

Agriculture Workgroup (AgWG)

September 7th, 2016

9:30 AM – 3:00 PM

Face-to-Face Meeting Summary

Meeting materials: <http://www.chesapeakebay.net/calendar/event/24241/>

Actions & Decisions:

ACTION: The Bay watershed jurisdictions will workshop together to discuss reporting Phase 6 Nutrient Management before September 30, and begin crosswalking the Phase 5.3.2 reporting structure with the proposed Phase 6 structure of Nutrient Management.

ACTION: AgWG members and interested parties should submit comments on EPA's [proposed draft language](#) to be included as an appendix in the Phase 6 Nutrient Management Report to Mark Dubin (mdubin@chesapeakebay.net) or Lindsey Gordon (gordon.lindsey@epa.gov).

DECISION: The AgWG endorsed the recommended changes to nutrient spread curves, size of other cattle, yield goal multipliers, ammonia volatilization values, and double cropping methodology to Scenario Builder as presented by the Agricultural Modeling Subcommittee.

ACTION: The AMS will work towards a recommendation for crediting nutrient management and manure transport in future scenarios.

ACTION: MDA named Alisha Mulkey as the new alternate to replace Rachel Rhodes, to represent MD during Agriculture Workgroup meetings for instances in which the primary representative is unavailable.

Welcome, introductions, roll-call, review meeting minutes

Workgroup Chairs

- Minutes from the August 24th meeting were approved.
- The Cropland Irrigation Panel will hold its open stakeholder session at the Wye Research Center in Queenstown MD on September 19. Additional information is available on the calendar event page: <http://www.chesapeakebay.net/calendar/event/24311/>

Nutrient Management Panel Draft Report: Policy

R. Batiuk, Workgroup Chairs

The AgWG Chairs lead a workgroup discussion on the policy oriented comments received on the draft Phase 6 Nutrient Management BMP Expert Panel Report. Rich Batiuk, EPA-CBPO, presented an [EPA document](#) in supplement to the Panel Report to address policy and verification questions.

Discussion:

- Jason Keppler: You mentioned a 3-year transition period. Is it the partnership's intent to have each jurisdiction develop a plan of what that period will look like for them? Do we need to set certain milestones, deliverables, etc. over that transition period?
 - Batiuk: I think that second statement intends to be sure that we're holding each other accountable, and to understand what those hurdles are. I'd like the workgroup to tackle this issue.
 - Keppler: I like the idea of working at the jurisdictional level – each jurisdiction might be at a different point along that transition period. So being able to work independently is important. But at the end, we all need to reach the same point.
 - Batiuk: And Chris Brosch – you've been coordinating between the jurisdictions. I think that is helpful moving forward.
 - Keppler: Mechanically, if jurisdictions aren't ready to report the core and supplemental BMPs, will the 5.3.2 BMPs still be available to report against those? How does the reporting work in that transitional period?
 - Batiuk: I think that anything we've reported to date shouldn't disappear under Phase 6, but we need to figure out how to do that transition smoothly.
 - Johnston: So we're might take everyone's acres for Phase 5 and give that credit for Core N. I have to leave it up to the AgWG to define what the other few steps are for Beta 4 and future runs of the model.
- Bill Angstadt: What we think about in 5.3.2, the jurisdictions worked very hard on historic data – so would that historic data transition over? Kelly Shenk's group also worked on compliance. Would those compliance percentages transition over too? For a small group to work through crosswalking the 5.3.2 report to core NM would be beneficial. Most importantly, in this complex transition, can we explain it to the public? Matt – when we look at projections, the 5.3.2 historic data, and this transition, we have to focus on how we'll project what this means through 2025.
 - Johnston: Great point. The AMS is starting to grapple with that and are looking for the workgroup's feedback on this.
 - Angstadt: I question why we need to push this to 2019. I would push it to 2017.
 - Batiuk: That deadline was a reflection from the state partners to allow additional time for potentially more significant changes.
 - Kee: I think we're trying to respect the challenges that different jurisdictions have to go through by establishing this 2019 deadline.
- Steve Taglang: Three years is 2 years less than what we suggested. If there's a need to make changes either regulatorily or legislatively, then 3 years is fast and this would provide that opportunity. The idea of going from something based on NM planning to this core and supplemental structure will take some significant time. We will need to figure out a way to define our programs based on how the Bay Program will be crediting NM under the new model structure.
- Ron Ohrel: Regarding those specific steps – are those steps known, or would those need to be established and identified? And at what point would those be identified?
- Marel King: What would happen after these 3 years?
 - Batiuk: For the 2018 progress reporting year, if practices are reported that don't have a clear connection to the state's verification program, then they would not get credited. In this case, it would be the 2019 reporting year. So it's essentially a 1-year extension of verification.
- Mark Dubin: Last time, we developed a specialized crosswalk report for Phase 5.3.2 Nutrient Management, and I foresee the need to update that document.

- Roland Owens: I would echo the other jurisdictions in terms of needing time to develop a system to be able to accurately track this new scheme and the verification piece to provide sufficient documentation to the Bay Program.
- Beth McGee: What will the states be reporting for this 3-year transition? The Phase 5.3.2 version, or the new Phase 6 version?
 - Batiuk: We're saying we'll start parts of it for the core side, but to be thought through and figured out as a result of adoption of this panel report by the partnership to work those details out and make sure the AgWG is comfortable with the transition process.
 - Dubin: And the Phase 5.3.2 model is still active and being used, so we'll still use dual programs in the interim.
- Shenk: When does Phase 5 crediting go away?
 - Batiuk: 2017.
 - Shenk: So in 2018, if you don't have the verification of having those practices in place, and there's no Phase 5 fallback, then you wouldn't be able to get credit for Phase 6 either.
- Rich Batiuk put forward a motion for the AgWG to develop a preliminary transition document to summarize the considerations for moving from Phase 5.3.2 to Phase 6 nutrient management.
- Tim Sexton: I think each state should work to look at what efforts would be involved to ramp up for this transition. I think a lot can be accomplished without having to be regulatory. Virginia would be willing to meet with other jurisdictions and discuss how we conduct our verification.
 - Mark Dubin: The AgWG has certainly held workshops in the past, and if the group would be willing to sponsor them then we could certainly hold some in the future.
- Kee: I'm hearing among the states and others a general acceptance of the concept that Rich has put forward, with the understanding that a lot of detail and other decisions still have to be ironed out.
 - Matt Monroe: The concept is fine, but I find that it starts to get overly complicated. I don't know about the state specific guidance, and I'm worried that if we don't complete everything in 3 years that we wouldn't get credit for either Phase 5 or Phase 6.
 - Lindsay Thompson: I'm more comfortable with this specificity because it tells me what we need to do as a group. And this point has been brought up multiple times – whether states need to have specific plans.
 - Steve Taglang: I understand why you want things to be more specific, but I don't want to have to write a document that details everything – it's too much paperwork and planning. We have existing regulatory programs that we'll have to yoke together with this new structure.
 - Ted Tesler: What scares me most here is having to take individual plans and digest those for supplemental credit. The amount of work required for that level of return is impractical. The tiered system worked for us because reporting was very simple and fit well within our existing regulatory framework.
 - Karl Brown: Again, keeping all of these different administrative and regulatory systems aligned with these changes is a lot of effort, and we'll need a lot of time to get that done. A 3-year period is the absolute minimum.
- Dubin: If we're going to have to develop annualized reporting, maybe we can think about reviving the nutrient management task force report that would then be completed annually by the jurisdictions.
- Taglang: Other jurisdictions – are you all thinking of modifying your existing regulations to fit this report, or the other way around?

- Keppler: MD is unique because we have the ability to verify on the ground with the farmer and their records. For us, it's more or less a modification to our existing reporting protocol that we already have to incorporate some supplemental BMPs. It wouldn't be a major overhaul for our system, just modifications as needed.
- Brosch: The specificity in this report could be aggregated into a less complicated solution, letting the model spread out combined land uses as the ag census captured it. In terms of elements of the core and tracking, we have the ability to be flexible like MD.
- Chris Brosch: I think a less formal approach than the Task Force from last year could be very useful, and I'd be happy to come to PA to assist with getting buy-in from the states.
- Mark Dubin: The panel was trying to accommodate individual programs from states, and so you can still report at an aggregated level in the beginning. Regarding verification, the panel recommends 10% at a minimum.
- Tim Sexton: I would like to suggest that my colleagues have a work session in order to discuss some of these issues that are coming up.
- Mark Dubin: Lindsey Gordon and I are happy to take comments on this draft language, and with AgWG approval we would like to incorporate it into the report as an Appendix.
- Matt Johnston: Before September 30, we need to figure out what the states should reporting – whether Tier 1 N is reported as Core N, etc.
 - Marel King: How would that decision get made?
 - Johnston: We have a technical appendix to the report, and previous Beta versions with Tier 1 NM in them. You can approve that idea of reporting Tier 1 N as core N, or you can not and give the states different directions.
 - Brosch: Jason, Tim, and I would be happy to meet with the rest of the jurisdictions ASAP to hash everything out, and put things in categories alongside this report.
- Beth McGee: When we were discussion Phase 5 NM, it was contentious then, and we were told that we should push it through because in Phase 6 we would have new everything. Frankly, when we reviewed the report and there was no linking the science with the numbers, it was very disappointing to say the least. I know states want credit, but from a stakeholder perspective, we need the science to be there. I feel like we're being railroaded with a short timeframe, and I'm not sure how we got to this point again.
 - Mark Dubin: Yes – we received a number of comments on the panel report regarding their justification of the efficiency values. They are working to rewrite Section 3 to respond to those comments.
 - Thompson: That was my comment that we understand those concerns, and I also am sensitive to the comment that we're trying to railroad this through in a short time period. Throughout this process, the panel has given preliminary reports that have outlined the structure of NM, so I don't think this is trying to ram it through. There have been numerous updates, webinars, and presentations made available.

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Nutrient Management Panel Draft Report: Technical

Workgroup Chairs

The AgWG Chairs lead a workgroup discussion on the scientific and technical oriented comments received on the draft Phase 6 Nutrient Management BMP Expert Panel Report.

Discussion:

- Mark Dubin: One concern we received was the use of the term efficiency, and I wanted to let everyone know that they will be termed ‘application rate multipliers’.
 - Brosch: Specifically, you mean that in regards of the core, right?
 - Dubin: No, those would also be multipliers.
 - Johnston: Not quite – those should be efficiencies.
- Mark Dubin: We’ve been creating a comment and response document for all comments received.
- Tim Sexton: One comment that I made was that core and supplemental still needs to be tied to nutrient management plans. One reason is that’s because we have nothing else to track. And everyone should be cognizant of the fact that getting rid of the plan requirement will cause all of the states to abandon plans all together.
 - Kelly Shenk: I agree – we don’t want to discount the importance of plans. I wonder if there’s a way to set the context in the report and make sure that we educate on the differences between plans and practices.
 - Monroe: Are you talking whole-farm conservation plans, or specific nutrient management plans?
 - Shenk: I think we would have to just hone in on NM, but I would also love to consider conservation plans.
- Amanda Barber: I appreciate all of the comments thus far, and just want to make the point that not requiring plans leaves the door open to document NM activities that are occurring legitimately without the presence of a plan, just through good farmer stewardship. A lot of farmers utilize these practices, just not in the formality of a written plan. To ask farmers to get a written plan in addition to their current practices is burdensome, and becomes a capacity issue. So I’m supportive of not requiring a plan.
- Mark Dubin: What the panel was looking at was not requiring a certified reviewed and approved plan.
- Tim Sexton: How would an average farmer report into NEIEN if it doesn’t have a trackable plan?
- Matt Monroe: It almost seems that we’re being really strict on core, but you’re saying that it’s easy for any farmer to get credit since they don’t need a plan. I thought we’d all invested heavily in certified plans, but maybe not.
- Taglang: I agree with both of you. Nutrient Management Planning is a legislatively defined thing in PA, and includes certain things. In PA, it also only addresses the largest 2,000 farms and only deals with manure. So a large operation using only commercial fertilizer don’t need a NMP. We’re not collecting their information either way, so how we collect it will be our big hurdle over the next 3 years.
- Brosch: In the case of farms that do not produce any manure and don’t have NMPs, would you be able to use an annual report in lieu of a plan?
- McGee: It occurs to me that maybe we should spend more time on determining the standards that need to be met, and then we can let the verification and documentation necessary be determined by individual states.
- Keppler: I think it’s equally important to keep in mind that we need some kind of certification that people ‘prescribing’ nutrients are doing so in an environmentally sound manner. Within MD, we do have that certification program for folks that write the plans.

- Brosch: Bobby Long and I aggregated the state comments, and I don't know if any states had problems with supplementals acting as efficiencies. As a member of the panel, it would be great to hear when we're going to talk about this. Going back to the elements that were stated in a confusing manner, which is to say the method for crediting core, changing application goal with a multiplier. I think that presents an issue that the AgWG has experienced before – finding the value of a NM implementation on an acre of corn in one state/county versus another. This multiplier, with nutrient spread governed by fertilizer sales, almost assures that acres of corn in different counties will have different levels of benefit in the model. I think that's a fine academic answer, but it should be interpreted by the AgWG to ensure equity as we report on core NM. So I recommended that the panel consider different analyses and model runs to look at this issue.
 - Brosch: With a concerted effort to build 3 scoping runs, and do a Beta version, we could see different levels of implementation, and generate something that achieves current levels but is balanced across the states – 40% for example – just to see how it fluctuates.
 - Ted Tesler: Phase 6 in terms of tracking, reporting, and verification is very complex. For Scenario Builder, we have some flexibility there. But I'm very focused on tracking and reporting – but it's difficult to fix something because the model is so dynamic.
 - Johnston: I don't want to put this on the WTWG, because they were not heavily involved in the panel. We don't interpret new ways to model the BMPs.
 - Brosch: I also think it's not the attitude of the AgWG to kick the can on this one, but maybe we could put it under the AMS.
- Dubin: I think the AgWG needs to consider whether it could approve Appendix A so that it can ultimately go to the WTWG for approval. We will be sharing final, revised materials with the AgWG and WTWG when they're available. We'll present the revised version on the 15th, and we'll put it up for decision on the 22nd.
- James Davis-Martin: I think Chris' suggestion for some model runs to understand these new values is valuable – will there be an effort to do that?
 - Brosch: I think we could request some preliminary results, and the AgWG, AMS, and WTWG could review those results. Regarding decision points on panel recommendations, I don't know if that has any actual bearing on model credit derived, as long as they use similar methods.
 - Davis-Martin: I wonder if you will be able to connect the science if you don't look at it as an efficiency type of reduction. The science reviews probably aren't phrased in terms of changes in application rates according to the model's fertilizer application rules. I think it will be hard to tie back to the science the recommendations without an understanding of the results in terms of load reduction.
- Johnston: The panel report very clearly states for core N and P, increase the application goal by X amount. So that's in the panel report as a recommendation from the panel. If we want to change that before September 30, we need to know ASAP. Regarding scoping scenarios, it won't change the loads – it will only change the applications. We can certainly tell you changes in applications.

Update on Turkey and Swine Data Collection Pilot Project

T. Sexton, M. Dubin

Tim Sexton, VA DCR, and Mark Dubin, UMD AgWG Coordinator, provided an update on the data collection pilot project with Penn State University and Virginia Tech for turkey and swine.

Discussion:

- Paul Bredwell: Will the analysis compare the old values at the old tonnage rate to the new values as far as the concentration of N and P in the tonnage?

- Sexton: The way the model will treat the information is that it will be tons of litter produced per pound of bird. Also there will be a pound of N and P produced per pound of bird – that's the reason for the weight of the bird as harvested.
- Johnston: With the October 20th date, the delivery of this data will miss September 30th, but is something that the chair or vice-chair will have to ask for inclusion in the Phase 6 model at the WQGIT level.
- Ted Tesler: It would be helpful to see where the model has us now, and what this is showing us.

Animal Waste Management Systems Preliminary Report

S. Hawkins

Shawn Hawkins, Panel Chair, presented the [draft preliminary report](#) of the expert panel for AgWG review in preparation for approval and incorporation into the Beta 4 version of the Phase 6 model.

Discussion

- Brosch: Does recoverability decrease under your new proposal for dairy?
 - Hanson: Dairy's baseline is 53% right now in the Beta Phase 6.
 - Johnston: The charge was to start over from the Phase 5 approach.
- Mark Dubin: I think providing a mixed farm number is necessary and good, but I'm wondering if there's benefit in providing model farm size breakout that the panel started with, and giving states an option? If states have data to break it out they could use that, and if they don't then they would use the mixed value.
 - Hawkins: Firstly, we do make a recommendation in the draft report to collect information on the AWMS type, and one suggestion for doing that is (assuming each state has a lab that does waste analysis) asking for information that would help us categorize AWMS type by county.
- Johnston: The difficulty with programming the model to benefit tracking the size of farm is that we would have to set up 4 different baselines for dairy. We're trying to do as good as we can at targeting nutrients that dairy cows produce, but looking at what happens to a smaller size is more difficult.
 - Hawkins: That consideration overrode the points that Mark brought up, and that's why we ended up with the mixed farm model. These are based on BPJ in the end, and the error that's associated with what we're recommending as high is probably +/- 20%.
- Marel King: I see we have a breakdown of farms by category – do we know what that translates to in terms of animals for each of those categories? The largest dairy category is going to have a small % of farms, but probably has a large % of the number of animals.
 - Hawkins: The % of farms that you see here is a BPJ that's present in the reference document, so we have no survey information that defines what the AWMS are particular to the region of interest. Those categories are suspect. But we could develop some type of weighted average that would consider information from the Wisconsin study. For the 'before' condition, that's not applicable. But the 'after' condition could use a weighted average that's a function of the farm size.

Agricultural Modeling Subcommittee Update

C. Dell, M. Johnston

Curt Dell, USDA, and Matt Johnston, UMD, [provided an update](#) on the changes to Scenario Builder recommended by the Ag Modeling Subcommittee, which includes adjustments to the nutrient spread curves, size of other cattle, implementing a yield multiplier of 1, approaches to calculating double cropped acres, and animal confinement fractions.

Discussion:

- Chris Brosch and Rachel Rhodes motioned to approve the Agricultural Modeling Subcommittee's recommended changes as presented.
- Paul Bredwell: All of this relies on the assumption that your manure projections are accurate.
 - Johnston: Yes – you have to assume we've approved the methods for forecasting manure.
 - Bredwell: But we're already trying to address how accurate that is. So would that lack of accuracy start to compound?
 - Johnston: It would all compound.
- Tim Sexton suggested using 3-year moving averages to determine animal population size. He also noted that price of fertilizer had a large impact on rate of purchase.
 - Johnston: We use annual NASS data for broilers and turkeys, but we use Ag Census for all other livestock, layers, and pullets. When and if we get more information for other livestock species, we could abandon the Ag Census data. We also don't simply use a trend from one ag census to the next. We use a trend over all ag censuses with more weight placed on the more recent trend. We can periodically go back and review the data.
- Lindsay Thompson asked how far the data lags behind.
 - Johnston replied that the data currently lags 4 years behind, but he hopes that it would only lag 2 years behind in the future.
 - Thompson: We're trying to move towards using data, but in the future it would be great if we didn't have to use nutrient management or crop acres to estimate fertilizer sales.
- Jason Keppler asked if the distribution of fertilizer in one county would affect the amount of nutrients placed on other counties.
 - Johnston replied that this methodology is independent for each individual county, and for future runs, the county nutrients would not be affected by other counties distribution.
- Lindsay Thompson: Would you be able to separate out N and P? I wonder for P if you would want to separate it out because there may be little to no P need for some counties with high soil residual P.
 - Johnston: I think we should be able to break it out by N and P.
- Karl Brown: Are you talking about transport out of that particular county or the whole watershed?
 - Johnston: Could be both.
- Clint Gill: How do you predict where the transported manure is going in the future?
 - Johnston: There's no predictions here, we actually let the states tell us what those look like in the future based on their Phase III WIPs.
- Jason Keppler: I'm trying to determine the model differences between manure and fertilizer application in the field.
 - Johnston: As you apply transported manure, you have a better N:P ratio, even moreso with manure treatment technologies.
- Brosch: In terms of defending the method in the model, I don't think you should be able to get a negative credit for manure transport.
 - Johnston: One suggestion was a % runoff factor for when it moves within county.
- Chris Brosch recommended the AMS reconsider how manure transport and nutrient management are represented in the model in terms of crediting and implementing an equitable distribution of credit across counties through time. Recommended the AMS and Scenario Builder Team develop different scenarios for representing this.

- Matt Johnston noted that the changes could potentially be made, but would mean a whole-scale change to the Nutrient Management structure in the Model.

DECISION: The AgWG endorsed the recommended changes to nutrient spread curves, size of other cattle, yield goal multipliers, ammonia volatilization values, and double cropping methodology to Scenario Builder as presented by the Agricultural Modeling Subcommittee.

ACTION: The AMS will work towards a recommendation for crediting nutrient management and manure transport in future scenarios.

ACTION: MDA named Alisha Mulkey as the new alternate to replace Rachel Rhodes, representing MD during Agriculture Workgroup meetings.

**Next meeting: (Confirmed) Thursday, September 15th 10:00 – 12:00 PM Conference Call
(Confirmed) Thursday, September 22nd 10:00 – 3:00 PM Face-to-Face meeting @
University of Maryland Western Maryland Research & Education Center in
Hagerstown, MD**

Participants:

Name	Affiliation
Lindsey Gordon	CRC
Mark Dubin	UMD
Lindsay Thompson	DE-MD Agribusiness Associates
Ed Kee	Secretary DDA
Chris Brosch	DDA
Clint Gill	DDA
Matt Johnston	UMD
Skyler Golt	UMD
Ken Staver	UMD
Jason Keppler	MDA
Rachel Rhodes	MDA
Alisha Mulkey	MDA
Kelly Shenk	EPA
Rich Batiuk	EPA
Jeff Sweeney	EPA
Matt Monroe	WV DEP
Dave Montali	WV DEP
Paul Bredwell	US Poultry and Egg Assoc.
Beth McGee	CBF
Curt Dell	USDA
Emily Dekar	USC
Greg Sandi	MDE
Greg Albrecht	NYS
Amanda Barber	Cortland Co. SWCD

Jim Cropper	Northeast Pasture Consortium
Kim Snell Zarcone	Choose Clean Water Coalition
Bill Angstadt	Angstadt Consulting
Tim Sexton	VA DCR
Bobby Long	VA DCR
Roland Owens	VA DCR
James Davis-Martin	VA DEQ
Doug Goodlander	PA State Conservation Commission
Steve Taglang	PA DEP
Ted Tesler	PA DEP
Karl Brown	PA State Conservation Commission
Marel King	CBC
Kristen Saacke Blunk	Headwaters LLC
Chantai Coleman	Choose Clean Water Coalition
Glenn Carpenter	NRCS
Karl Blankenship	Bay Journal
Ron Ohrel	Mid-Atlantic Dairy Assoc.
Jeremy Hanson	VT
John Rhoderick	