CHESAPEAKE BAY PROGRAM
WATER QUALITY GOAL IMPLEMENTATION TEAM
October 22nd and 23rd MEETING
Liberty Mountain Conference Center
Carroll Valley, Pennsylvania
http://www.chesapeakebay.net/calendar/event/18785/

SUMMARY OF DECISIONS & ACTIONS

DECISIONS:

- See Attachment E1, slides 4 – 13 for summary of how WQGIT voted on priorities for the midpoint assessment.
- Start to test shift of CBP models from AGCHEM to PQUAL
- Add constant delivery factors as a separate priority, with one vote
- Separate out federal segmentation as a separate category from model data processing, with one vote
- See Attachment E3 slides 18- 27for decisions related to the lead, supporting partners, necessary information, start and end dates, and other information for midpoint assessment high priorities (topics receiving 5 votes or more)
- WQGIT recommends shifting Phase III draft and final WIP deadlines to June and December 2018
- WQGIT asks EPA to consider options/incentives for not requiring or for requiring a more limited scope and content for Phase III WIPs in jurisdictions that have successfully implemented practices in 2017 that achieved 60% of the reductions compared to 2009
- For lower priorities (4 votes or less) proposed by a single Workgroup, that Workgroup is the lead
    - See Attachment E3 slides 9-11 and 19- 27 for additional decisions on priorities and leads, including leads for "other" priorities that were not identified by a single workgroup.
- What to Bring Forward to Management Board (November 14) and PSC (December 5) for concurrence:
    - Guiding Principles
        - WQGIT comments by November 2 (See Actions for Guiding Principles)
    - Midpoint assessment recommendations
    - Recommended General Schedule for midpoint assessment and Phase III WIPs (see slides 14-17, Attachment E3)
    - Doing Phase III WIPs in future (2025) vs. current land use – creating an incentive for conservation and planning
    - Loss of trapping capacity at Conowingo Dam

ACTIONS

- Comments on draft Guiding Principles due to Larry Merrill, Jeremy Hanson, and Katherine Antos by November 2, 2012
- WQGIT members should brief their MB and PSC members before November and December meetings

- For high priorities (5 or more votes), lead entities are charged with developing work plan by December 3 to present to WQGIT on December 10 call.
    - Work plans must consider:
        - Data and analysis needs
        - Staff and resource needs
        - Timing so that **all** priorities are incorporated into models by October 1, 2016 (eg, not everything is due 10/1/2016)
- For priorities that received 4 or less votes, lead Workgroup decides whether to move forward, taking into consideration
    - Doesn't interfere with Workgroups' higher priorities
    - Doesn't interfere with key staff's ability to work on higher priorities
- If lead Workgroup decides to move forward with priority, must identify supporting partners and needs and draft a work plan with schedule to present to WQGIT in February 2013
- Workgroup chairs decide by December 3 who is the lead and report lead to WQGIT on December 10
- By February 2013, Lead Workgroup decides whether to move forward with priority, identifies partners and needs, and develops work plan to present to WQGIT
    - Again, work cannot interfere with higher priorities
- Lower priorities identified by multiple workgroups includes:
    - Methods for backcasting historic land uses (present to 1980) and developing future land use scenarios that are locally credible and relevant. Consider 2025 land use for Phase III WIPs to incentivize land conservation and land-use planning – LU and Forestry WGs
    - Explore evaluation of wastewater in the annual progress runs examining current versus average flows and to ensure increases due to growth are expected/acceptable– Milestones and WWT WGs
    - Bay TMDL and WIP/Milestones Policy, including stability in allocations vs. model changes, and consideration that WWTPs have already upgraded – Ag WG, Other
    - Come up with way to account for trades – TOWG and WWTWG
    - Evaluate how biosolids land applied and accounted for – WWTWG (would require coordination w/ Ag WG)
- CBPO modeling team will provide data criteria for impoundments and reservoirs to jurisdiction representatives on WQGIT
    - **Post-meeting note: T**he CBPO Modeling Team no longer needs to provide data criteria for impoundments and reservoirs under STAR's Midpoint Assessment High Priority Work Plan. The USGS plans to provide this information.

MINUTES

Day One: Monday, October 22, 2012

Larry Merrill (EPA, Water Protection Division) convened the meeting at 10:00 AM.

WELCOME - Pat Buckley, PA Department of Environmental Protection

- Pat Buckley welcomed the WQGIT to Pennsylvania and emphasized the need for the WQGIT to work together on the model so that it makes sense for the Partnership

LOOK BACK ON PAST ACCOMPLISHMENTS AND LOOK AHEAD FOR THE NEXT 5 YEARS – Larry Merrill

- Merrill described the accomplishments since the Water Quality Goal Implementation Team (WQGIT) meeting in 2010:
    - Establishing the Bay TMDL (and ALL the WQGIT work leading up to it)
    - Completion of Phase I and II WIPs and 2012-2013 Milestones
    - On track toward meeting the goal of all practices in place by 2025
    - Supporting multiple expert panels to evaluate BMPs
    - Moving forward with a verification protocol
- Merrill mentioned that the draft Guiding principles (Attachment A2) were shared with the Principals' Staff Committee (PSC) on Friday, 10/19
    - **ACTION**: Comments on the guiding principles should be submitted to Larry Merrill (merrill.larry@epa.gov), Katherine Antos (antos.katherine@epa.gov), and Jeremy Hanson (jhanson@chesapeakebay.net) by November 2nd, 2012.
- He recalled some of the goals and questions for the meeting, which were raised during the September 24th WQGIT conference call (see Attachment A1)

OPTIONS FOR RAPID DEVELOPMENT AND REVIEW OF MODELING TOOLS – Gary Shenk (Presentation B1)

- Shenk (EPA, CBPO) described the pros and cons of AGCHEM and PQUAL (slide 9)
    - Run time is not a major consideration; CBPO has enough computing power
    - Purposes of the watershed model (WSM): accounting tool (add loads from land uses, BMPs etc.), load estuarine model, discovery
        - Model mostly used for management/accounting at this time
    - Possible reconfiguration (slide 15) using PQUAL could allow WSM, Scenario Builder, C/V/MAST to match exactly.
    - Benefits of PQUAL: allows for more rapid review/integration, shorter calibration time
        - Using PQUAL, it could be possible to produce a model version for partnership review every six months
- Russ Baxter (VA Dept. of Environmental Quality): Does change in model format have implications for evaluation of BMPs' efficiency/effectiveness?
    - Shenk explained a change in model structure would change the BMPs related to atmospheric deposition and nutrient management, but for vast majority of the BMPs there would be no change to how BMPs are credited or applied.
- James Davis-Martin (VA Dept. of Conservation and Recreation): slide 15 seemed to imply that SPARROW, etc. cannot be used with AGCHEM, but with PQUAL. Can't we use same discovery process to set up with AGCHEM component?
    - Shenk: Question is really how do AGCHEM vs. PQUAL models incorporate information from other models. We use literature and other models (e.g., SPARROW) to set base loading rates in AGCHEM, as suggested by STAC. Under PQUAL, have to tell model the effect of different variables. This information could

come from AGCHEM, SPARROW, other models, or other sources. STAC recommended to include multiple models

- Lee Currey (Maryland Dept. of Environment): how would change to PQUAL affect sectors' (especially agriculture's) nutrient loading rates?
    - Shenk: Would affect nitrogen part of nonpoint source sectors, phosphorous is already PQUAL. Agriculture simulation would be largest change (most sensitivity)
- Karl Berger (Metropolitan Washington Council of Governments): would this change affect how to estimate uncertainty?
    - Shenk: easier, quicker to run. To estimate uncertainty, need to run model many times; not a silver bullet, but helps through repetition
- Marel Raub (Chesapeake Bay Commission): will switch to PQUAL make tools more relevant at local level?
    - Shenk explained it can be difficult to explain differences of loads/BMP efficiencies at local scale, and that the ability to explain and communicate is a central issue for the partnership and workgroups to consider.
- Dianne McNally (EPA, WPD): biggest disadvantage of proposed switch to PQUAL?
    - Shenk: can't ask the proposed watershed modeling approach a question for which you don't know the basic answer to. Since you set the sensitivities up front in PQUAL, will not see any differences in sensitivity when running different scenarios.
- Bill Keeling (VA DCR): why would urban be producing an expected result for phosphorus, while Ag does not?
    - Shenk: urban sensitivities are based on AGCHEM sensitivities. Difference: we currently use one model, proposed approach allows us to use other models, as recommended by STAC.

PANEL DISCUSSION OF WORKGROUP PRIORITIES – PART I

Each workgroup's priorities are included in Attachment C1, which was referenced throughout the panel discussion. Other attachments or presentations were provided at the discretion of each workgroup and are linked accordingly. Highlights and discussion are captured below.

Urban stormwater workgroup (USWG) – Norm Goulet (Northern Virginia Regional Commission)

- There's a lot of overlap between groups' priorities
- Improved land use classifications was a top priority for the USWG
- The USWG recommends assessing the model's accuracy using small-scale watersheds
- Regional loading factors can make local buy-in more difficult, e.g. Arlington County VA: tiny county, two segments with significantly different loadings
- USWG also recommended adding more local impoundments and reservoirs to the model, which already includes large impoundments. Hope to capture local WQ benefit, get credit they deserve.
    - Ron Entringer (NYS DEC): capture of local reservoirs is double edged sword.

Land use workgroup (LUWG) – Karl Berger (MWCOG) and Jenny Tribo (Hampton Roads Planning District Commission)

- LUWG has held two meetings so far, still in early stages

- Investigating differential loading rates for expanded urban/natural land use classes (joint w/ USWG and WTWG), beyond impervious & non-impervious, regulated & non-regulated
    - If rates aren't much different, is it worth effort?
- Davis-Martin: is the group considering a move away from management types of categories? (e.g. nutrient management, conservation tillage)
    - Merrill reserved this issue for later discussion.

Agriculture workgroup (AgWG) – Mark Dubin (University of Maryland, CBPO)

- See Attachment C4 and Presentation C1
- The AgWG identified its priorities on October 11th, divided into five groups
- Baxter: issue of reported vs. credited BMPs contained in #4?
    - Yes
- Davis-Martin: relevant to change from AGCHEM to PQUAL
    - Shenk: Yes, this is related
- Sally Claggett (U.S. Forest Service): say more about number of land uses in agriculture
    - Dubin: The model divides the watershed into the drainage area to the 92 tidal segments. In addition, land use conversions incorporated in model itself. Cover crops is most diverse and complicated BMP in the model. Opportunity in multiple places to move forward on making these BMPs and model processes easier to follow.
- Swanson: change nutrient management from land use to BMP…just take value and transfer it?
    - Dubin: this is not a recommendation at this point, but it is being considered. Definitely interest from ag community. There are so many different tools and products on the market now, more difficult to describe in a single category.
- Dianne McNally (EPA, Water Protection Division): Got feedback on headwater vs on-the-bay states. Some headwater states looking at how to create as much stability as possible while moving from phase 2 to phase 3 WIPs. Would these recommendations interfere with that?

Watershed Technical workgroup (WTWG) – Alana Hartman (WV DEP)

- Worked to consolidate and synthesize comments from jurisdictions (most of which were also submitted by the jurisdictions)

Modeling workgroup – Dave Montali (WV DEP)

- See Presentation C2
- Goulet: has modeling workgroup discussed establishing vehicle miles traveled (VMT) as urban nutrient BMP?
    - Lewis Linker (EPA Chesapeake Bay Program Office): The data is a challenge; if we have the data we can have a discussion of including it in the model
- Matt Johnston: near-real-time models
    - Davis-Martin: would hope models could better depict what's going on in real world
    - Currey:
- Bruce Michael (Maryland Department of Natural Resources): mentioned need for better data of shallow water segments
    - Lee Currey: another reason for extending the time series
- Chris Pomeroy: STAC suggested validating the model

- Baxter: would next calibration extend to cover years between 2005 and 2012?
    - Yes.

Wastewater treatment workgroup (WWTWG) – Tanya Spano

- See Attachment C6
- Differentiate between feeding the model and management
- Antos: Is improving data on sediment loads from non-significant wastewater facilities also a priority, in addition to nutrients?
    - Not considered a contribution for these facilities
- No answer on biosolids yet, have to coordinate with AgWG to gather/assess data
- Discrepancies between local septic data and other sources/databases
- Make sure we can still innovate…dynamic tension between the principles, need to find right balance
- Ron Entringer: Onsite #3c—NY is looking at issue of phosphorous loading from septic systems, want to give credit for offset to P for connections, or else just adding additional P load
    - Spano: the WWTWG will address this question
    - Shenk: think of it as a zero-sum game, i.e. if we don't quantify or characterize a load from one source, then the sectors divide that load among themselves

Forestry workgroup (FWG) – Rebecca Hanmer

- FWG's priority request is to change the forestry land use in the model to reflect "true forest". Distinguish riparian/floodplain forest and upland forest, and separate both from unforested open lands
- Better focus needed as annual miles of riparian forest buffers are below that needed to meet WIP goals
- Separating mixed open land from forest could reveal opportunity for nutrient/sediment reduction by reforesting
- Air deposition may not be modeling issue, but communications priority. When communicating forest load, show how much is from air deposition and highlight value of forest for reducing nitrogen (like a BMP)
- Can't take water quality benefits of forest for granted, as now losing forest; perhaps use 2025 land use for WIP III
- Another FWG priority is improving way forest harvesting is counted
- Schueler: foresee any need to go beyond current definition of filter strips or stream buffers?
    - Need for communication between USWG and FWG
- Shenk: coded in terms of effort to the CBPO modeling staff, some are already going to be done (blue)
    - Need to figure out as a group what to do about this "mixed open" land use

Trading and offsets workgroup (TOWG) – Evan Branosky

- TOWG doesn't have modeling recommendations
- Recent developments…wastewater trading provisions thoroughly defined…new VA law would allow MS4s within a WLA to trade to meet allocations
- Some of the issues mentioned by other WGs will be addressed in Technical Memoranda

- Trading is a tool to lower cost, not achieve greater reductions, necessarily
- Rhoderick: with states' programs in various levels of development, scheduling of technical memoranda have put many things on hold
- Spano: need for discussion with TOWG and WWTWG regarding septics, etc.

Milestones workgroup – Suzanne Trevena
- Chesapeake Bay Program is tracking different types of milestones - Programmatic and quantitative, where quantitative is based on model scenarios of BMP implementation.
- Milestones Workgroup is separately working through lessons learned from reporting the 2009-2011 milestone results and evaluating and communicating 2012-2013 milestone commitments
- Will describe these "lessons learned" topics that also relate to the midpoint assessment

Scientific, Technical Assessment, and Reporting (STAR) – Scott Phillips
- Integrated approach
    - Improved BMP reporting
    - More nontidal monitoring
- Flow-normalized loads over time
- STAR is working on a "lessons learned" report, based on about 20 case studies, expect release by end of 2012
- Shenk: modelers will certainly work with STAR, continue to learn from and include monitoring data

WQGIT DISCUSSION OF WORKGROUP PRIORITIES
- Beth McGee (Chesapeake Bay Foundation): Should Conowingo dam be on the list or is it assumed to be part of the process?
- Bruce Michael (MD DNR) described a few issues regarding Conowingo dam, including:
    - Bob Hirsch, research on significant storm events
    - Re-licensing process, addressing issues including sediments
    - He noted everything is ongoing, and he will continue to update the WQGIT
- Dianne McNally (EPA/WPD) suggested making sure issues from section 10 of the TMDL are addressed (e.g. climate change)
- Davis-Martin: take broader approach to midpoint assessment than just adjustments to the model
- Ann Swanson: make sure include/consider our green infrastructure, wetlands, etc.
- Raub: incorporating lag-time, communicating when water quality improvements will be realized
- Linker: Air modeling in purview of Modeling WG with respect to technical side
- Currey: agree w/ Swanson, need to emphasize and keep parallel track, not lose support for green infrastructure and implementation
- Baxter: based on discussions, communication is important. Need to live in real-world (monitoring results), not just modeling world
- Chris Pomeroy (AquaLaw): upgrades have been constructed at wastewater treatment plants. Keep that in mind that has already been a significant capital investment

- Shenk explained that Attachment D1 reflected his best personal guess of the required level for CBPO staff effort based on his understanding of the priorities. Does not reflect level of effort for the WQGIT as a whole. He noted they don't have atmospheric deposition data from 2005-2012, since contract with PSU only went through 2005
    - Dubin: some issues not necessarily a function of the panels, would involve the states
    - Merrill: primary focus of midpoint assessment is improvements we can make leading up to 2017
    - Davis-Martin: public demonstration of accuracy and variation is more proactive, easier to understand; clarity and consistency between CBP BMPs and NRCS conservation practices. Map the data to something else instead of changing definitions
    - Shenk: it would take a tremendous effort to estimate/quantify uncertainty
        - Davis-Martin: very difficult to maintain local buy-in without that kind of information
    - Swanson: need ability to communicate lag-time between segments
- Shenk: new data is available that potentially makes it possible to expand urban land classifications
    - Peter: all LUWG priorities are interrelated; LUWG won't be lead for everything. Primary reason for different land use classes: there are different loading rates
        - Expert panel approach is a wise approach for gathering this information; if there's enough evidence to distinguish land uses by region/area, it is possible to map the flow-paths; would be an effort, but the knowledge exists
        - Worth exploring 2025 land use recommendation
        - Schueler: better understanding of different land use loading rates, but technology still requires supplemental local data
    - Currey: first things jurisdictions looked at in the WIP process was their land use. Getting land use correct is first step for buy-in from locals and building confidence
    - Buckley: Pennsylvania will never have level of detailed land use data as Maryland; need to keep regional capacity in mind
- Shenk explained why all stormwater priorities were "red" (e.g., high level of effort for CBPO modeling team)
    - Need data for small-scale simulations, can't generalize across watershed. Would need replication.
    - STAC workshop: placement of land use within watersheds is very important. Still emerging science, would take incredible amount of work, will want to go this direction eventually, but unable to do within next few years (though can certainly get started)
    - It's been a decision of the Partnership in the past to associate nutrient and sediment loads with land-based sources rather than as scour from the stream
    - First few are achievable, could start on next few, but are among the hardest priorities on the list
    - It took significant effort from USGS to collect data and include ~40 impoundments, up from 5; have methods from those efforts, but gathering the information requested by USWG would be tough
    - Goulet: understand the difficulty, (a) and (d) are highest concerns for urban sectors, we're at the point where we are trying to control a load that doesn't exist on the land,

can't be controlled, hampers buy-in; headwater issue is very important to WV and VA
        - Shenk: wasn't very clear. We can make some progress on assigning a load to small order streams (1st and 2nd order). Tried to do this through old sediment workgroup (estimated 0-100%), will always have/use all information that is available
    - Peter: for 1c, USGS is currently trying to address through its science plan
- Davis-Martin: exclusion fencing and intersection w/ pasture
    - Dubin: riparian buffer numbers based on 2000 goals. Hope to do a better job with underlying data sets.
- Shenk: WTWG#2-understood that regional factors are problematic, spent about 2 years in modeling workgroup to develop calibration method. Certainly ways we can do it better; in red because it takes a lot of time to develop new theory, fairly sure this issue will be tackled, but is a high level of effort
    - WTWG#3-depends on what is meant by local data, "red" b/c it is conceptually difficult to deal w/ issues, make it fair for all data-rich and data-poor jurisdictions/areas
    - Currey—agree that regional factors exist for a reason, but do cause problems w. local outreach. Concern about default to lowest common denominator, difficult to explain default when jurisdiction provided better data and not using it.
- Shenk: modeling WG #6 is something the Partnership will have to consider and address
- Bruce Michael: tremendous amount of additional water quality data available in shallows. Potential to improve temporal/spatial data
- Davis-Martin: will there be a need to recalibrate sediment transport model as result of changes to WSM?
    - Linker: suite of models, have to look at calibration. Likely yes
- Goulet: what's sense of what can be accomplished?
    - Shenk: the colors only indicate the effort for the CBPO staff; they will also require work for the states
- Swanson: based on all those issues, are there certain ones that seem best to address in Gary's opinion?
    - Shenk: this model is for management purposes, so it should be improved based on the needs for management
    - Swanson: land uses help to validate use at the local scale (credibility)
        - Linker: another category could be "confidence"
- McNally: guiding principles hint at those categories
- Davis-Martin: common thread among slate of issues for model is a need to build credibility; if we can't address them, maybe we should revisit decision to use it as a management tool at local level
    - Goulet agreed
- Dubin: should go by priorities, don't just go for easy ones, but start at the head (processing, inputs, etc) as the AgWG suggested
- Currey: save "at what scale to address this" issue for later. The schedule should address disconnects and provide clearer deadline for the modelers
- Merrill: will need to look at schedule tomorrow afternoon
    - Agree w/ Swanson, go back and forth w/ dialogue

  - Use priorities doc as a guide
  - Dot voting: Honor system. Each entity/organization/jurisdiction gets five votes. This will help provide a sense of priorities; not just modeling priorities, but broader priorities.
- Chris Day (EPA, Office of Regional Counsel) – litigation update
  - American Farm Bureau and National Association of Homebuilders v EPA
    - Oral arguments held
    - Hope for a decision by January 2013
  - New lawsuit re: trading aspects of TMDL, with 2 plaintiffs, filed in DC district court; argues EPA exceeded authority by authorizing water quality trading, which violates Administrative Procedures Act; lawsuit still in early days, has not been fully served (60 day clock has not started). EPA will probably meet with plaintiffs soon.

Day Two: Tuesday October 23rd, 2012

WHAT WE NEED TO GET THROUGH BY THE END OF TODAY – Larry Merrill (Attachment E1)

- Merrill explained the WQGIT may not make final decision on schedule (the PSC would). There are some items that will need further discussion, EPA and states will have respective work/tasks.
  - Recap from Day 1: majority of priorities have to do w/ Principle #2 – enhancing tools to enable successful engagement with local partners. Some also have to do with Principle 4, current and emerging issues; a lot, but not everything, has to do with models.
- Merill reviewed the dot voting results—top finishers [Note that review, below, is based on tally at end of Day 1. Final voting results included in Attachment E1 are based on WQGIT's decisions on Day 2 regarding how to further lump, split, and/or address priorities]
  - 13 votes: improve spatial, temporal, and categorical representation of ag, urban, federal, and natural land uses.
  - 11 votes: revisit watershed model calibration with goal of improving local watershed results (Modeling WG)
  - 9 votes: modeling baseline/input data and assumption—AgWG
  - 8 votes
    - Develop schedule
    - Improved modeling accuracy of hydrologic networks
    - Investigate differential loading rates
  - 6 votes: model data processing (AgWg)
  - 5 votes: CBP modeling suite transparency, accuracy and confidence; trapping capacity behind dams, including Susquehanna (Conowingo)
  - Cutoff at 5 vote level to allow time to discuss details, can visit other items with time
  - EPA placed its dots for modeling baseline/input data assumptions (Ag WG priority #1); phosphorous buildup; Susquehanna dams; increased watershed monitoring, and climate change
- Merrill asked for feedback given the voting results

- Linker: thinking back to TMDL documentation (Section 10), some of the issues were included in that (dams, climate change). Consider a separate list of commitments we've already made.
  - Antos: some things (like filter feeders) were captured in priorities with 0 votes, will have to follow up to identify lead group
- Spano: would be simple to look at things that are already underway, clarify who's lead on those items.
  - Linker: good point. It was WQGIT that led policy choices on air in past.
  - Merrill: the lower priorities could be quick check-offs.
- Shenk: BMP effectiveness is a linchpin…interprets that as confidence in current BMP framework/set-up….since land use was top priority, good that LUWG is underway
- Keeling: propose Shenk/Linker lay out set of evaluation criteria with WTWG/modelers for post-recalibration evaluation e.g. expected BMP performance (PA voiced support)
- Baxter: best test of BMP is if it is in place
- Currey: typically don't evaluate the management actions and how the model responds. This would help instill confidence going forward
- Phillips: where did assessment of progress fall? People confident in how it is already being addressed?
  - Spano: "progress" used too broadly. We've progressed when we build it, implement it, and see results. Important to distinguish where we see response and where we are just reporting "progress."
  - Merrill: key objective of MPA is knowing if we're on track
- Bruce: have to manage expectations: Bay won't be restored by 2025. We are seeing Bay success stories and improvements
- Davis-Martin: Need to assess/measure progress against monitoring, currently in relation to milestones implementation. Perhaps reinvent the term "progress." Programmatic evaluation
  - Keeling: Which hydrology is used may matter. 10-year average might not be ideal.
  - Buckley: agree that programmatic milestones are important. EPA has been generous with CBRAP, and Pennsylvania appreciates that. Caution about language in guidance to revoke/deny grants for lack of progress.

- Buckley: more challenging to identify necessary datasets
  - Merrill agreed and explained we can get a start, but workgroups can fill in more
- Currey: useful to go back to guiding principles for some of this
- Merrill: may need footnotes or something

Priority #1 – Improve spatial, temporal, and categorical representation of urban, agricultural, federal, and natural land use. Where local data unavailable, develop more accurate distribution of loads. (21 votes)

Proposed by Land Use Workgroup, with support from WTWG and sectors WGs

Discussion:

- Swanson: who is decision-maker on making changes to land use categories? The LUWG?
- Buckley: ultimately the WQGIT would make those types of decisions, with deference to sector experts on the workgroups

- Tribo: the LUWG will rely on the technical opinion of the sector workgroups
    - Berger agreed with Tribo, noting the LUWG's role is to determine if a land use can be mapped and reported.
- Bill Angstadt: Nutrient management as a land use or as a BMP, who takes a lead on that? AgWG? How is decision made?
    - Dubin: approved interim BMP reviewed by panel, forwarded through AgWG, so there is precedent and AgWG could move forward on this
    - Schueler: urban Nutrient management panel is taking same approach of moving from land use to efficiency; will coordinate with Agriculture nutrient management panel. Perhaps expert panels could be convened for land use loading rates, as workgroups may not have time or expertise to determine those rates.
- Hanmer: there's a need for two stage process, currently no consensus how to deal with requested land use changes. Need to do it quickly.
- Davis-Martin: recommend LUWG to have overall lead with direction and support of source sector workgroups
    - Merrill noted there was agreement that the LUWG has the lead and workgroups with concerns or recommendations for land uses will work with the LUWG
    - Berger asked for larger WQGIT role, LUWG isn't set-up to be leading group
- Hartman: the WTWG would normally take role of aligning land use based loading estimates before the LUWG, but there seems to be confusion at this time how to divide responsibilities
- Spano: suggest having conference call among the workgroup chairs so they can sort out some of the land use duties
    - Antos felt this was a good suggestion; the chairs could report back to the WQGIT at its December conference call
- Buckley: encouraged the WTWG to stay involved with LUWG, encourage larger WQGIT participation
- Swanson: Need to build schedule in reverse, based on deadlines/schedule
    - Dubin described his expected process for the AgWG: talk to panels, go back to WG and ask members, and take it from there; this could be done quickly.
- G. Shenk: land use is one of the most difficult things to deal with, would like it to come in early, not last minute. Can't lay out a firm schedule until the WQGIT sets its schedule.
- Baxter: this is more than just new categories, but also how local data is used/incorporated
    - Tribo: loading rates fall to specific workgroups, LUWG can focus on data issues, identifying what data exists, etc.
- Sweeney: consider that an early decision will be needed if the choice is to proceed with a 2025 land use projection rather than a current land use
    - Buckley: hard enough to get current land use correct, projections very difficult
- Merrill: between now and December WQGIT call, LUWG will meet again to begin working through decision process. Also, workgroup chairs will meet to talk through how to address the issues which cross multiple workgroups.

See pp. 17-18 of minutes for further discussion on land use loading rates and decision to combine these two priorities into one.

DECISIONS (Attachment E3; updated 11-06-2012):

- Combine the following 2 priorities:

- Improve the spatial, temporal, and categorical representation of urban, agricultural, federal, and natural land uses. Where local data unavailable, develop more accurate distribution of loads - Land Use and WTWGs (also related to Ag WG input data) (13 votes); and
- Investigate differential loading rates for expanded urban and natural land use classes, including upland, floodplain and riparian forests vs. mixed open. Better communicate loads with forest related to atmospheric deposition – Land Use and Forestry WG (8 votes)

Into:

- Improve spatial, temporal, and categorical representation of urban, agricultural, federal, and natural land uses and, to the extent possible, assign separate loading rates. Consider using 2025 projections to develop Phase III WIPs to incentivize conservation and smart land use planning. This priority is **not** a change in allocation methodologies to credit growth. Where local data unavailable, develop more accurate distribution of loads. (21 votes)

- Lead: Land Use Workgroup – in terms of how to build in new land uses recommended by Sector Workgroups based on available data. Responsible for convening Sector Workgroups on land use topics
- Supporting Partners: Sector Workgroups (USWG, AgWG, Forestry) will have the lead to make recommendations for what land uses should be added in and loading rates. WTWG, BMP panels willing to have supporting role. WQGIT will help settle any cross-workgroup issues.
- Necessary Datasets, Analyses or Decisions:
  - Recommendations on what new land uses should be added in or removed.
  - Loading rates associated with different land uses – LUWG might need to convene panels in conjunction with sector Workgroups to develop loading rates.
- Approximate Start Date: ASAP - LUWG convene discussion w/ sector workgroups, WTWG of what new land uses to add. Report back to WQGIT in Dec. with work plan for next few years
- Approximate End Date: April 2015? Depends on Phase III WIP schedule
- Issues for Management Board/PSC: N/A
- Notes: WQGIT will have role in making decisions across workgroups. Combined with loading rates priority

ACTIONS (Attachment E3):

- Suggested next steps:
  - Step 1: Land Use Workgroup convenes partners and will provide more specific work plan by December 2012
  - Step 2: Sector Workgroups (Ag, Urban, Forestry) list what land uses they want added, removed
  - Step 3: Land Use Workgroup sets data criteria
  - Step 4: Sector Workgroups assess data availability for differential loading rates and local data
  - Step 5: Land Use Workgroup develops method to synthesize, fill gaps. Vetted by Sector WGs, WTWG

- Step 6: To WQGIT for approval

Priority #2 – Revisit watershed model calibration methods with goal of improving local watershed results (11 votes) *including revisiting regional factors (9 votes) (Total: 20 votes)*
Proposed by Modeling Workgroup
Discussion

- Shenk: not a sticky issue in terms of who does what. Modeling WG has some specific comments, recommendations going forward
- Scott: this same or separate from use of multiple models issue?
  - Shenk: separate issue
- Linker: does this include local information, a question of scale? What have we voted for?
- Spano: need to be better at communicating to others who can provide data needed
- Buckley: Maryland wants models to work at local level – is that a reasonable expectation or goal? Watershed model originally intended to be more regional scale – do we need to reevaluate our goals and determine at which scale to run these models?
- Shenk: this is about calibration of the watershed model, not local data
- Currey: include local calibration results. Do not agree with backing off scale. Owe it to ourselves to improve science and get better estimates. Consistent with Shenk's suggestion to have the modeling tools be more decision-support tools to guide management.
- Schueler suggested identifying 5-6 priority watersheds for more intensive look, using local data and monitoring to make improvements in the model at the local scale, and then evaluate the resulting model outputs for those local watersheds.
- Dubin: the AgWG is interested in improving the model's calibration with respect to programmatic and implementation data, not just water quality monitoring. This would require gathering and incorporating more local programmatic (e.g. fertilizer application rates) and implementation (e.g. conservation practices) data to enhance local scale calibration.
- Montali: West Virginia wants better model calibrations into the headwater areas in W. Va., recognizing the model is already well calibrated closer to the Bay's tidal waters and at major river input stations.
- Goulet suggested a two step process. First, need to determine if we can make progress on gathering and incorporating more local scale programmatic and implementation data. If successful, then ask "does it improve the calibration?" If so, then determine at what scale we have confidence in the watershed model outputs.
  - Currey: agree, wait until the end then ask question about scale
- Keeling: current model limited by data; one tool may not answer all our questions. May need to look at alternative tools for local scale planning.

DECISIONS (Attachment E3):

- Lead: Modeling Workgroup
- Supporting Partners: Sector Workgroups (given loading rates of different land uses) and Watershed Technical Workgroup. Potentially reaching out to outside partners. STAR?
- Necessary Datasets, Analyses or Decisions: Get data from some small watersheds – eg, Occoquan. May need STAC review of appropriate scale for models' use further down the road

- Approximate Start Date: Could start now if had time. Charge Modeling Workgroup to work with CBPO modeling team to flesh out work plan
- Approximate End Date: Depends on Phase III WIPs
- Issues for Management Board/PSC: N/A
- Notes: Priority is about getting model calibration results to better match with local water quality. Process is straightforward, and have concrete suggestions. Use of multiple models is a separate item. Note that related to model data input for calibration.

Priority #3 – Modeling baseline/input data and assumptions (9 votes)
Proposed by Agriculture Workgroup
Discussion:

- Dubin: important aspect of AgWG's priorities, feeling that the models use best available information (typically national datasets). Go through datasets and identify opportunities for improvement; tremendous opportunity to improve results of WSM. Some great examples in watershed: PA basin-wide effort to gather/collect and provide ag-practices data that is more rigorous than previously available
- Merrill: drew support, is it a AgWG-Modeling
    - Antos: do Dubin's previous comments on data included in calibration also apply here?
    - Dubin: see these as linked. Sort of a QAQC to check data and outputs
    - Davis-Martin: may trickle in to WTWG, certainly an AgWG lead
    - Swanson: with so much of CB forests on Ag lands, is there something this group should be doing to improve the quality of that data?
        - Dubin: definitely a need for FWG and AgWG to work together on this important issue

DECISIONS (Attachment E3):

- Lead: Ag Workgroup
- Supporting Partners: CBPO Modeling Team, Watershed Technical Workgroup, Verification Subcommittee and Panels, Forestry Workgroup (given forests on ag lands)
- Necessary Datasets, Analyses or Decisions:
    - National Cropland Data Layer – issues in past. Now accurate enough to use?
    - NASS annual vs. 5-year datasets – not all crop types, but ways to use for crops where this data available.
    - State data – eg, PA's tillage and crop residue surveys
    - Poultry Litter Subcommittee findings
- Approximate Start Date: Some of this work underway now
- Approximate End Date: Start of calibration (though provide new data iteratively as becomes available, and review so iterative calibrations). Therefore end date depends on Phase III WIP schedule
- Issues for Management Board/PSC: N/A
- Notes: Eg, use of national or more local data sets; frequency (eg, 5-year vs 1-year) datasets. This is linked to the calibration issue

Regional delivery factors (9 votes, combined into Priority #2 above; discussion as follows)

- Hartman and Montali explained West Virginia was more concerned with regional factors, not regional delivery factors, so it's a calibration issue for the Modeling WG, with WTWG support
- Davis-Martin: the symptom we're trying to address is the high level of variability in loading rates within individual small watersheds or within a single county; part of this is fixing regional factors, but open to other ways of addressing this concern.
- Buckley: change to constant delivery factors resulted in Pennsylvania losing progress of 1 million lbs of nitrogen, according to calculations by Bill Keeling.
- Keeling: the use of constant delivery factors for progress runs does not seem to make sense or may be producing skewed results, but use of constant delivery factor in running management WIP or TMDL scenarios is of much less concern. Suggest re-examining the use of constant delivery factors on annual progress runs.
- Montali noted this was two different issues, need clarification what people voted for
- Aaron: NY voted for constant delivery factors, not regional factors.
- Other WQGIT members: Voted for regional factors, and agree with combining this with Priority #2 (model calibration)
- Buckley: would like to have constant delivery factors added as a separate issue
- Antos noted that in 2011 the WQGIT decided to use constant delivery factors for progress runs and scenarios supporting development of 2-year milestones and Phase II WIPs. So the issue is whether GIT wants to revisit this decision or not.
- **DECISION**: constant delivery factors added as a separate priority, with one vote and WQGIT as lead
- Davis-Martin reiterated his suggestion to separate out planning and progress evaluations

Priority #4 – Develop schedule to achieve effective balance between sufficient review time for tool revisions/review/concurrence and sufficient time for target development and implementation planning (8 votes)
Proposed by Modeling Workgroup

- Davis-Martin: not just about schedule, but review, decisions/actions during review eg, adaptive management
- Hartman: some specific recommendations, e.g. have at least 6 months for review of next model
- Currey: want to make sure the modeling WG has time and guidance to evaluate the model correctly, re: scale, etc. What are the criteria for transitioning models and identifying differences?
- Shenk: up to WQGIT to decide what the appropriate balance is between review time, etc.
- Montali: really about integrating the model development and review w/ the Phase III WIP process. Cannot keep revising models when progress needs to be measured and WIPs need to be developed

DECISIONS (Attachment E3):

- Lead: Modeling Workgroup (for model development) and EPA for Phase III WIP schedule

- Supporting Partners: Watershed Technical Workgroups, WQGIT as whole (or perhaps higher since getting into broader policy) for recommendations to EPA on Phase III WIP schedule
- Necessary Datasets, Analyses or Decisions:
    - Decision on schedule
    - Transition to new rapid model development approach
- Approximate Start Date: Set recommendations for schedule this fall, possibly bring to PSC
- Approximate End Date: Proposal: Ask PSC to recommend schedule at Winter meeting
- Issues for Management Board/PSC: Yes
- Notes: This is bigger than the model. Gets at whole schedule issue, and building in time to allow for review of appropriate scale and formal review. Also includes transitioning among models

Priority #5 – Improved modeling accuracy of hydrologic networks
Proposed by USWG

- Shenk: This priority could be contradicting Priority #2, as we would essentially be adding more regional factors at a smaller scale. Same would apply to phosphorous transport in agriculture. These are tough nuts to cracks, will run into issues.
    - Davis-Martin: Fairfax example is looking at monitoring data for collection of land uses, big difference from regional factors. Expect different loads between areas with different sets of land uses, but would expect more consistent loads for same land uses in areas
    - Hanmer: recommend riparian flood plain forests given connectivity issue
    - Schueler: 5.3.2 added much more impervious cover, mostly in areas that are functionally different since they are not connected to the landscape in similar way

DECISIONS (Attachment E3):

- Lead: USWG
- Supporting Partners: WTWG, Ag WG, Forestry, Modeling Workgroup
- Necessary Datasets, Analyses or Decisions:
    - Data on smaller watersheds
    - Data on differential loading rates associated with hydrologic networks
- Approximate Start Date: ??
- Approximate End Date: ??
- Issues for Management Board/PSC: N/A
- Notes: Following this priority would lead to more, smaller scale regional factors. May be counter to earlier priorities (eg, Priority 2). One option might be to smooth regional factors. This is a very complex issue. This issue ties into differential loading rates (Priority 1).

Investigate differential loading rates
Proposed by Land Use and Forestry workgroups
Discussion:

- Tribo: the sector workgroups will be more responsible for finding/communicating data that explains/justifies different loading rates for different classes
- S. Claggett: seems there should be a discussion of overall land use categories, consider consistency, etc.
- Goulet: if there are management actions for particular type of land, then there has to be a land use category to capture that
- Schueler: this bullet looks for unique expert panel or contractor support for this
    - Johnston: agree with Schueler; if land use is so important and differential rates are this important, perhaps consider taking out of workgroups and into panels
- Dubin: land use is there to describe base management system. Agriculture sector gave it a try, and Ag WG not sure it works as hoped. Given all different/new practices/products, better off as BMP than a set land use
- Sweeney: one reason there are such different loading rates is the highly variable implementation rates among jurisdictions/localities
- Hanmer: Get workgroups to compile their preferred land use list. Then coordinate among work groups to resolve issues of land use and base management. Concerned about time it would take for sophisticated land use sub-classes.
- Davis-Martin: offer a third step to Hanmer's: make sure that local data is available

DECISION: Combine with Priority #1, "*Improve spatial, temporal, and categorical representation of urban, agricultural, federal, and natural land use. Where local data unavailable, develop more accurate distribution of loads.*" See Priority #1 for more specific decisions and actions.

Priority #6: Trapping capacity behind dams, esp. Susquehanna (5 votes)
Combined with Greater capture of local impoundments and reservoirs (2 votes) to become: "Trapping capacity behind dams, esp. Susquehanna, and greater capture of local impoundments and reservoirs."
Proposed by Other
Discussion:

- Merrill: was one of issues in section 10 of TMDL. Need to identify a lead(s), no current home(EPA and/or USGS)
- Linker: Modeling WG probably has technical expertise and membership best-suited for this issue
- Bruce Michael: addressing trapped sediment one of the top priorities before approval of relicensing
- Linker: two priorities were proposed under trapping capacity, second one being the Urban Stormwater Workgroup's second priority: "Greater capture of local impoundments and reservoirs." Recommend combining these two items into one priority
- Davis-Martin: support Linker's comment to take dams issue more broadly and include reservoirs and trapping etc.
- Dubin: Believe that Agriculture Workgroup would also like this to include farm ponds, as new data now exists.
- **DECISION:** Combine 2 priorities into one: *"Trapping capacity behind dams, esp. Susquehanna, and greater capture of local impoundments and reservoirs."*

- Shenk: For the phase 5 model, Virginia contracted with USGS to gather information on the most significant reservoirs in the watershed. The USGS was able to provide data for the 40 reservoirs that are included in the phase 5 model.
- Schueler: modeling team should provide guidance/rule on including new impoundments, level of effort that would be required
- Davis-Martin: Shenk mentioned they know the data requirements, so ask what impoundments the jurisdictions would like to include, start to gather that information
- **ACTION:** CBPO modeling team will provide data criteria for impoundments and reservoirs to jurisdiction representatives on WQGIT.
    - **Post-meeting note: T**he CBPO Modeling Team no longer needs to provide data criteria for impoundments and reservoirs under STAR's Midpoint Assessment High Priority Work Plan. The USGS plans to provide this information.

DECISIONS (Attachment E3):

- Lead: STAR (USGS)
- Supporting Partners: USWG, Ag WG (farm ponds – Smith Creek data), CBPO Modeling Team, jurisdictions, MDE and DNR (involved in relicensing), Corps, EPA
- Necessary Datasets, Analyses or Decisions:
    - Data needs for reservoir information
    - Where reservoirs are
    - USGS data and analysis on Susquehanna dams, including trapping capacity
    - Relicensing information
- Approximate Start Date: ASAP – CBPO modeling team provide jurisdictions with data needs for impoundments so that jurisdictions can start gathering this information. Relicensing underway for Conowingo
- Approximate End Date: ??
- Issues for Management Board/PSC: Flag Conowingo issues for PSC
- Notes: Combination of USWG and Other priorities

Priority #8 (was Priority #7 before federal land use votes redistributed): Model data processing (5 votes)

Proposed by Agriculture Workgroup

Discussion:

- Merrill: Need clarity on what this priority was about.
- Dubin: thought was: what's the process for gathering inputs for calculation of results. Looking at fine tuning of what should be happening, timing, etc.
- Montali: the way we characterize things doesn't come through clearly in this.
- Antos: Understanding was that Priority #3 was about what agricultural data were incorporated into Scenario Builder and the Watershed Model, and this priority is about how the modeling tools combine these data and simulate how nutrients and sediment move through agricultural systems and into waterways (eg, manure losses, volatization, application, etc.)
    - Dubin and Shenk: Agreed
- Antos: Originally, Ag Workgroup proposed including federal segmentation in this priority so one vote for federal segments/land uses was placed here. Does WQGIT agree?

- **DECISION:** Make federal land uses and/or segmentation a separate priority receiving 1 vote, and reduce this priority to Priority #8, with 4 votes.
- Merrill: appears to be a joint AgWG and Modeling workgroup effort

DECISIONS (Attachment E3):

- Lead: Modeling WG, CBPO Modeling Team
- Supporting Partners: Sector Workgroups (Ag, Urban, Forestry), WTWG
- Necessary Datasets, Analyses or Decisions:
  - Have default sensitivities in PQUAL version of model now; effort will be documenting all the sensitivities and, where missing, work with sector workgroups to provide
  - Will then update, rerun, and give to workgroups to assess
- Approximate Start Date: Now – Start developing PQUAL version of model, and provide to Modeling Workgroup and then Sector Workgroups to review
- Approximate End Date: When modeling updates need to be complete, depending on Phase III WIP schedule (propose October 1, 2016)
- Issues for Management Board/PSC: Will give them an update, but this is a WQGIT decision
- Notes: Combo of a few WGs' priorities. Ag WG: clearer documentation, transparency of data sources, ability to assess. Modeling WG: Transition to pqual as a better decision support tool

Priority #7 (was Priority #8 before votes redistributed): CBP modeling transparency, accuracy, and confidence/revising modeling system structure (5 votes)
Proposed by AgWG and Modeling WG)
Discussion:

- Montali: different concepts lumped together
- Dubin: Poultry litter is an example of what the Ag WG had in mind with this priority - testing in state labs from permitting program, easier to understand, improves transparency
- Shenk in response to Currey re: level of effort: an initial PQUAL version of the Watershed Model already exists, so not much level of effort exists to create this. Will be medium level of effort to provide the documentation to explain the assumptions, and then to continue updating the assumptions based on panel, workgroup and WQGIT input.
- Hanmer: is Modeling WG going to take over responsibility for the work from the sector WGs?
  - Shenk: in some instances the sensitivity of inputs and modeling assumptions in PQUAL would fall to the workgroups to evaluate and recommend modifications
  - Goulet: for urban, don't have data to support assumptions
  - York: how do you test a PQUAL model?
    - Shenk: an example of benefit from change to PQUAL: it allows faster updates, new versions. Therefore, allows more rapid testing of model updates.
- Merrill: split into two, separate AgWG and Modeling WG pieces. Ag WG items would be lumped into Priority #3 (model data inputs) and Priority #8 (model data processing)
- Davis-Martin: suggest using some scenarios with PQUAL version of 5.3.2 to get idea of what PQUAL change looks like. Make sure those default values and assumptions are documented, shared with workgroups, perhaps use contractor support to assess alternate values as needed

  - Antos: Agreed. Clarify that need to share with Modeling Workgroup to assess structure of model, and sector and Watershed Technical workgroups to assess data input and assumptions within PQUAL model. Latter review will require more documentation from the CBPO modeling team
  - Shenk: this documentation will take some more time and will be available some time in early 2013.
- York: who makes the decision to test/approve this kind of change?
  - Merrill: WQGIT usually makes these decisions, will at least want to present its decision to MB/PSC
  - WQGIT members: Modeling Workgroup, WQGIT workgroups, and WQGIT will approve this transition after review preliminary versions of PQUAL model.

DECISION: Revise Priority #7 to be: "*Model Data Processing – when the data is in, how do the models combine (eg, how do manure and inorganic fertilizer nutrients move through system)? How can data and processes be combined (eg, stackable BMPs)?"*

DECISIONS (Attachment E3):

- Lead: Ag WG
- Supporting Partners: WTWG, Modeling WG, CBPO modeling team
- Necessary Datasets, Analyses or Decisions:
- Approximate Start Date: Some work underway
- Approximate End Date: Start of calibration
- Issues for Management Board/PSC: N/A
- Notes: Separate out federal segmentation into separate item

Other, Lower Priorities

- Merrill reviewed the priorities with 4 and fewer votes (full voting results are summarized in Attachment E1 and Attachment E2)
- Swanson: seems there are three issues that need to go to PSC in December:
  - Decision of what land use for 2017 reevaluation. 2025 projection or current
    - As each sector is working on land use, would need to know which one
  - Schedule: provide sense of review, etc.
  - The Conowingo dam: policymakers need to understand how this will be included in Phase III WIP process
- Merrill: will visit at least two of those this afternoon
- Merrill: We can continue to address some of these items on November call, including:
  - Proposed briefing and recommendations for PSC
  - Additional feedback from WQGIT and workgroups on decisions reached at this meeting.
  - Will use future WQGIT calls to work through more specific workplans for these priorities, particularly for details on other, lower priorities that weren't discussed in detail today
- Buckley: workgroups may not need guidance from WQGIT
  - Merrill: Agreed. WQGIT role is to provide guidance for cross-workgroup issues and to provide final approval of midpoint assessment recommendations.

SCHEDULE (Katherine Antos, WQGIT members)

Katherine Antos described some of the considerations for the WQGIT's schedule (See Attachment E3)

- The most recent written communication by EPA regarding schedule for Phase III WIPs was in a June 2010 letter from the Region 3 Regional Administrator to the PSC. Some dates in that letter related to Phase II WIPs have since changed, and there is no legal agreement driving the dates
    - Letter includes the following dates for Phase III WIPs: draft WIPs due to EPA in June 2017, final due to EPA in November 2017, and TMDL modifications in December 2017
- Ask the WQGIT to consider the following in developing recommedations for the schedule:
    - Time for calibration (would be shorter with PQUAL – Shenk confirmed)
    - Review (full 6 months has been requested previously. Keep in mind that Shenk proposal for PQUAL includes multiple, iterative reviews of model updates starting in 2013. Not just one big review at end of model update. Therefore, is 6 months at end still necessary?)
    - Time for modelers to respond to WQGIT's review and for EPA, working with WQGIT, to develop Phase III WIP planning targets
    - Time for jurisdictions to develop WIPs (jurisdictions had previously requested 1 year from when Phase III WIP planning targets are set)
    - Assessment of whether/not jurisdictions achieved interim goal of practices in place by 2017 that would achieve 60% of the necessary nitrogen, phosphorus and sediment reductions compared to the 2009 progress run
    - If the WQGIT is recommending pushing back the deadlines for Phase III WIPS, what will guide implementation in 2018 before Phase III WIPs are complete?
- John Schneider (DE DNREC): Because this is a TMDL modification, will EPA go through full public notice?
    - Antos: would need to public notice draft TMDL modifications before modifications are finalized. Under regulations, public notice could be as short as 30 days but for TMDL, WQGIT and PSC had recommended up to 90 days.
    - Sincock: For TMDL modifications, recommend public noticing after the final WIPs are complete. This would differ from the process in establishing the Bay TMDL in 2010, but would limit the changes between the draft and final TMDL modifications. Would result in public noticing and finalizing modifications in 2019 if Phase III WIPs are pushed back to 2018.
- Antos: It would be spring 2018 when 2017 progress run results would be available to gauge 60% implementation goal
- Davis-Martin: suggest Phase III WIPs are not entirely necessary unless jurisdictions fail to meet 60% by 2017 goal. Milestones will guide implementation as they do now. No need to go through planning process unless there are changes to loads (or allocations) resulting from model/tool changes. Expectations for Phase III WIPs would need to consider at what scale local targets can be set based on the certainty of the modeling tools
- Currey: transition to new model would create communications problem around 2017/2018 timeframe; even if we have a more accurate model, it is still difficult to communicate those changes
    - Antos: there's possibility to do in Phase III what did for Phase II WIPs – keep level of effort constant. However, will not know until more finding from midpoint

assessment are complete (eg, effects of climate change and reduced trapping capacity of dams)
    - Antos: Back to Davis-Martin's point, may not need full year to develop WIPs like the Phase I WIPs – Phase III is an update and not starting from scratch. However, Phase III WIPs still need to exist. Reasonable assurance in Bay TMDL assumes that there will be Phase III WIPs given that there is not enough detail in Phase I and II WIPs on implementation from 2017-2025, especially on the programmatic side
- Buckley: PA would certainly support a change in schedule to accommodate model transition. Still need 1 year from setting targets to develop final Phase III WIP, need time to work with counties, etc.
- Shenk: with 5.3.2 it was about 2.5 months to calibrate, would be about a month with PQUAL version
- Steve Gladding (NYS DEC): agree with what's been said, need one year to develop WIP once targets are set
- Baxter: would be helpful to have a strawman schedule, we have some flexibility and should plan for contingencies, probably can't agree on a set schedule right now
- Antos: assume final phase 3 WIPs due end of 2018, would need Phase III WIP planning targets set end of 2017 in order to enable 1 year;
- Swanson: important to lay out the calendar for the PSC, with 3 columns (approximate date, activity, and length of time)
- York: a lot of BMPs going through panels right now, there's a lot of efficiencies that could change where we are. Will these changes be incorporated into Phase 5.3.2 as well as future model updates?
    - Shenk: general principle that everything changed in 5.3.2 is a change on the ground, not a change in measurement. If it's a change so something in the calibration period, would need to wait until model is updated and recalibrated.
- Dubin: Poultry Litter Subcommittee is looking at past data, will make change over time in the modeling
- Antos: there are some recommendations from the panels that can't be fully incorporated until the next version of the model (2018)
- Swanson: when would TMDL be modified? Antos: sometime in 2019 if necessary
    - Jen Sincock: no consent decree or anything binding for revisions to TMDL, but would need at least 30 days for public comment. Likely longer, as WQGIT recommended in past
- Davis-Martin: continuing milestone process – need time to incorporate results from 2017 progress into milestones. Therefore, 2018-2019 milestones can't be due until after March 2018.
    - Antos: Need to avoid gaps in milestone process. If 2018-2019 milestones aren't set until mid-2018, that's halfway through the milestone period which covers July 1 2017 – June 30 2019.
- Davis-Martin: Modification of TMDL does not necessarily have to depend on Phase III WIPs; could develop the TMDL and then develop WIP to implement that TMDL.
    - John Schneider (DE DNREC): suggested having a "check-in" around 2017 and have EPA determine which jurisdictions would need to do another WIP; this would be an incentive for strong implementation through 2017.
    - Antos: part of reasonable assurance is expectation of more detail in Phase III WIPs

- Goulet: agree with Davis-Martin's approach
- Antos: the approach that VA is proposing would not allow states to propose changes to allocations in TMDL. Strength of current Bay TMDL is that allocations based almost completely on jurisdictions' Phase I WIPs.
- Davis-Martin: each state could develop its own methodologies for allocations
- Buckley: would support VA's suggestion, but certainly need opportunity to adjust allocations. If not through Phase III WIPs, then needs to be through some other method.
- Currey: there is value to future WIPs, e.g. Phase II has a lot more information than Phase I. May need to discuss the equity rules for allocations in the previous TMDL
- Gladding: personally, would appreciate flexibility to have a say in setting any modifications to allocations. If not through Phase III WIPs, then needs to be through some other method.
- Onyullo: DC would be in favor of possibly removing the need for Phase III WIPs. See the majority of DC's allocations already being set through the WLA and NPDES permit for Blue Plains.
- Koon: WV would be open to reconsidering the need for Phase III WIPs.

RECAP OF DECISIONS AND FLESHING OUT OF SCHEDULE, WORK PLAN AND ACTION ITEMS FOR WORKGROUPS

- Merrill: For "Other issues", need WQGIT to decide on who's the lead (see slides 9 – 11 of Attachment E3). Note that some of the issues received few votes because the WQGIT members appear to feel the current process is working, and not that the issue should be ignored. See this as a good sign.
- TMDL revision – how why and when (2 votes)
  - Davis-Martin: consider whether a TMDL revision is required; part of model review process will hopefully produce a better understanding of the margin of error, if within margin of error, no need to expend effort
  - **DECISION:** EPA lead, with input from Partnership (WQGIT, Management Board, PSC)
- Items mentioned in TMDL that need to be addressed
  - Chlorophyll-a standards in the James (0 votes)
    - Baxter: VA already has work underway and has invited members of the Chesapeake Bay Program to participate in the process.
    - **DECISION:** VA lead
  - Filter Feeders (0 votes):
    - Linker: Modeling WG has filter feeders, working with USACE
    - Rich: make connection between upcoming STAC workshop that VA requested and Modeling WG work on this issue
    - Buckley: possibility of allocating a load to Chesapeake Bay for nutrients attenuated by filter feeders
    - Dubin: MD NRCS provides cost-share dollars for aquaculture
    - **DECISION:** Modeling Workgroup lead, working with Corps (for tidal simulations) and data input from partners (sanctuaries, biomass, etc). Also work with STAC workshop, which will include VIMS, UMCES and could

include recommendations on filter feeders as BMP. BMP recommendations would go through WTWG before going up to WQGIT

- Algal Turf Scrubbers (0 votes – added on 10/23):
  - Schueler: USWG will form a panel on floating wetlands. WTWG will form panel for algal turf scrubbers
  - **DECISION:** WTWG lead.
- Climate change (1 vote)
  - Linker: TMDL was fairly specific, EPA would assess the effect of climate change, including water clarity and SAV
  - Phillips: next year USGS will be publishing expected changes in stream flow based on climate change
  - Currey: don't see this as much of a task for the WQGIT, more for scientific community, STAC
  - **DECISION:** EPA lead, working with scientific community including USGS, Modeling Workgroup, STAC (possible workshop)

- Expectations for Phase III WIPs (0 votes)
  - Davis-Martin: is this a decision of the partnership or of EPA?
  - Currey: agree that expectations are important, and that we stick to them
  - Antos: expectations for local targets would be similar to Phase II. Still needs to be local engagement so that local partners know what's expected of them to meet 2025 goals; EPA would certainly share expectations/guidelines with the WQGIT
  - **DECISION:** EPA lead, with input from Partnership (WQGIT, possibly Management Board and PSC)
- How to credit 60% by 2017, including crediting of programmatic progress and timing of evaluation (0 votes)
  - Antos: Expectations for how EPA will conduct quantitative evaluation of pollutan reductions have been clear since 2009: EPA will look at as practices in place at end of 2017 to determine if achieved 60% of reductions compared to 2009 levels
  - Montali: clarify that 60% is evaluated in 5.3.2
  - Antos: Yes – will use Phase 5.3.2 for progress runs through 2017. After 2017 when switch to updated model, there is chance that the level of effort could change
  - Davis-Martin: also possible to not meet 60% under 5.3.2 but meet it under the new model….devil in the details
  - Buckley: any opportunity to get credit for programmatic activities even if practices aren't fully in place by 2017?
    - Antos: Yes, evaluation will also consider programmatic progress and ask whether that gives assurance that practices will all be in place by 2025 even if 60% not met by 2017
  - **DECISION:** EPA lead, will communicate to Milestones Workgroup and WQGIT and consider their feedback.
- Air – Issue raised was which CBP GIT or workgroup owns this topic (1 vote)
  - Buckley: used to have an air subcommittee, no interest in adding another subcommittee or workgroup currently
  - Currey: challenge to understand how state and federal air programs affect the WIPs
  - Hanmer: Need to better communicate how atmospheric deposition affects sector loads. Eg, forest loads are really the result of air.

  - Spano: there needs to be clearer place where air decisions are made
  - **DECISION:** EPA lead, with Modeling Workgroup, state air regulators, and local governments as supporting partners
- How do we transition to new models while maintaining stability (0 votes)
  - Had been part of priorities mentioned by Agriculture Workgroup
  - **DECISION:** WQGIT lead
- Communication – how does model world relate to the real world (0 votes)
  - Phillips: suggested communicating lag-times as "response times"
  - WQGIT members: This topic also relates to regional factors/model calibration and an integrated assessment of progress that also includes monitoring information.
  - **DECISION:** STAR lead
- Constant delivery factors – do we still want to sue them given that they make interim progress look lower in some cases? Revisit 2011 WQGIT decision? (1 vote)
  - **DECISION:** WQGIT lead
- Federal land – simulate in model using segmentation vs. separate land use (1 vote)
  - Diebel (Department of Defense): Federal lands issue is bigger than this. Also has to do with with federal agencies are setting commitments and tracking progress, and how this information is incorporated into jurisdictions' progress runs.
  - **DECISION:** Land Use Workgroup lead
- Game Plan for lower priorities
  - Assume workgroup who proposed the priority is the lead
    - Task workgroup to ID supporting partners, needs, and draft a workplan with schedule
      - Give WGs until February WQGIT
  - For lower priorities with multiple priorities ---have chairs discuss and report back to WQGIT in December, develop workplan by February
- What to bring forward to MB and/or PSC
  - Proposal:
    - Guiding principles for endorsement/adoption
    - Midpoint assessment recommendations – endorsement or FYI?
      - Swanson: present and ask for concurrence, much more stable that way
    - Swanson's suggestions:
      - recommended general schedule for MPA, WIPs
      - Doing Phase 3 WIPs in future vs current land use
      - Conowingo dams, loss of trapping capacity
- Recommended schedule: October and November 2012
  - Guiding principles
    - Working draft sent to WQGIT by 10/25
    - Comments by 11/2
    - Post on 11/6
  - November: Workgroups and STAR develop workplans for high priorities
  - December WQGIT call: report out
    - Proposed workplan for high priorities
    - Identify lead for lower priorities with multiple workgroups
  - December PSC meeting
    - Report out on WQGIT's proposed path forward

- February WQGIT call: workgroups report on plans/schedules for lower priorities

Next WQGIT conference call
Tuesday, November 13th, 1:30pm – 3:30pm
http://www.chesapeakebay.net/calendar/event/18150/

Participants

Name	Affiliation
Katherine Antos	EPA/CBPO
Rich Batiuk	EPA/CBPO
Lewis Linker	EPA/CBPO
Lucinda Power	EPA/CBPO
Shenk Shenk	EPA/CBPO
Jeff Sweeney	EPA/CBPO
Tom Wenz	EPA/CBPO
Ruth Izraeli	EPA/Region 2
Dianne McNally	EPA/Water Protection Division
Larry Merrill	EPA/Water Protection Division
Jen Sincock	EPA/Water Protection Division
Suzanne Trevena	EPA/Water Protection Division
Pat Gleason	EPA/Water Protection Division
Dave Koran	USACE
Sally Claggett	UFS/CBPO
Peter Claggett	USGS/CBPO
Joel D Blomquist	USGS
Scott Phillips	USGS/CBPO
John Schneider	DE DNREC
Bruce Michael	MD DNR
Lee Currey	MDE
John Rhoderick	MDA
Pat Buckley	PA DEP
Ted Tesler	PA DEP
Russ Baxter	VA DEQ
Bill Keeling	VA DCR
James Davis-Martin	VA DCR
Alana Hartman	WV DEP
Dave Montali	WV DEP
Teresa Koon	WV DEP
Chris Pomeroy	AquaLaw
Ann Swanson	CBC
Marel Raub	CBC
Beth McGee	CBF
Jeremy Hanson	CRC/CBPO

Dana York	Green Earth Connections
Jenny Tribo	HRPDC
Ross Mandel	ICPRB
Karl Berger	MWCOG
Tanya Spano	MWCOG
Norm Goulet	NoVA Reg Comm
Kim Snell-Zarcone	Conservation PA
Mark Dubin	UMD/CBPO
Aaron Ristow	Upper Susquehanna Coalition
Evan Branosky	WRI
Rebecca Hanmer	(Retired), Forestry workgroup
Tom Schueler	CSN
Matt Johnston	UMD/CBPO
Sucharith Ravi	CBPO
Lauren Taneyhill	CRC/CBPO
Kristen Saacke Blunke	National Fish and Wildlife Foundation
Ning Zhou	Va Tech/CBPO
Chris Day	EPA/Office of Regional Counsel
Sarah Diebel	Department of Defense
Jim Glancey	University of Delaware
Jamie Heisig-Mitchell	Hampton Roads Sanitation District
George Onyullo	DC Department of the Environment
Remote participants	
Amanda Pruzinsky	CRC/CBPO
Neely Law	Center for Watershed Protection
Bill Stack	Center for Watershed Protection
Kevin McGonigal	Susquehanna River Basin Commission
Ron Entringer	NY State DEC
Steve Gladding	NY State DEC
Bill Angstadt	DE & MD Agribusiness Assn
Beth Zinecker	USGS
Karl Blankenship	Bay Journal
Jim Glancey	Univ. of Delaware
Greg Albrecht	NY State Dept. of Agriculture and Markets
Marcia Degen	VA Dept. of Health
Eric Aschenbach	VA Dept. of Health