AGWG Meeting Minutes
August 9th, 2012
http://www.chesapeakebay.net/calendar/event/18581/

Action Items & Decisions

ACTION: If members know of additional literature references for BMP Verification support, please send these citations to Mark Dubin.
ACTION: A list of experts interviewed by Tetra Tech for verification data confidence information will be provided to the AgWG.

Minutes

Minutes Review – Frank Coale

- Motion to approve 07.19.12 Minutes – Sexton.
- Second by York.
- Unanimous approval.

Agricultural BMP Verification Process – Frank Coale

- Current iteration of the AgWG BMP Verification Protocol Matrix has been open to comments, but a revised version not yet generated.
    - Incorporating received input from AgWG members into the matrix.
    - Determining best method to assign values to the right-most two columns (Relative Data Confidence and Relative Data Credit).
- Next steps in process: Tetra Tech providing assistance in locating scientifically defensible references to progress with the draft matrix.

Discussion:

- **Zygmunt:** Revised schedule for finalizing BMP Verification Committee's work? How will the BMP Verification Review Panel be incorporated into AgWG verification protocol process?
    - **Coale:** A timeline is included in the upcoming presentation by Dressing. However, producing quality products takes precedence over any timeline.
        - **Zygmunt:** Consciousness of other committees' timelines for this work, including the Principals Staff Committee (PSC). There needs to be a balance between timing and quality.
    - **Angstadt:** Draft decision-making timeline can be accessed through CBP website: BMP Verification Principles Decision-Making Process.
        - WQGIT to review draft BMP Verification Principles in September; following WQGIT approval, principles will help guide WG's efforts.
    - **Zygmunt:** Appreciates knowledge of BMP Verification Steering Committee's proposed schedule, but is still uncertain how the BMP Verification Review Panel will fit into this process?

        - **Coale:** Question to keep in mind during Tetra Tech's presentation.

Agricultural BMP Verification Assistance - Steve Dressing and Don Meals, Tetra Tech

- See presentation: AG BMP Verification Protocol Development.
- **Zygmunt:** On slide 6, these efforts focus on providing scientifically defensible references; however, BMP Verification Principles also call for establishing accountability and transparency.
    - Need to ensure the relation of the BMP Verification Principles to the developed AgWG BMP Verification Protocols.
    - **Powell:** Confidence and accountability can be achieved in different ways.
    - **Coale:** Tetra Tech's (TT) charge in this phase of the process was not limited to a specific source of information, but given a wide range to include all applicable items to best support final decision-making process.
    - **Dressing:** Current emphasis on confidence, rather than transparency and accountability, but these concepts have emerged in the literature search and interviews. TT can include this information as well.
    - **Coale:** Will make a point to ensure concepts accountability and transparency are also emphasized in developing AgWG BMP Verification Protocol.
- **Taglang:** Slide 8 states that relevant published literature on data confidence for verification is limited. However, assumes there would be much on this subject for surveys, remote sensing, and GIS.
    - **Meals:** This point will be addressed later in the presentation, as literature has been obtained on these subjects.
- **Zygmunt:** Process question – Mark and Frank will receive aggregate information from TT. How will this be shared with the WG?
    - **Coale:** Will present to AgWG after receipt; however, how this will be presented has not yet been determined.
        - **Dressing:** Probably will not be a massive document like the Nutrient Management Summary of Interviews.
- **Baird:** Regarding literature search, has this been limited to agriculture on-site verification information or are other applicable industries being evaluated for their verification processes?
    - **Dressing:** Still in the initial phase of the literature search, but other industries are being considered (e.g. forestry, MS4s).
    - **Zygmunt:** Suggests also considering verification methods and protocols of the Chicago Climate Exchange.
- **Zygmunt:** Slide 10 - Regarding public outreach planned for October, need to begin crafting message soon.
    - **Coale:** Not sure that proposed October timeframe will work, but will still happen this fall. Need to have final message developed, so recommendations do not change once communicated to the public.
    - **Angstadt:** CBPO Communications Team has developed a BMP Verification Communication Strategy that would be useful.
- Slide 11: Key date/activity on schedule is 9/12 progress report to the Verification Steering Committee (VSC). Will need to pull together information in a meaningful way to present progress to the VSC.
    - **Coale:** This will be a report on progress, not presenting any final information on the AgWG verification protocols.

- **Goodlander:** Is the public outreach exercise to receive feedback on draft matrix or to receive feedback on final matrix?
    - **Coale:** Plan to present second iteration of the AgWG Verification Protocol Concept to the agriculture community to promote perspective of larger community, as requested by NRCS representative during 7/19 AgWG meeting. Idea is to present a concept that the AgWG has fully vetted and has confidence in; however, revisions could still be made.
    - **Angstadt:** Refer again to BMP Communication Strategy for proposed outreach process.
- **Zygmunt:** Slide 15: "Essentially no quantitative documentation of accuracy/confidence has been reported." Therefore, there may be documentation that indicates significant gaps in verifying BMPs implemented. Has any indication of this been noted in the literature search?
    - **Meals:** This topic has been found in the literature search, but, again, provides no quantification.

ACTION: If members know of additional literature references, please send these citations to Mark Dubin.

- **York:** Suggests reviewing Soil and Water Conservation Society's 2012 Annual Conference agenda for additional literature references.
    - Also suggests reviewing American Society of Agronomists' agendas & pre-agenda for useful references.
    - Government Accountability Office (GAO) reports on verification of spot-checking for FSA and NRCS process.
        - GAO also produced a report on FSA's use of farmer self-reporting methods.
- **Angstadt:** Several members of AgWG are also on VSC. Several states have expressed concern that VSC principles document has yet to be approved, yet work on sector protocols is proceeding without this guidance.
    - Believes the two documents should be developed in parallel, but is current approach the best method?
        - E.g. difficulty assigning confidence levels.
        - Suggests alternate approach: VSC establish a specific percent confidence that data quality must meet in order to receive credit. E.g. all credited BMPs must meet 95% confidence level at certain scale.
            - References CEAP methods.
        - Establishment of 95% confidence level requirement would correlate with WIPs.
- **Zygmunt:** A significant amount of the literature reviewed is on a farm by farm basis; this may be most common approach to verification.
    - **Taglang:** Not accurate. In process of completing CTIC+ survey on tillage practices.
        - 40,000 PA farms in the watershed; therefore, farm by farm surveys are not feasible for tillage BMP verification.
        - However, for PA trading program, information is collected on a farm by farm basis, but farmers are bringing that information to PA DEP in order to be enrolled in program (e.g. impact of incentive).
        - Different approaches necessitate differed methods.
- **Rhoderick:** Impression that other sectors' verification protocols will be based on broad scale with individual verification every 3-5 years (e.g. much less detailed that AgWG protocol).
    - Are we developing a protocol that is based on too fine of scale?
    - Too fine level of detail not consistent with TMDL.

    - **Zygmunt:** This discussion needs to be included in finalization of VSC Principles.
- **Angstadt:** Funding source for farm by farm verification?
    - **Zygmunt:** AgWG efforts need to be consistent with other sectors.
- **Coale:** Reference Verification Chair Memo: "…all source-sector workgroups should be developing BMP verification protocols which impose an equal level of rigor and accountability when compared across source sectors."
    - AgWG may change course in verification protocol efforts if other.
    - **Raub:** Problematic that other WGs do not currently have their own expert review panels or progressing with Tetra Tech assistance.
    - **Powell:** Would like to see a list of the people Tetra Tech is interviewing for verification data confidence information.

ACTION: A list of experts interviewed by Tetra Tech for verification data confidence information will be provided to the AgWG.

Poultry Litter Subcommittee Status Report – Jim Glancey

- See presentation: Poultry Litter Subcommittee Update.
- During 07.24.12 Subcommittee conference call, final changes to the data collection template were agreed to. Most data has now been received and analysis to ensure comparability will begin.
- Initial data collection phase: as much data as possible will be included for Model calibration purposes.

Discussion:

- **Rhoderick:** This focuses on nutrient concentration and volume, but the number of birds also needs to be determined. This is especially important in CBP Model calculations and methodologies.
    - **Glancey:** CBP Model uses 2007 census.
    - **Rhoderick:** Believes that the number of birds estimated at a single day (12/31) is then applied to the rest of the year. Problematic because this number fluctuates throughout year.
        - **Brosch:** Manure generated is based on NASS number of birds.
- **Powell:** Poultry Litter Subcommittee (PLS) is creating a template to capture volume of manure generated per bird, which may be more meaningful.
- **Meisinger:** Encourages including housing type in the data template.
- **Angstadt:** Current Scenario Builder uses ASAE 2003 standard for manure production characteristics. Other research used includes Kellogg, 2000. Therefore, information is dated.
    - This effort is focusing on poultry industry; consideration of dairy or hog industry?
        - Other animal production industries have detailed records.
        - Need to correct all inaccuracies of manure generation.
    - **Coale:** Manure generation of all animal production industries will need to be addressed.
        - **Glancey:** Finish poultry, and let these efforts be a model to apply to other industries.
- **Zygmunt:** What potential effects will this have on the CBP Model?
    - **Glancey:** Depends if decreased nutrient levels from poultry industry are replaced by something else in the Model. May potentially be no change.
    - **Brosch:** Importance of seeing trends, not just producing a snapshot. Need to include as much historical data possible.

        - Recognize increase of Dairy Precision Feeding BMP.
- **Zygmunt:** Huge amount of work to accomplish with 15-20 other panels waiting to commence work.
    - Establish a direct correspondence with Jeff Sweeney, Nick DiPasquale to work through these issues more quickly.

Agricultural Nutrient Management Panel – Steve Dressing

- See presentation: Summary of Nutrient Management Surveys and Interviews
- For further detail, see full report: Nutrient Management Expert Panel Interview Summary

Discussion:

- **Angstadt:** Nutrient Management (NM) Panel's near-term recommendation goals have not been produced, commitments not met. Recommendations were expected during Phase II WIP process.
    - Long-term recommendations will be due soon for midpoint evaluations.
    - **Coale:** NM Panel will convene and determine recommendations, based on Interview Summary document that was recently completed.
        - Near-term recommendations will not meet that timeline; however recommendations should be completed for midpoint assessment purposes.
    - **Angstadt**: Finds this delay unacceptable as these recommendations are needed for Progress Run and 2-year Milestone evaluations.
        - NM definitions have still not been determined.
        - Concerned that the Panel, convened in October, 2011, has not yet had a conference call or face-to-face meeting.
        - **Coale:** Schedule called for a final Interview Summary Report to work from.
- **Angstadt:** Recommendations need to be submitted to AgWG and WQGIT by this December in order to be included in 2012 Progress Run.
    - **Sexton:** Not comfortable with rushing through process until the Panel feels their work is final.
- **Brosch:** Seems this work will be used for the Midpoint Assessment, but perhaps an interim recommendation could be developed for December deadlines.
    - **Rhoderick:** Recognition of commitment to an interim fix to be established by 12.31.12.
        - Huge impact on loading evaluations, meeting Milestone commitments.
        - What will be used for implementation benchmarks?
        - **Coale:** Unsure of what will be used.
- **Goodlander:** Need to convene soon to determine topics to address and a timeline.
- **Delaney:** Are other AgWG Expert Panels also missing deadlines? If so, would additional funding resources help with progress?
    - **Coale:** Prioritization of BMP review and management agreement that no more than four panels would be convened at a time. However, similar group of professionals on all panels has saturated volunteer pool.
- **York:** Milestone guidance? Can penalties occur before these recommendations are finalized?
    - Need broader realization by managers that these recommendations may have significant impacts on loading rates.
    - **Zygmunt:** Need to go on record about this topic, receive a response.
        - **Coale:** Want to take formal position on this issue?

        - **York:** Information in Interview Summary Report shows how perceptions vary; Panel needs to achieve consensus and devise recommendations.
    - **Coale:** Panel will provide clear recommendations in their final report.
- **Rhoderick:** Significant issue because implementation progress through interim BMPs is not credited. Impossible to gauge pollution reduction achievements until these recommendations are in place.

Conservation Tillage Panel Update – Wade Thomason

- See presentation: Conservation Tillage Panel Update.

Discussion:

- **Tesler:** Is the Panel considering surface vs. subsurface flow, and the validity of partitioning these flows?
    - **Thomason:** Focus on surface, but will probably need a subgroup on subsurface.
- **Rhoderick:** Focus on efficiencies, but will sequence into the CBP Model also be considered (e.g. if conservation tillage is reported, other BMPs excluded from same acres)? Need to devise recommendations on sequencing as well.
    - **Brosch:** Other expertise will be needed to aid the CT Panel in forming recommendations for sequencing. This will help avoid recommendations being sent back to Panel for revisions from the Watershed Technical WG.
        - **Coale:** May be helpful to have the WTWG formulate questions in the beginning of the process.

Cover Crops Panel Update – Jack Meisinger

- See presentation: Cover Crop Panel Update
- Would like to have a webinar, led by CBP Modelers, focused on Modeling issues and what changes are possible.

Discussion:

- **York:** How is information from the panelist interviews literature search combined?
    - **Dressing:** Depends on panel and how dependent panel work is on literature.
- **Brosch:** Supportive of plan to bring CBP Modelers to bolster recommendations.
    - Recommends having all panels join this webinar, possibly present to entire AgWG.

Midpoint Assessment Priorities Overview – Rich Batiuk

- Partnership history of collaborative work, establishment of 5-7 work cycles (compilation of science → political agreements → established commitments → development of strategies → implementation → re-evaluation)
    - Decision-support tools considered in re-evaluation during this cycle to keep implementation on-track.
- 2 tracks of WIP support:
    1) Immediate enhancements, additions, and tools to support current WIP implementation (near-term actions).
    2) Midpoint Assessment: phases to ensure accuracy and efficiency of the program.

    - Brings in new science, other information/insights, and Milestone evaluations to assess performance and determine needed adjustments to suite of decision-making tools.
    - Stability and consistent accountability of the program is important; therefore, these are not large-scale changes, but refinement of tools and information to support implementation.
    - Not solely a focus on the Watershed Model (WSM). Also considering NRCS targeting, USGS studies of long-term trends, CAST/MAST/VAST tools and full suite of models.
- Process: Commencing discussions with WQGIT Workgroups and CBP Advisory Committees to gather input on the Midpoint Assessment (MPA) priorities.
    - Planning a WQGIT face-to-face meeting in October to align the pieces of input and establish WQGIT's priorities for the MPA.
    - After October meeting, send to Principals Staff Committee (PSC) for approval.
    - Will lead to the Phase III WIPs.
- All constructive requests and input are open to discussion and consideration.

Midpoint Assessment Priorities – Jurisdictional Comments

Virginia: Tim Sexton, VA DCR

- Timeframe: present until 2016 to develop Phase 6 of the Model. Phase III Watershed Implementation Plans (WIPs) to be completed by 2017.
    - This does not leave sufficient time to identify and fix likely problems that exist in the Phase 6 of the Chesapeake Bay Watershed Model (WSM) to accurately evaluate next WIPs.
    - Jurisdictions will need 6-9 month period of access and testing to the next version of WSM prior to Ph III WIP submission.
    - As jurisdictions are developing Ph III WIPs, need to be satisfied that the correct actions are occurring and accounted for.
- Loading rates are highly variable by stream segment.
    - Regional model therefore changes are needed to either: include enough input data to support river/stream segment scale, or reduce scale.
    - Consistency is very important, especially in model reliability.
- Analysis uncertainty.
    - Uncertainly exists between different agriculture BMPs.
    - Uncertainty analysis differ between urban and agriculture sectors.
    - Uncertainty in the analyses performed at different scales.
- Treatment of biosolids within the model needs to be established.
    - Need to either fully account for biosolids or remove them entirely from consideration in the model.
- Climatic impacts on agricultural yields:
    - Highly variable impacts in VA of current drought.
    - Variable needs of farmers and actual production needs to be recognized; need to factor in the effects of drought occurrences and other factors, that influence yield.
- Focus on percent changes/Ag census is not reliable.
    - Never considered Ag Census data as a reliable source of data.
    - Need the ability to provide annual data inputs--this includes urban land use data which should not be based on dated projections (e.g. urban growth).

- Clarify that BMPs are not a land use change.
- Scrap VAST.
    - Contains too much error, different orders of magnitude than WSM. Poor tool for localities to depend on it as a planning tool.
- Take-home message: WSM Ph6 needs to have across the board reliability and use annual inputs, in order to show agricultural contributions in a meaningful, accurate way.

Virginia: James Davis-Martin, VA DCR

- Refine methods to evaluate progress.
    - Rather than project growth rates, use actual growth rates on an annual basis.
    - Use actual hydrology, not 10 year averages, to run future progress model runs.
        - This will indicate how predictive the Model is of monitoring results by making direct modeling/monitoring comparisons possible.
- Make the Bay watershed model and Scenario Builder directly availability directly to the community.
    - State and local partners should be in a position to run both ourselves.
    - Community model must be consistent with the WSM.
    - Scenario Builder should also be available to the community as it is an integral component of the Model.
- Improvement of the Watershed Model's calibration methods.
    - Ensure tighter bounds on unit loading rates of land uses so that we prevent loads from varying so widely within a single county.
- Build in significant time to review the next version of WSM.
    - Needs a critical, unbiased 3rd party reviewer or arbitrator to deal with contentions.
- Need to conduct uncertainty analysis: variable at different scales and sectors.
    - Need analysis of the variability in order to have confidence in the results at the local scale.
- **Sexton:** Promotes the method of using a 3rd party reviewer to evaluate and provide input on WSM Ph6 rather than EPA.
    - Jurisdictional concerns have not been historically addressed by EPA.
- **Davis-Martin:** What is the EPA's schedule for midpoint assessment?
    - Given the jurisdictions' 2016-2017 milestones will not be evaluated until the spring of 2018 and with the PhIII WIPs due in 2017, doesn't it make more sense for the final Phase III WIPs to be due after the evaluation of the 2016-2017 milestones?
    - **Batiuk:** You raise a great scheduling question, however, the partnership has not discussed this timing aspect yet. The overall schedule will be brought up through the WQGIT at the October meeting.

West Virginia: Douglass Griffith, WVDA

- WV's priority is locating producers to cooperate with.
- Limited comments until given more concrete direction regarding input request.
- Want to hear what the other jurisdictions have to contribute.
- Current priorities regarding the WSM include:
    - Model uncertainty and reliability.
    - Difficulty with producer cooperation for tracking verification.

Maryland: John Rhoderick, MDA

- MD will submit an 8-page set of consolidated comments organized by sector.
- Model input issues:

- MAST aided in indications of Model functions.
- Watershed Model contained more agricultural acreage than can be documented by Maryland.
  - E.g. 300K acres do not exist, but have to provide load reductions.
- Manure generation estimates.
- Crop Efficiencies: yields should be analyzed at much finer scale.

- Model processing and decision issues:
  - Conservation tillage: sequencing of BMPs into the Model
    - Conservation tillage causes the exclusion of other BMPs on same acreage.
  - Determination of degraded/trampled acres.
    - AgWG agreed upon formula; however, function in Model is not fully reflected of agreed to formula—leads to limitations in the available acreage.
    - Insufficient acres for riparian buffers.
  - Nursery acres: Too few recorded in the Model.
  - Buffer Back-Out Application: Determination of number of forest buffer acres based on 2007 Landsat imagery.
    - No credit provided for implementation in certain areas.
    - Plans show that over the next 5 years, no credit will be received due the Back-Out Application.
  - Concept of 10 BMPs in MD's current plan with interim efficiencies.
    - Need final efficiencies to receive credit in Progress Runs.
  - Functionally equivalent BMPs need to be partially credited.
  - Soil and Water Quality Plans (lumped BMPs)
    - Definition developed prior to having the sediment TMDL in place. Sediment BMPs have high efficiencies, but are not credited as such due to aggregation of Soil and Water Quality Plans.
  - Cover Crops: Application of efficiencies developed by AgWG Panel only used on a subgroup of cover crops in the Model.
  - Capped BMPs: Animal waste management systems, mortality composters, and barnyard runoff control are being capped due to the number of animal units in the Model.
    - Currently, 120 systems are not getting credit in the Model.
  - Efficiencies of Phytase don't universally apply in Model; rather, each state must provide own documentation.
    - Inefficient use of data when feed is regionally very similar.
- BMP accuracies and load reductions.
- **Batiuk:** When will MD's formal list be available to the partnership?
  - **Rhoderick:** Hopefully prior to 08.13.12.

Delaware: No comments.

Pennsylvania: Steve Taglang, PA DEP

- Model world vs. implementation: need to focus on actual restoration.
  - Implementation: Need increased funding, technical assistance staff, and consistent, realistic criteria.
  - Need time and patience in getting the job done.
  - Need a constructive relationship with EPA and the other states.

Pennsylvania: Ted Tesler, PA DEP

- Still collecting information, not ready to share MPA priorities at this time.
- Modeling trend of increasing granularity, but data is not there without making assumptions.
    - Need to fit model to available data, not vice versa.
        - Need to consider development of an algorithm takes into consideration the available data and determines the scale at which we can model.
- Ideal vs. real:
    - Land Use Change BMPs complicate area loads.
    - Need to balance the level of effort we invest in generating important input data vs. seeking farm scale BMP tracking and reporting.
        - Remote sensing and other technologies need to be incorporated.
        - Supports idea of confidence intervals for various verification methods.
        - **Taglang:** 40,000 PA farms in the watershed; therefore, boots-on-the-ground verification for all farms is not possible.

New York: Greg Albrecht – NY Dept. of Ag and Markets

New York: Aaron Ristow, Upper Susquehanna Coalition

- Ph6 Model needs to be fully tested by the partners and ready for application before we start developing our Phase III WIPs.
- Increase the number of modeling staff to provide more support and model evaluation assistance directly to the states.
- Need to factor in the outcomes from our ongoing BMP Expert Panels into the modeling process.
- BMPs should linked to efficiencies not land use changes.
- Recommend the significant differences between the states be fully reflected in the WSM.
- Greater transparency in the model inputs is critical to ensure confidence by the states, counties, conservation districts, agribusiness, producers, and others.
    - Work to provide the states with outputs during the scenario development/running processes themselves so the states can confirm the numbers are correct prior to finalizing each scenario
    - Improved model input transparency
        - Critical for state and local knowledge of input relation to outputs.
    - Improve efficiency, user-friendliness of tools.
        - E.g. – question remains if CAST is delivering same data as Scenario Builder/WSM?
        - Update WSM and Scenario Builder documentation manuals.
        - Need more technical staff supporting CAST and similar tools.
- Repairing assessment of degraded riparian area acres.
- We can't tell exactly how many animals there are in New York's portion of the Chesapeake Bay watershed—this does not lend confidence to the WSM and application to NY.
    - The moment we don't know how we got this number or the data does not match with local data, that's exactly when we lose the trust of the producers and other local partners.
- Some BMPs and their efficiencies can be applied across all six states, but there are BMPs which need to be defined specific to a state.

Midpoint Assessment Priorities – Non-Agency Comments

Dana York:

- Poultry litter volumes are important to assess, but also look at management changes (e.g. in-house composting) which are changing the actual volumes.
- Scenario Builder on manure application does not consider mineralization; therefore, underestimates nutrient concentrations in manure.
- Need to factor in Judy Denver's (USGS-Delaware Office) research on the P life cycle with a focus on the age of P and its availability to stream, ditches on Eastern Shore.
    - Persistence of P in ditches can cause significant difference between monitoring results vs. Model simulations.
        - Important for Model calibrations.

Chesapeake Bay Commission: Marel Raub

- Ph6 WSM needs to be functional for both state and local governments at the respective scales they work at and make decisions on.
    - Hesitant to promote increased fine-tuning because feels the WSM is not intended for local/individual farm scale.
    - Other tools need to be available for local level managers that are compatible with the WSM.
- How the Bay Watershed Model works needs to be transparent and easily communicated to localities and local partners, particularly when you/we are asking them to significant environmental improvements.
- Allow for new technologies to continue to be incorporated in the WSM as well as the partners' tracking, verification and reporting systems.
    - E.g. manure technologies.

Delaware Maryland Agribusiness Association: Bill Angstadt

- Concept of nutrient management as a BMP vs. a land use change.
    - Need an answer to the question if nutrient management can be simulated as BMP, not as a land use change.
    - Current classification as a land use change is confusing, unclear.
    - Revert to BMP classification.
    - Note: possible impact to Nutrient Management Expert Panel's work if this reclassification occurs.
- Need a systematic review of the Scenario Builder to update the input data, assumptions, and documentation.
    - Policy and management changes negate the older data.
    - Four specific areas of potential improvement:
        1) Manure volume and analysis.
        2) Fertilizer applications based on real, current data.
        3) Scale: basin TMDLs necessitates basin yield data.
        4) Nitrogen based Nutrient Management (NM) plans included, but does not consider Phosphorus-based NM plans.
            - N-based plans overestimate amount of P; therefore, P-based NM plans must be considered.
- MD Irrigated Cropland placeholder: differences from non-irrigated cropland in mass balance—this is really a land use change.
- Process Issues:

- Ensure sufficient time for trials, groundtruthing of WSM Ph6 using land river segment scale data from those subwatersheds where we have more detailed input data/water quality monitoring data available—Upper Chester River, MD; Howard County, MD; Lancaster County, PA; Bedford, PA.
- BMP sequencing on different land uses needs to be resolved.

Watershed Stewardship: Chris Brosch

- Agrees re-modeling actions for Scenario Builder are needed.
  - Manure distribution sequence; yield information; nutrient spread post-manure: all need to be retooled to indicate individual crops within land uses.
- Disagrees with notion that BMPs should not be classified as land use changes.
  - Irrigated cropland vs. corn-soy rotations vs. alfalfa: differences require separation of land uses.
    - Current agriculture land uses need to be at least tripled for improved accuracy in the Model.
    - Increase number of land use categories, but stop changing BMPs to land uses.
  - **Angstadt:** Need to address the sequence of BMPs on various land uses.
    - **Brosch:** A discussion between all Ag Expert Panels and modelers is needed to determine sequencing function.
- Importance of developing a user interface: develop a lighter version, similar to CAST.
- More dynamic BMP efficiencies:
  - Creating a simple model is well-intentioned, but a simple programming of efficiencies can achieve robust change in terms of reflecting reality.

NRCS: Curt Dell, Chesapeake Bay Science Advisor

- Maintain flexibility for incorporating new practices.

USDA-ARS: Jack Meisinger

- Recognition of lag time lacking in the Model. When water quality improvements are not seen as simulated, this must be explained to the public.
- Residual P issue.
  - Model does not carry P from year to year. Thus, residual soil P cannot be evaluated in Model.
- Dynamic efficiencies: ability of cover crops to scavenge depends greatly on residual nitrate.
  - Model cannot currently show residual nitrate.
  - Site variables need to be shown.
- Need to foster continued discussion of multiple models:
  - Consider a host of local models feeding into the WSM
    - Method to include local data, increased specificity.
  - Multiple modeling approach is worth examining, just need to be careful.

NRCS: Glenn Carpenter

- Significance of the Farm Bill, especially considering potential effects on NRCS funding/support.
- Accuracy of data (e.g. animal unit estimations, manure generation).
  - Best generalizations need to be determined.
- 95% confidence intervals: importance of studies and data points.

- Scientific defensibility needed.

NRCS: Blaine Delaney

- Consideration of the loss of farmland across the Bay watershed along with the increasing human footprint needs to be fully factored into the WSM.
  - Decreasing farm footprint, increasing human population impact.
  - Approaching time when human animal units > other animal units.

American Farmland Trust: Jim Baird

- Farmland protection policies need to be factored into the WSM and its scenarios
  - Land use perpetuity affected by land use and model.
- Streambank erosion needs to be better accounted for in the WSM
  - loadings may be higher than currently estimated; therefore, include more monitoring data.
- People need to better understand the WSM and how it works.

Next Meeting:

September 20th
9:30 am – 3:30 pm
U.S. Fish and Wildlife Service Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Participants

Tim Sexton- VA DCR
Blaine Delaney – VA NRCS
Beth Horsey- MDA
Dana York- MDA
John Rhoderick – MDA
Royden Powell – MDA
Doug Goodlander- PA DEP
Steve Taglang - PA DEP
Ted Tesler – PA DEP
Douglass Griffith - WVDA
Aaron Ristow – Upper Susquehanna Coalition
Greg Albrecht – NY Dept. of Ag and Markets
Jim Glancey – UDel
Nona McCoy – NRCS
Curtis Dell – ARS/NRCS
Susan Marquart – NRCS
Glenn Carpenter – NRCS
Jack Meisinger – USDA-ARS

Frank Coale- UMD
Wade Thomason – Virginia Tech
Jim Baird- American Farmland Trust
Chris Brosch- WSI
Hank Zygmunt
Molly Harrington- CBPO/CRC
Rich Batiuk – CBPO/EPA
Debra Hopkins – CBPO/FWS
Marel Raub - Chesapeake Bay Commission
Kim Snell-Zarcone – Conservation Pennsylvania
Don Meals – Tetra Tech
Steve Dressing – Tetra Tech
Bill Angstadt – Delaware Maryland Agribusiness Association
Sally Shaver – National Corn Growers Association