in Chesapeake Bay related issues and commitments. Ward mentioned efforts to include environmental literacy goals in the CBWA, which the previous governor did not support. Ward announced the success of the recent PSC meeting, which displayed the goals of reinstating climate change, land conservation, and water quality goals. Ward emphasized an overall goal is quality over quantity when considering Bay related issues. Ward also presented STAC with the governor's intertwined goals for the future including: focusing on achievable goals, implementation of the CBWA, Chesapeake Bay Watershed Implementation Plans (WIPs), and working on nutrient loads reductions by increasing the number of BMPs on farms.