

# Agriculture Workgroup (AgWG)

September 22<sup>nd</sup>, 2016

10:00 AM – 3:30 PM

## Face-to-Face Meeting Summary

Meeting materials: <http://www.chesapeakebay.net/calendar/event/24242/>

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### Actions and Decisions:

ACTION: The AgWG agreed to revise EPA's proposed language to clarify that the 2019 deadline is for 2019 Progress.

DECISION: The AgWG reached consensus to approve the draft language proposed by EPA, to be included as an appendix in the Nutrient Management BMP Expert Panel Report, and to be presented and approved by the WQGIT to modify the BMP verification framework within the context of Nutrient Management.

DECISION: The AgWG approved using the Manure Incorporation/Injection Panel's placeholder efficiency values where available in the Beta 4 version of the Phase 6 model.

DECISION: The AgWG reached consensus to move forward with Option 1 for projecting fertilizer sales based on application credit, for use in the Beta 4 version of the model. This approval includes the condition that the AgWG will be able to review the Beta 4 outputs of the model when they are available, and will reconsider whether changes need to be made during the Fatal Flaw review.

DECISION: The AgWG reached consensus to approve the AMS's proposed methodology for modeling manure transport in the Beta 4 version of the model, where transported manure TN would have a 60% replacement rate with inorganic TN, and transported P would not be replaced.

DECISION: The AgWG reached consensus to approve the Biosolids Task Force's request to apply biosolids first in the Beta 4 model to ensure they are applied to the correct crops, and are not influenced by manure.

DECISION: The AgWG reached consensus to implement the Animal Waste Management Systems Panel's preliminary recoverability factors for use in the Beta 4 version of the model.

DECISION: The AgWG reached consensus to approve the Animal Waste Management System's preliminary panel report.

DECISION: The AgWG agreed to hold an interim conference call during the first week of October to review and finalize the Phase 6 E3 Scenarios. Lindsey Gordon will distribute a poll via email to AgWG members and interested parties to find an appropriate time.

ACTION: Lindsey Gordon and Mark Dubin, along with the AgWG chairs, will work to develop a schedule of meetings for the AgWG over the next few months, and will present this back to the AgWG in October.

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10:00 **Welcome, introductions, roll-call, review meeting minutes**

Workgroup Chairs

- Meeting minutes from the September 15<sup>th</sup> meeting were approved.

10:10 **Nutrient Management Panel Policy Addendum**

R. Batiuk

Rich Batiuk, U.S. EPA CBPO, presented a [revised EPA policy document](#) based on comments received from the workgroup. The document is intended to supplement the Nutrient Management Panel Report to address policy and verification concerns.

Discussion:

- Ted Tesler: What does this actually look like for our reporting as we go forward? Will we be able to submit plans? There's still uncertainty of what happens in the interim, and would we get stuck with reduced implementation in the mean time?
  - Batiuk: I would recommend that during this transition, we work through issues on a regular basis at the AgWG level. My agency will continue to work with the Phase 5.3.2 crosswalk along with the AgWG partners.
  - Tesler: This statement is quite broad, so I can't think of any objections to raise. But what falls out of this document remains to be seen.
- Jeremy Hanson: Does 2019 refer to 2019 Progress, or the calendar year 2019?
  - Batiuk: It's the reporting year. In the CBP BMP Verification Framework, we need to have verifications systems in place for the reporting year 2019. So this means that by 2019 we're looking to have the ramp up completed.

ACTION: The AgWG agreed to revise EPA's proposed language to clarify that the 2019 deadline is for 2019 Progress.

- Lindsay Thompson: I appreciate Rich's work on this, and I appreciate keeping this issue at the AgWG level. If we can do that, then we hopefully can get this process moving so that we can get everything wrapped up before 2019 Progress. This allows us to set-up a de-facto policy group within the AgWG to deal with those issues surrounding NM, so we can take the panel at its scientific face-value, without having to work out all the details of the policy prior to approving their recommendations.
- Mark Dubin asked the AgWG if they felt comfortable with approving the language to be included as an addendum to the Nutrient Management Panel Report.
  - Frank Coale noted that if the AgWG recommends the language be added as an appendix, that the panel would likely be comfortable with it.
- Curt Dell asked if this language would amend the verification guidance.
  - Rich replied that if the AgWG approved the document, that he would present it to the WQGIT and ask for approval within the context of NM in the verification framework document.

DECISION: The AgWG reached consensus to approve the draft language proposed by EPA, to be included as an appendix in the Nutrient Management BMP Expert Panel Report, and to be presented and

approved by the WQGIT to modify the BMP verification framework within the context of Nutrient Management.

**10:30 Nutrient Management Panel Draft Report**

F. Coale

Frank Coale, UMD Panel Chair, presented the Phase 6 Nutrient Management BMP Expert Panel's [draft final report](#) revised based on Partnership comments received during the 30-day review period. A decisional action will not be requested from the workgroup until the October 20<sup>th</sup> meeting to provide the partnership additional time to review the new draft final Panel report.

Discussion:

- Matt Johnston described the revisions made regarding the supplemental BMPs and the math that goes into crediting them in the model.
- Frank Coale described the changes that were made to the report in order to better connect the scientific literature with justifications for the application rate multiplier estimates. Additional language was added to Section 3.2 of the report to address these concerns.
- Lindsay Thompson: This was a panel that had an EPEG to establish it. With their charge, it recognized the fact that in some areas, there may not be sufficient literature in order to specifically tie each efficiency to a citation. This panel was empowered to use Best Professional Judgement in these instances.
- Tim Sexton: I read through this part, and having read some of these research documents when I served on the Phase 5.3.2 panel, both for N and P, my opinion is that they have done as good as you could ask.
- Frank mentioned that the panel has a very strong opinion that the modeling efforts need to work to incorporate soil P data. This is identified as a research need in the panel's report.
- Lindsay Thompson asked Matt Johnston if the county soil P averages could be updated with new information in Phase 6.
  - Johnston: I think that question is better posed to the modeling team at the CBP, like Gary Shenk or one of his colleagues.
  - Tim Sexton was supportive of developing a database, but had questions regarding what organization or group would develop it.
  - Greg Albrecht suggested the Soil Science Society of America.
  - Jason Keppler: Maryland is working to compile data on this.
- Abel Russ: I commented asking if P applications would count as both rate and timing, or only one.
  - Johnston: Appendix A clarifies this – and the acre would only be able to receive credit for P applications once.
- Jason Keppler: I appreciate everyone's work on this, and it appears that MD's concerns were addressed. Last time we talked about whether a written plan was necessary, and I'm wondering if anything was addressed regarding that.
  - Coale: The panel stuck to their guns on that issue – that it's the elements being implemented that matters, and not whether there is a formal written plan.
- Ted Tesler noted that PA will need to review the complete document in order to better understand the changes that have been made.
- Frank noted that standard book values for manure may be used during the 3-year ramp up phase.

**11:25 Manure Incorporation/Injection Panel Update**

C. Dell

Curt Dell, USDA Panel Chair, [updated the workgroup](#) on the progress made by the Phase 6 Manure Incorporation/Injection Panel, and presented the panel's draft efficiency values for inclusion in the Phase 6 model.

Discussion:

- Tim Sexton: When we discussed high-disturbance incorporation on the previous panel, there was discussion of a roughness coefficient for tilled and no-tilled areas. We never could sort through that, and I was wondering if you had any success?
  - Dell: Some research done by my lab found that sometimes the difference is varied due to surface cover. That said, I don't have a great answer to your question – the research is fairly limited.
- Matt Johnston: Lagoon covers add to the manure pile in the model, so would this add to the PAN in the model?
  - Dell: If a farmer is using these practices properly, it should be part of their NMP. If you're injecting and conserving more N, you may or may not get the crop response.
  - Sexton: Rory's research indicates that. By injection, there was no side dress of N on corn.
- Jason Keppler asked if the values were species independent.
  - Dell: We tried teasing out dry poultry litter from hogs, but they fell within the same range of numbers.
  - Keppler: So then will we report animal type for this practice, or just acres that have this practice?
  - Dell: I think just the acres for reporting.
- Dell noted that verification will have to be tied to NM and their verification plans.
- Jeremy Hanson: Is the panel expecting to have different estimates for all the different incorporation times?
  - Dell: I think we'll probably just have one window for P
- Matt Johnston discussed the Modeling Team need for efficiency values that have been approved by panels and the AgWG in order to incorporate those values into the Beta 4 version of the model. The AgWG and the WQGIT will then have to decide if they are comfortable with making changes to these values after September 30.
- Lindsay Thompson asked the AgWG their thoughts on using the placeholder efficiency values in the Beta 4 version of the model.
  - Tim Sexton agreed that he would like to see the placeholder values used in order to get the most out of this model version.

**DECISION:** The AgWG approved using the Manure Incorporation/Injection Panel's placeholder efficiency values where available in the Beta 4 version of the Phase 6 model.

11:40 **Mass Balance Estimate for Ammonia Emission Controls** G. Shenk  
Gary Shenk, USGS, presented an approach to account for captured ammonia emission loads from some types of BMPs or enhanced ammonia emissions from others that takes into account transport out, or attenuation within, the Chesapeake watershed.

12:00 **Break for Lunch**

01:00 **Agricultural Modeling Subcommittee Update** C. Dell, M. Johnston

Curt Dell, USDA Subcommittee Chair, and Matt Johnston, UMD, updated the workgroup on the [recommended changes](#) to Phase 6 Scenario Builder as developed by the Agricultural Modeling Subcommittee.

Discussion:

- Question if the projected line for fertilizer was based on crop yield projections.
  - Johnston: No, this is based on our estimates for fertilizer use based on past use. N and P are being driven up by larger counties increasing crop acreages.
  - Brosch: That logic does not follow for me – projecting fertilizer based on distributed fertilizer sales.
- Ted Tesler: I'm wondering what a graphical representation of Option 1 would look like next to these fertilizer projections.
  - Matt replied that the modeling team needs the land use data in order to project out to 2025.
- Tim Sexton: I think we should try digging up the past 4 years of sales data and see what that trend looks like, because I don't see sales increasing like this.
  - Johnston: I agree, Tim. And we have to understand that for projections, we're going to be wrong. But that's okay – every two years we check-in to see how wrong we were.
  - Concerns expressed about WIP development.
- Thompson: Future years in Option 1 are informed by crop acreage and LGU recommendations for applications based on your crop goal.
- Dell: I see the first option as basically ignoring trends and changes, and just looking at the changing acreage of NM and transport. We're trying to eliminate a lot of the unknowns.
- Thompson: If we reached consensus on Option 1, when we do get updated fertilizer sales data – how would that play in?
  - Johnston: We would use the calibration distribution to run that in the counties, and it would be done at the beginning of every milestone period. Historic data may change in Phase 6, based upon new information.
- Motion from Tim Sexton to move forward with Option 1, and review the outputs during the fatal flaw review to see if changes need to be made. Chris Brosch added that the motion should include the option to revisit the outputs between Beta 4 and the fatal flaw review.

DECISION: The AgWG reached consensus to move forward with Option 1 for projecting fertilizer sales based on application credit, for use in the Beta 4 version of the model. This approval includes the condition that the AgWG will be able to review the Beta 4 outputs of the model when they are available, and will reconsider whether changes need to be made during the Fatal Flaw review.

- Jason Keppler noted that the manure transport methods did not provide a clear assumption for trading credits, because it does not reflect the entire trading process that occurs.

DECISION: The AgWG reached consensus to approve the AMS's proposed methodology for modeling manure transport in the Beta 4 version of the model, where transported manure TN would have a 60% replacement rate with inorganic TN, and transported P would not be replaced.

DECISION: The AgWG reached consensus to approve the Biosolids Task Force's request to apply biosolids first in the Beta 4 model to ensure they are applied to the correct crops, and are not influenced by manure.

02:00 **Animal Waste Management Systems Panel Update**

S. Hawkins

Shawn Hawkins, UT Panel Chair, presented the Phase 6 Animal Waste Management Systems Panel's [draft final Preliminary Report](#), including the Panel's draft efficiency values for inclusion in the Phase 6 model.

Discussion:

- Tim Sexton asked if the recoverability was the difference between influent and effluent.
  - Jeremy Hanson replied that it's the amount of manure left in the barnyard available for either application or transport. The 90% is what remains for field application or transport in the model.
- Jim Cropper noted that he would group small ruminants with beef cows.
  - Shawn Hawkins replied that there was very little data to inform new estimates on those categories.
- Shawn Hawkins also noted that the recoverability factors before AWMS are reflective of past practices.
- Tim Sexton asked about the panel's timeline.
  - Hawkins replied that the final report would likely be presented in November.
- Ron Ohrel: We know that data used for dairy was from 2012. Would any updated information affect those factors?
  - Matt Johnston replied that they predict dairy, and that those projections show dairy decreasing, so these values would not be impacted.
- Tim Sexton put forward a motion to implement the draft efficiency values in the Beta 4 version of the model. Seconded by Jason Keppler.

DECISION: The AgWG reached consensus to implement the Animal Waste Management Systems Panel's preliminary recoverability factors for use in the Beta 4 version of the model.

- Tim Sexton asked when changes could be made to these numbers after Beta 4 is released, and during the fatal flaw review.
  - Matt Johnston replied that the WQGIT would be discussing this during their October face-to-face meeting.
- Motion from Tim Sexton, seconded by Jason Keppler to approve the AWMS Panel's preliminary report.

DECISION: The AgWG reached consensus to approve the Animal Waste Management System's preliminary panel report.

02:30 **Reconciling Ag Census acres in Phase 6 Land Use**

P. Claggett

Peter Claggett, USGS, presented the [methodology](#) that will be used to reconcile agricultural census acres with the Phase 6 Land Use Database.

Discussion:

- Tim Sexton: In my opinion, I much more trust the land cover imagery than the ag census with a return rate of 27%. I feel like the imagery, having worked with it before, must more reliable. So why bother to even use the ag census?
  - Claggett: Everything has error in it, including the imagery.

- Ted Tesler: How did you establish those errors?
  - Claggett: For the census, we're using the 2012 standard errors. For the land cover errors in VA, an independent contractor conducted an accuracy assessment to derive those errors. The Chesapeake Conservancy has produced similar outputs for the rest of the CBW.
- Jason Keppler: How do you account for changes to the land use BMPs like forest buffers? Those practices that we verify – will we continue to receive credit for those, or do they get lumped into the forest land use?
  - Matt Johnston: In the current model, every acre beyond 2012 levels received full credit, and it got up-slope benefit. But the WTWG is still grappling with that methodology to use for Phase 6. If there's no change, then the question goes to Peter's group for their best estimate of the date past which we can give credit.

### 03:00 **Phase 6 E3 Scenarios**

M. Dubin

Mark Dubin updated the workgroup on the development of the agricultural sector's Phase 6 E3 Scenarios.

DECISION: The AgWG agreed to hold an interim conference call during the first week of October to review and finalize the Phase 6 E3 Scenarios. Lindsey Gordon will distribute a poll via email to AgWG members and interested parties to find an appropriate time.

### 03:25 **Wrap-Up/Review of Action and Decision Items/Announcements**

Workgroup Chairs, M.

Dubin, L. Gordon

Lindsey will review the actions and decisions from the meeting.

- Robin Pellicano requested that a discussion on the AgWG schedule of meetings be discussed during the next conference call.

ACTION: Lindsey Gordon and Mark Dubin, along with the AgWG chairs, will work to develop a schedule of meetings for the AgWG over the next few months, and will present this back to the AgWG in October.

**Next meeting: Thursday, October 20<sup>th</sup> Face-to-Face Meeting @ CBP Offices Joe Macknis Memorial Conference Room (Fish Shack) in Annapolis, MD**

### **Participants:**

Lindsey Gordon	CRC
Mark Dubin	UMD
Lindsay Thompson	DE-MD Agribusiness Assoc.
Matt Johnston	UMD
Frank Coale	UMD
Jeremy Hanson	VT
Jason Keppler	MDA
Tim Sexton	VA DCR
Bobby Long	VA DCR
Curt Dell	USDA
Matt Monroe	WV DEP

Ted Tesler	PA DEP
Frank Schneider	PA DEP
Jill Whitcomb	PA DEP
Abel Russ	Environmental Integrity Project
Emily Dekar	USC
Joel Blanco	EPA
Rich Batiuk	EPA
Robin Pellicano	MDE
Roland Owens	VA DCR
Kim Snell-Zarcone	Choose Clean Water
Greg Albrecht	NYS
Jim Cropper	Northeast Pasture Consortium
Steve Dressing	Tetra Tech
Ron Ohrel	Mid-Atlantic Dairy Assoc.
Ken Staver	UMD
Bill Angstadt	Angstadt Consulting
Dave Montali	WV DEP
Jeff Sweeney	EPA
Shawn Hawkins	UT