CHESAPEAKE BAY PROGRAM
WATER QUALITY GOAL IMPLEMENTATION TEAM
APRIL 12TH, 2010 CONFERENCE CALL MINUTES

SUMMARY OF DECISION AND ACTION ITEMS

DECISION: Update Scenario Builder to address Options 3 (excess manure spread method), 4 (stop automatic transport of manure) and 5 (increase application rate for non-NM). Do not pursue other 3 options at this time (Annual NASS Yield Data; Increased Spatial Resolution of Yield; Alternative NM Approach).

MINUTES

Potential Changes to Nutrient Applications in Scenario Builder - Gary Shenk

- All recommendations will eventually be strongly considered for implementation. Today's discussion is on what will be implemented for models used in Bay TMDL
  - Changes cannot be done concurrently. Need to add the time cost for implementing multiple changes
- 1. Annual NASS Yield Data
  - Currently use five-year average
  - Major crops have annual data available
- 2. Increase Spatial Resolution of Yield
  - Done previously, but areas with poor data led to aggregation to get better data overall
  - Watershed refers to Chesapeake Bay watershed as a whole, maximum yield done watershed-wide
- 3. Change Excess Manure Spread Methodology
- 4. Stop Automatic Transfer of Manure
  - Propose to add excess manure to row crop, pasture and hay evenly, not one to max before the next
- 5. Increase non-Nutrient Management (NM) fertilizer rate
  - NM BMPs other than application rate are considered separate BMPs
  - Could have three rates: NM rate, non-NM rate for inorganic fertilizer and non-NM rate for manure
  - Would take a minimum of 1 month to implement change, optimistic estimate to get back to where we are now is 2-3 months
  - Effect on slide incorrect - would be a change in calibration and there would be a move in loads between basins with or without excess manure, which would change state basin loads
- 6. Alternative NM Approach
  - Only for acres of new NM after 2005: have an increased NM efficiency
  - Could have multiple efficiencies if supported values were available

Discussion:

- For treating post-2005 Nutrient Management as an efficiency, model could count either still count where there was excess manure or could implement percentages everywhere.
- Gary Shenk, EPA, explained that annual NASS yield data and spatial resolution of yield data would be difficult and have small effect. Manure spread and NM rate change could be done

relatively quickly but would require recalibration/3 months if everything works. Stopping automatic transport and excess manure spread method change would be minor recalibration, but need to re-run scenarios, and would be about a month to get back to where we are. All three of the shortest could potentially all be done in a minimum of three months.

State Feedback

MD: Option #5, except for the delay, want to also consider urban land use problems. Options 1-4 do not have the effect we want, so shouldn't waste the time on them

PA: Using alternative NM after 2005 would make reaching goal even harder because we would have to find a method other than NM to achieve a reduction that we already did and wasn't credited. PA does not want the change in automatic transport of manure #4, Option #5

VA: Option #5, also want #3 and #4 as well, have good data for #4 because of poultry requirements; alternative approach not acceptable, also want 1 and 2 eventually

NY: Agree with VA, want to see if there are two difference in NY vs DE, etc. in yield, also concerned with land conversion. Model only gives difference in export rate, no BMP, starting with artificially low number does not give credit for valuable practices

WV: Options 3, 4 and 5

DE: alternative not acceptable, want options 3, 4, and 5

DC: don't care

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Initial Analysis of Water Quality Non-Attainment – Jeni Keisman

Slide 2 – episodic pycnoclines would only affect those segments with an existing deep-water (DW) (and deep-channel (DC)) designated use. It would not effect the percent attainment for those segments with only open-water (OW) designated use.

Slide 4 – small effect

Slide 5 – episodic pycnoclines did not affect CB4, but did note that it did affect other areas such as Chester, Eastern etc.

Slide 6 – did not carefully consider in DW changing critical period, loading in Chester, interaction of changing critical period and implementing episodic pycnoclines. This leads to more months with only OW in the Chester in new 93-95 critical period

Slide 9 – moving to 5.3 increased non-attainment at higher loads, increased effect at lower loads. Mistake in total loads - was not 195, but 209 million lbs N

Slide 12 – shows other segments where changes made worst results. Removed segments with slightly worse results but still in attainment. Right hand side should say 5.2, not 5.1. Can compare side by side. Major points include 5.3 load scenario more equivalent to intermediate A, so may have been more concerned about increase non-attainment then necessary.

Will continue to consider segments that don't decrease or actually increase with lower loads. Did not further consider Gunpowder's lack of response before. Non-attainment is an affect of changing the critical period

ALL LOADS FROM FACE TO FACE THE LOADS WERE 209, 13.8 NOT 195, 14.3

TARGET LOAD NOW CALLED LOADING SCENARIO

Linker: would expect Water Quality Sediment Transport Model (WQSTM) run at 195, 13.8 would lead to significantly less non-attainment. Hoping to have this week to discuss on Monday. Error came from mistake in processing
Piankatank likely from both change in critical period and episodic pycnocline
Slide 14 – monitoring station shows violations in 93-95, where there is a violation can see input data from base calibration (i.e. histrical monitoring data) and see load scenario data. Can see what happened to DO and check that it matches regression for cell
Slide 15 – can also compare hourly estuarine model output DO from base and loading scenarios. If the DO numbers are actually lower in 5.3 then it shows regression methodology not flawed
Slide 16 – will take these steps in the next week or two. Preliminary examples lead to problem in WQSTM. Will have update when able to, hopefully by 4/26
Pollock: from a biological point of view, could this be natural wetlands having an effect?
Linker: will work to track this problem back to the source and reconsider that effect in other areas that change in earlier model

Follow-Up and Next Steps for Clarity/SAV Assessment – Lewis Linker
Slide 3 – currently assessing levels of SAV cells that are SAV No Grow zones
Slide 4 – error in assessment in Rappahannock, correct has been made
Slide 7 – loading scenarios previously indicated as target scenario at 4/5-6 meeting; new lower numbers will likely meeting the goals and have a better N:P ratio; consider E3 load likely an error; will run 195, 14.3 scenario as agreed on at meeting for 4/19 call

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