CHESAPEAKE BAY PROGRAM
WATER QUALITY GOAL IMPLEMENTATION TEAM
August 24th, 2009 Conference Call

SUMMARY OF DECISIONS, ACTIONS, AND ISSUES

Tuesday September 29th, 2009

Agenda Item A: What is the PSC expecting from us? – Alan Pollock

Presentation A1: Key Decisions July-Sept 09 – Bob Koroncai
ACTION: WQGIT members will work with Suzanne Hall to nail down meeting places and times for TMDL public outreach
ACTION: Katherine Antos will send out an announcement for the VA TMDL webinar.

Presentation A2: Chesapeake Bay TMDL Parking Lot Issues – Bob Koroncai

Agenda Item B: Chesapeake Bay TMDL Schedule – Bob Koroncai

Presentation C: Analysis of Critical Period for the Chesapeake Bay TMDL –
Bob Koroncai/Mike Haire
DECISION: WQGIT unanimous approval of 93-95 critical period for assessing compliance with WQ standards
- Must clearly communicate the scientific reasons for this choice to PSC
- Will include in TMDL documentation on critical period

Presentation D: Analysis of Base Year and Wastewater Assumptions Using the Chesapeake Bay Phase 5.2 Watershed Model – Bob Koroncai/Gary Shenk
DECISION: WQGIT majority approval for using 2010 land use and WWTP design flow.
- NY presented a dissenting opinion because this choice disadvantages jurisdictions who have not grown, which is a major cause of the degradation of the Bay
- Need to document the original reasons for the choice of 2010 land use and WWTP design

ACTION: CBPO will provide Bill Keeling with a copy of the 2010 land use data.

Presentation E: Changes to Draft Bay Nutrient Target – Lewis Linker
ACTION: CBPO will run a scenario with a loading of 200 millions lbs/year N and 15 million lbs/year P.
DECISION: WQGIT unanimous approval to present 200 million lbs N and 15 million lbs P as the draft basinwide nutrient targets to the PSC conditional on:
- The model run of this scenario must show that this level achieves water quality standards
- The following must be clearly explained to the PSC and the public:
  - This number is preliminary and will likely change
  - Reasons this number increased from Phase 5.1 estimate of 175,14.1
  - The technical enhancements and further analyses that may cause this number to change in the future
  - This number is good enough to begin the Watershed Implementation Plan development

Presentation F: Watershed Model Phase 5.2 Enhanced Program Implementation Level EPIL and Tributary Strategy Scenarios
– Jeff Sweeney/Gary Shenk
ACTION: Jeff Sweeney will provide Bill Keeling with raw data for Tributary Strategy input decks and outputs.
DECISION: WQGIT majority approval of using Tributary Strategy run as a reference point in communicating the draft basinwide target loads to the Principal's Staff Committee and future WQGIT communications

- VA DCR presented a dissenting opinion
- Must clearly communicate why these loads have changed and that states may no longer be comfortable with their Tributary Strategy. The Tributary Strategy reference does not mean that states want to use their Tributary Strategy for their Watershed Implementation Plan.

ACTION: CBPO will share the Tributary Strategies input deck and decision rules after it develops the 2008 scenarios.
DECISION: The 2008 scenario will be used as a reference point for the draft target loads for the PSC communications. The Water Quality Goal Implementation Team will revisit whether other scenarios, such as the Enhanced Program Implementation Level scenario, will be completed after the October PSC meeting.

Wednesday September 30th, 2009

Presentation G: Target Load Methodology Options – Bob Koroncai/Gary Shenk
HIGHLIGHT: If a state chooses that they want to change target loadings to state basins, if modeling shows WQ is maintained in target segment as well as locally, that exchanged target load is permissible.
DECISION: Tributary Strategy and 2008 progress scenarios will be shown as reference points.

Presentation H: New Analysis for Target Load Methodology Options – Gary Shenk
DECISION: WQGIT approval to present options 1 and 3 to the PSC.
Option 1

- TN WWTP 4.5-8 & other straight w/ 20% slope
- TP WWTP .22-.53 & other straight w/ 20% slope

Option 3

- TN: WWTP 4.5-8 hockey stick, other straight 20% slope
- TP: WWTP .22-.53 hockey stick, other straight 20% slope

Presentation J: Scenario Builder Update – Gary Shenk

Presentation I: Draft Final EPA's Watershed Implementation Plan Guidelines—Request for WQGIT Members Feedback – Katherine Antos
ACTION: Provide feedback on Watershed Implementation Plan to Katherine Antos by Monday October 5th.

MINUTES

Agenda Item A: What is the Principal's Staff Committee (PSC) expecting from us? – Alan Pollock

- EPA will be making recommendations to the PSC for draft options for the basin jurisdiction loading targets. WQSC objective is to narrow options for PSC to help them arrive at final numbers. If the PSC does not determine one final decision the EPA will have to make that decision. This is still very early on numbers, will come out with draft numbers in June. Updates are going to inform, and possibly bring about modifications in numbers. In July recommended 175, 14.1 to the PSC. May be substantially different today and I expect once phase 5.3 comes out they will again change.

Agenda Item A: Bob Koroncai presented the agenda and decisions items.

- No information on Cardin Bill at this point in time
- Loads are expected to be similar from phase 5.2 to 5.3 of the watershed model
- Will convey reasons the loads will change to PSC
- Will review 5.3 loadings in January

Presentation A1: Key Decisions July-Sept 09 – Bob Koroncai

ACTION: WQGIT members will work with Suzanne Hall to nail down meeting places and times for TMDL public outreach

ACTION: Katherine Antos will send out an announcement for the VA TMDL webinar.

Presentation A2: Chesapeake Bay TMDL Parking Lot Issues – Bob Koroncai

- Will reassess the draft target loads after the short-term updates are completed.

Slide 4

- James and York discussions will continue independently with VA
- Need to understand how much further the air depositions can be pushed
- Re-designation would only affect attainment in that segment

Slide 6

- Legacy sediment, models have assumed that sediment trapping capacity will remain the same
- 1% rule is 1% of nonattainment is noise

Slide 7

- We have been discussing a lockdown on the models
- 5.3 is a necessary update, but after that point we may discuss a lock down
- Difficult to estimate uncertainty in these large simulations because we have many models and each has areas of uncertainty that's difficult to quantify

Discussion:

- Alan Pollock states that a 1% allowance has not been discussed regarding the TMDL. He also holds that there shouldn't be a cutoff date for parking lot issues with so many unknowns.
- Bob Yowell wants a very certain cutoff date for new ideas, after which only major errors are corrected.
- Ron Entringer address the issue of fairness here; he feels the WQSC has not fully addressed the previous discussion of bay states doing more.

Agenda Item B: Chesapeake Bay TMDL Schedule – Bob Koroncai

- In Feb, reach agreement on draft sediment allocations; working on catching sediment up to the work we are doing on nutrients
- April preliminary draft TMDL to PSC
- June public review of draft TMDL
- Can update decisions through December of 2010
- Tanya Spano identified that the May Executive Council meeting announcing the bay TMDL does not allow for modeling delays to ensure loads meeting water quality standards. Katherine Antos corrected that in May it will be announced that that it will be out for public comments in June.

Presentation C: Analysis of Critical Period for the Chesapeake Bay TMDL – Bob Koroncai/Mike Haire

Slide 2 – This issue is a large driver for the final allocations
Slide 4

- Would not direct us to use a 200 year storm or the worst conditions in a 42 year period
- We have done a survey of how the states reflect critical conditions in TMDL and developed a set of recommendations for critical period and this process touches on all of those
- Consider antecedent history, particularly where NPS is the major source
- 93-95 critical period to close in stringency to 2003 critical period; we chose a critical period so all segments come into attainment at the same time. 2003 allocation was driven by living resources.

Slide 6

- Nobody goes beyond 10 year return period in their TMDLs
- State generally use worst conditions in calibration period, which is almost always less than ten years

Slide 7

- There are only two possibilities for critical period 96-98 and 93-95

Slide 9

- LOWESS is more accurate than linear de-trending
- Return frequency of 93-95 higher than any other TMDL
- Chris Day: From a legal perspective, we do need to hook the critical period up to the water quality standards. There is some flexibility for how protective we want to be.
- 93-95 would be our critical period with a return frequency with a period of 7-11 years rather than 96-98 with a return frequency of 15 to 22
- Use to assess compliance with the water quality standards

DECISION: WQGIT unanimous approval of 93-95 critical period for assessing compliance with WQ standards

- Must clearly communicate the scientific reasons for this choice to PSC
- Will include in TMDL documentation on critical period

Presentation D: Analysis of Base Year and Wastewater Assumptions Using the Chesapeake Bay Phase 5.2 Watershed Model – Bob Koroncai/Gary Shenk

Slide 2

- No Action very different for TN phase 5.1 versus 5.2

- Main difference is that we are looking at same atmospheric deposition between No action and E3 in phase 5.2; taking it off the top

Slide 3
- The goal for phase 5.2 is a lower percentage of E3 than the same goal was for 5.1

Slide 4
- Same for P; 96% reduction in phase 5.1, 86% percent for phase 5.2 goal of 14.1

Slide 5
- The atmospheric deposition assumption made a difference in all sectors; large difference in forest
- Changed WWTP assumption from primary to secondary treatment
- 5.2 number is better than the 5.1 number, but we may see changes in 5.3 because of continued data issues in 5.2

Slide 6
- Reduced our estimate of how much phosphorus is coming in for 5.2
- Had specific problems with pasture land use in 5.1, much closer in 5.2

Slide 9
- 2020 Maximum Feasible Scenario applied through 2025 for atmospheric deposition, which is the application of the highest reduction in atmospheric deposition.
- Loads to the bay are similar in the phases but come from different areas to some extent
- Dry deposition of ammonia goes up with these reductions due to air chemistry; as nitrates and sulfates are reduced by controls it affects the amount of ammonia dry deposition..

Slide 16
- Up and down by state similar to last week

DECISION: WQGIT majority approval for using 2010 land use and WWTP design flow.
- NY presented a dissenting opinion because this choice disadvantages jurisdictions who have not grown, which is a major cause of the degradation of the Bay
- Need to document the original reasons for the choice of 2010 land use and WWTP design

ACTION: CBPO will provide Bill Keeling with a copy of the 2010 land use.

Presentation E: Changes to Draft Bay Nutrient Target – Lewis Linker

Slide 10
- In detailed stoplight plots we have every critical period
- Stoplight plot does not include the decisions for new designated uses, but does include the new reference curves
- Intermediate A did not attain, but A-B did with 96-98
- Intermediate A did attain with A

Slide 11
- Do not make it at Int. A for CB4MH, do at A-B
- The variance is 3% in deep channel, 7% in deep water in CB4

****Post meeting note**: Correction, 2% variance for deep channel.

Slide 12
- Using 96-98 critical period

Slide 13
- Dotted line is 93-95, solid is 96-98
- TS load is 236, 21 phase 5.1 load

Slide 14

- Atmospheric reductions over the Bay taken into account
- Deep channel is area of habitat and thus important for restoration; with absence of oxygen it will release P and not allow escape of N sustaining summer blooms, hypoxia, etc. need O at the bottom not just for living resources, but also for chemical processes
- We'll have oyster and menhaden simulations in the final WQSTM that will be calibrated to Phase 3 and be fully operational on February 1, 2010

Key Points:

- At 192TN, 14.1TP we are in attainment. At 209TN, 13.9TP, we're not in attainment so actually the number likely somewhere between those
- An estimate of 200TN, 15TP is probably a good number for what should be attaining from a Baywide prospective and we'll confirm that these loads attain the DO water Quality standards.

ACTION: CBPO will run a scenario with a loading of 200 millions lbs/year N and 15 million lbs/year P.

DECISION: WQGIT unanimous approval to present 200 million lbs N and 15 million lbs P as the draft basinwide nutrient targets to the PSC.

- The model run of this scenario must show that this level achieves water quality standards
- The following must be clearly explained to the PSC and the public:
  - This number is preliminary and will likely change
  - Reasons this number increased from phase 5.1 estimate of 175,14.1
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  - This number is good enough to begin the Watershed Implementation Plan development

Presentation F – Enhanced Programmatic Implementation Level (EPIL) and Tributary Strategy (TS) Scenarios

- Tributary Strategy Load increased due to change from phase 5.1 to 5.2, atmospheric deposition using 2020 Maximum Feasible scenario, better quantification of BMPs, diet and feed changes in cattle, poultry and swine, manure transport, etc.
- Most important reason for loading change is a better calibrated model; top five include different fertilizer application rate to crops and urban, second in importance are atmospheric deposition or manure inputs, different projections to 2010 to agriculture land through a new look at the agricultural census, acreage and animals.

Slide 4

- This Tributary Strategy scenario was independently developed by Jeff Sweeney

Slide 5

- 60 acres out 100 = 60% implementation level
- In 5.2 applied to different land use than in 5.1

Slide 7

- If acres for a land use went down there are two options for how to apply the acres
- Used option 1 for land use change BMPS
- Option 2 was used for all the ones with efficiency

ACTION: Jeff Sweeney will provide Bill Keeling with raw data for Tributary Strategy input decks and outputs.

Slide 16

- Worst case scenario is increase in animals with decreased agricultural lands because it increases manure application

Slide 19

- Atmospheric deposition scenarios to demonstrate quantification of the benefit of air reductions
- Everything constant, but just change the air between 85, and 85 low air

Slide 20

- That is not the same for phosphorus
- Have not made a lot of progress on inputs to the model since discussed during WQGIT conference call on September 21st.
- Highly subjective process developing the input
- Scenario might not have as high importance to the PSC in light of seeing what existing strategies say in phase 5.2, but we are keeping this in the queue; trying to have output for the PSC
- Did a survey given definition of EPIL what would be a good implementation level for each BMP
- I will probably remove outliers and synthesize into matrix for input to watershed model
- EPIL has regulatory tint in light of EO and discussion on what the scenario means

Discussion of TS:

- Bill Keeling does not wanted TS implementation levels used to descript enhanced programmatic implementation because VA selects BMPs based on effectiveness.
- Distribution of implementation was done linearly to match original distribution by states, which accounts for difference in delivery factor between model versions.
- Virginia dissents to using TS as reference because it is misleading.
- Pennsylvania would make their TS different today; they were paper strategies for paper goals.

DECISION: WQGIT majority approval of using Tributary Strategy run as a reference point in communicating the draft basinwide target loads to the Principal's Staff Committee and future WQGIT communications

- VA DCR presented a dissenting opinion
- Must clearly communicate why these loads have changed and that states may no longer be comfortable with their Tributary Strategy. The Tributary Strategy reference does not mean that states want to use their Tributary Strategy for their Watershed Implementation Plan.

Discussion of EPIL:

- PA would like to see the EPIL scenario, but is concerned it will stray too far from reality.
- VA thinks we need to move forward with that as a framing reference point.
- MD feels it is important because of the objection to TS was that it was not achievable, which is a consideration for federal consequences and EO.
- NY would like see the 2008 scenario before EPIL.

ACTION: CBPO will share the Tributary Strategies input deck and decision rules after it develops the 2008 scenarios.

DECISION: The 2008 scenario will be used as a reference point for the draft target loads for the PSC communications. The Water Quality Goal Implementation Team will revisit whether other scenarios, such as the Enhanced Program Implementation Level scenario, will be completed after the October PSC meeting.

Presentation G: Target Load Methodology Options – Bob Koroncai/Gary Shenk

Slide 6

- As you get closer to higher implementation, at a very low probability of failure we get pretty far along from No Action to E3, mainly because we have already come a good distance and we have known technologies and measurable results
- Makes a lot of sense to set what you are getting from WWT before considering the other sources

Slide 8

- Lee Currey suggested that we may want to have point source (PS) and non-point sources (NPS) at different slopes based on the risk curves. Whatever your objective you're trying to reach will result in different shapes.
- Kenn Pattison finds that high risk might be appropriate for efficient basins. Loads are based on high percent of E3, states with high NPS load have high risk of failure.

Slide 10

- Tributary Strategy (TS) not the 2003 allocation, they are the TS loads that were presented by Jeff Sweeney in the phase 5.2 model

Slide 11

- Problem with assumption in No Action scenario that made it meaningless to do options as described

Slide 13

- Pre-phosphate ban and design flow
- Forest load for no action and TS are very different, a little more forest land, but a lot more forest load because delivery factors have changed a lot
- No Action should be a bit higher for agricultural and developed land if we hadn't done this to stream chemistry in the model

Slide 15

- After phosphate ban we now have a reasonable amount of TP reduction from No Action to TS

Slide 22

- 100% means target load is equal to the target load
- Over 100% allocation would be higher, easier to attain using this method

Slide 34

- Bars reflect ratio of target loads to TS, below the line is more difficult to meet than Jeff Sweeney's TS.

Slide 39

- We have a number of different options, but most do not make a big difference for state basins

Slide 40

- Soft recommendation

Discussion:

VA and DC expressed concern about how allocation will be affected where jurisdiction has tighter point source standards that EPA assumption. They agree that if a state has moved in one sector below what was used to set their allocation that reduction should be used by that state for trading and offsetting.

HIGHLIGHT: If a state chooses that they want to change target loadings to state basins, if modeling shows WQ is maintained in target segment as well as locally, that exchanged target load is permissible.

States voted for the following options and their 1st and 2nd choices for N and P:

Nitrogen Choice		State	Phosphorus Choice	
1st	2nd		1st	2nd
Abstain		DE	Abstain	
1	2	MD	2	4
4	3	PA	4	3
5	1	NY	5	3
3	5	WV	3	5
1	2	DC	1	2
1	5	VA	1	5

Presentation G: Target Load Methodology Options (Continued on Day 2) – Bob Koroncai/Gary Shenk

- Changed range for TP and TN, all 3 shapes, and 20% slope for all other sources.

Slide 2: Straight line for each, with range changed.
Slide 3: Much like yesterday.
Slide 4: shifted non point source down a bit, no longer touching axis at 0.
Slide 6: Anything below relative effectiveness of 1 keep straight line (z curve)
Slide 8: Changed range for P

- Delivery factors between phase 4.3 and 5.2 are in the same range but we weren't focusing on headwater segments. Now that we have 50 some segments, delivery factors are changed due to deliverable factor.

Slide 15: Problem with math will be fixed.

- If wastewater treatment plant line is high the whole line steepens

Presentation of State Preferences:

- DC is a special situation.
- Propose going with options 1 and/or 3
- State preferences based on yesterday, scenario redone, N close, but P ~7-10% more for DE

(DE)- doesn't know that any options matter
(CBC)- average of options
(VA)- Tributary Strategy and option 1 but could live with 3; need to understand why P changed so much for VA, we aren't clear what's behind that number.
DC – don't penalize past investments. Prefer option number 1, other options there is a lot of swing.
WV – not comfortable with tributary strategy, like to stick w 3 but can live with 1, supportive of any options from today as well.
NY – option 3 as lead option live w 1 and anything from today. No problem w suggesting and presentation of Tributary Strategy. Out of respect for VA include tributary strategy as option
PA – Tributary Strategy at this stage. Option 3 can live with but 1 is problem because 1% is huge with a large load; cannot live with Option 1.
MD – show Tributary Strategy option for comparison, like option 1 but when you change starting point of the line you are changing achievability. Don't choose something that sets us up for failure. When you shift the line we don't know what it is doing to the loads, what about industry
DECISION: Tributary Strategy and 2008 progress scenarios will be shown as reference points.

Presentation H: New Analysis for Target Load Methodology Options – Gary Shenk

DECISION: WQGIT approval to present options 1 and 3 to the PSC

Option 1

- TN WWTP 4.5-8 & other straight w/ 20% slope
- TP WWTP .22-.53 & other straight w/ 20% slope

Option 3

- TN: WWTP 4.5-8 hockey stick, other straight 20% slope
- TP: WWTP .22-.53 hockey stick, other straight 20% slope

Presentation J: Scenario Builder Update – Gary Shenk

- Considerable difference between county level and smaller segments when applying BMPs
- Pat Buckley finds that since septic location is based on modeling and watershed model cannot accurately project at that scale it should not be attempted
- NY wanted a user interface to start running BMP scenarios today
- Tanya Spano requested a list of what type of runs you can do quickly

Presentation I: Draft Final EPA's Watershed Implementation Plan Guidelines— Request for WQGIT Members Feedback – Katherine Antos

Slide 2

- Loads are expected to change from 2010 to 2017 the load will change, but we need a way to assess if the states are on target. Stage 2 implementation plans will be revisited for schedule and key actions. Need an estimate to establish TMDL and Waste Load Allocations (WLAs).

Slide 4

- Need county level for engaging local partners
- If you meet the overall target it does not matter in which county the reductions happened

Slide 5

- Russ Perkinson expressed concern about asking any legislator to commit to any legislation too far in the future; governor will not be office when it comes to a head.

Slide 6

- Drainage area to 92 segments
- For draft in June, final in Dec are WLA and LA for each of the 92 drainage segments, which roll up to major basins
- TMDL itself would include WLA for each significant WWTF, WLA for non-significants, etc. by segment; not broken down by county. For NPS in the tidal states it must be by sector, for nontidal states we will need to know total LA.
- Same expectation for tidal and nontidal for the Watershed Implementation Plan; onsite septic needs to be accounted for in the Watershed Implementation Plans.
- If you are making the target, we will not look further as to where you got the reduction.
- Pennsylvania prefers the WLA, LA and other, without breaking that down further and is not opposed to air allocation if EPA gives them the number.

Slide 7

- Want to break down target to county level, but that doesn't mean each county had to reach the specific target as long as the state meets its basin allocation
- Pat Buckley expressed concern that the watershed model is not refined enough to allocate to municipal facultie.

- EPA will separate out a WLA for each segment-shed for urban alone in both the TMDL and the Watershed Implementation Plans, but may be gross allocations for the TMDL, as in PA.

Slide 8

- Range of expectations for reasonable assurance over time, level of detail heightened for the bay due to longer background
- NY states that Section 117 does not apply to headwater states. Jeff Lape clairified that the context of 117 reference is in draft 202(a) report. We are interested in feedback from states; the formal public comment starting November 9th.
- For assessing the progress we are working at the basinwide scale.

Slide 10 – EPA is looking for key actions, not specific BMPs, in the plan.

- Slide 11
- Need to know without dictating each milestone that you are on track to meet the 2025 goal
- Previously though TS was an interim target, now model is indicating that TS would get us to reaching WQ standards, subject to change
- That would be 2/3 of the way to achieve TS load allocated across basin
- Missing N number would be around 233 millions lbs/year N

Slide 12

- See volume nonattainment dropping around 233
- Trying to base interim target on water quality response
- Based on 5.1 TS run

Slide 13

- Milestones should include total major basin loading for each milestone through 2025; 2017-2025 could be revised before 2017; need the final scale every two years
- Outline how you would account for growth

Slide 16

- Plans become appendices to TMDL and comments on state's plan would come through EPA
- If we got a comment on your plan, EPA would not make a change unless you would not change and it did not meet reasonable assurance. We would work with states on responding to comments.

ACTION: Provide feedback on Watershed Implementation Plan to Katherine Antos by Monday October 5th.

Discussion

- Can provide all model runs done down to the county level, spreadsheets, etc. Will give you a sense of the reductions you are getting in each model run. You can also request additional model runs.
- Russ Perkinson request that WQSC further consider the interim target so jurisdictions can try an input deck to achieve that number.
- Bob Yowell objects to 67% midpoint, or any midpoint.

Jurisdiction Survey on Midpoint Opinion: # and division

MD – defined by plan that state puts together; what Bob Yowell said about implementation plans; MS4 for Montgomery County was proposed 3 years ago and is still hung up in the courts; Patapsco is going to be a shot in the arm for reduction in point sources; couldn't tell you where we'll be in 2017, but we'll have a better idea in preparing the Watershed Implementation Plan; in MD we're shooting for 2020 to meet our goals; 2 year milestones will give an idea of how far we are

VA – prefer to have a number for planning purposes; EPA specified number in guidance; each state has multiple administrations before 2017; 2/3 is overreaching given economic crisis
NY – no additions
WV – agree w/ PA and MD in that everyones midpoint may not be the state, better defined by states as they develop their plans; we have predominantly NPSs
DC – need EPA number, should be on a straight line to the final goal
DE – agree w/ MD
NY – state defined midpoint if we have to have one

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