Agriculture Workgroup & Agricultural Modeling Subcommittee
Decisions on Phase 6 Chesapeake Bay Program Model 2015-2017

May 18, 2017 AgWG Decision:
DECISION: The AgWG reached consensus to recommend that jurisdictions review and provide revised animal population distribution percentages by county (inside/outside Bay Watershed and permitted/non-permitted) to Matt Johnston by no later than July 15, 2017. The data submission spreadsheet is available for download on the calendar event page.

March 16, 2017 AgWG Decision:
DECISION: The AgWG approved the AMS recommendation to simulate soil P history by using a mass balance modeling approach combining APLE and soil test data. This decision was made with Pennsylvania abstaining.
DECISION: The AgWG approved the recommendations of the AMS to use Dave Lightle's revised RUSLE2 C-factor management scenarios in the draft final version of the Phase 6 model. This decision was made with Pennsylvania abstaining from voting.

> **March 13, 2017 AMS Decision:**
> *DECISION*: The AMS agreed to move forward with using Dave Lightle's revised C-factor values in the Phase 6 model, pending additional information regarding the values for pasture.
> *DECISION*: The AMS agreed to move forward with using the Bayesian model approach developed by Andrew Sommerlot for representing soil P history in the Phase 6 model.

February 16, 2017 AgWG Decision:
DECISION: The AgWG made a recommendation to not set a floor for loading rates from land uses, such that loading rates from land uses can go below the forest land use loading rate.

November 21, 2016 AgWG Decision:
DECISION: The AgWG approved AMS recommended changes to Scenario Builder, including: the proposed ammonium/nitrate split for fertilizer, the proposed weighting factors for forecasting, and the delivery of nutrients from riparian pasture. The AgWG also requested the AMS examine the sources informing the values for delivery of nutrients from riparian pasture.

> **November 18, 2016 AMS Decision:**
> DECISION: The AMS agreed to use the 75/25 split for ammonium/nitrate in inorganic fertilizer, and Matt will investigate how the model treats ammonium in terms of volatilization.
> DECISION: The AMS agreed to use the revised weighting factors for long- and short-term projections assigned to each category of agricultural land.
> DECISION: The AMS agreed to revise their delivery factors for riparian access areas from 100% delivery to 80% delivery for both TN and TP.
> DECISION: The AMS agreed to defer to STAC to review and provide recommendations for RUSLE C sub-factors.
> DECISION: The AMS agreed to allow 100% of non-double cropped silage to receive manure. This would eliminate the silage without manure land use.

September 22, 2016 AgWG Decision:
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.

September 7, 2016 AgWG Decision:
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.

> **August 17, 2016 AMS Decision:**
> *DECISION*: The AMS agreed to move forward with the revised confinement fractions as presented by Matt.
> *DECISION*: The AMS agreed to move forward with using the ag census to define 3.34 as the number of animals per animal unit for Other Cattle.
> *DECISION*: The AMS agreed to move forward with the approach of proportioning crop acres within crop groups 1 and 2 for the double crop procedure.

> **August 11, 2016 AMS Decision:**
> *DECISION:* The AMS agreed to move forward with the simplified nutrient spread curves.
> *DECISION:* The AMS agreed to spread excess N fertilizer evenly to all other crops.
> *DECISION:* The AMS agreed to remove the assumption that crops should be multiplied by 1.1, and instead changed it to 1.0.

July 20, 2016 AgWG Decision:
DECISION: The AgWG reached consensus on making a formal recommendation to use the Beta 3a(1) approach to represent nutrient spread for N and P in the Beta 4 version of the Phase 6 model. Under this approach, fertilizer used in all counties equals estimated fertilizer sold across the watershed. Watershed-wide fertilizer is distributed to counties based upon each county's share of the total watershed's remaining crop application goal after manure is applied. Applications are prioritized to row and commodity crops over pasture and hay, and all crops do not receive 100% of application goal.

> **June 13, 2016: AMS Decision:**
> *DECISION:* The AMS agreed to set soybean application rates for Nitrogen to reflect incidental inorganic application of diammonium phosphate. This will allow the NMP to increase the non-NM rate to account for acres that might receive manure.

DECISION: The AMS agreed to eliminate the TP and TN application rates for double-cropped soybeans, assuming it will go into small grains (wheat, oats, barley).

DECISION: The AMS agreed to increase the P application rates for double cropped small grains by 50%.

DECISION: The AMS agreed to revise the TN application rate on tobacco down to roughly 150 lbs.

DECISION: The crop removal rate for green lima beans and snap beans will be set to the rate for Chinese peas.

May 16, 2016: AMS Decision:

DECISION: The AMS reached consensus to program the legume fixation equation into the July beta version of the model, with an assumption of 1.5% organic matter.

DECISION: The AMS reached consensus on changing the square footage/animals for other cattle to be halfway between beef and dairy in barnyard access areas.

DECISION/ACTION: The AMS agreed to allow the AgWG to determine which nutrient spread approach will be used in the July beta version of the model, and once that decision is made, to ask states to revise the crop application tables and run a comparison with the revised version.

February 11, 2016 AMS Decision:

DECISION: The AMS decided to move forward with UMD extension recommendations on horse, sheep, and goat mineralization rates.

January 28, 2016 AMS Decision:

DECISION: There is not significant legume fixation from urban turf grass. This will be under the purview of the Urban Stormwater Workgroup to develop one, if they deem it necessary.

DECISION: The AMS agreed to retain the manure recoverability fractions provided by USDA NRCS, but replace the N recoverability with only an ammonia volatilization factor and assume all P is recoverable.

DECISION: The AMS agreed to use the MAWP's single-year mineralization rate per animal type for the 1980's applications, and use the 3-year MAWP rates for the 2000's, and interpolate between those two time periods. Horses, sheep, and goats' 3-year mineralization rate will be 0.5.

DECISION: 100% of inorganic, fertilizer P will be considered plant available.

DECISION: If not already done so, emmer, spelt, and triticale crops should have acre-based applications, not yield-based.

DECISION: The AMS agreed to sideline the discussion of multiplying average county crop yields by 110% until a later date.

DECISION: The distribution of inorganic fertilizer will be done after accounting for all BMPs.

January 21, 2016 AgWG Decision:

DECISION: The AgWG approved the final [Phase 6.0 Ag Land Use Loading Ratios Report](#).

May 21, 2015 AgWG Decision:

*DECISION***:** Agriculture Workgroup members approved language to accompany the credit duration spreadsheet describing how credit durations relate to BMP verification: "BMP Credit Durations are designed to reflect the maximum time that may elapse between the initial reported implementation of a BMP for CBP model credit, and when that BMP will be removed for credit. Future crediting of BMPs which exceed the credit duration period will require resubmission by the jurisdiction based upon follow-up inspections or maintenance activities for that BMP in order to receive credit in the Chesapeake Bay Watershed Model. BMP credit duration periods were primarily based on federal and state BMP contractual lifespans when specific BMP lifespans were not specified from BMP expert panel reports or existing modeling structure requirements. Contractual lifespans may differ by state, and may be different from credit durations listed in this table. Please note that model BMP credit durations are not directly related to the requirement of jurisdictions to implement an annual BMP verification protocol, based on the approved CBP Agricultural BMP Verification Guidance, and consequently do not represent an alternative or substitution for the guidance for BMP verification."

April 16, 2015 AgWG Decision:
*DECISION***:** Agriculture Workgroup members approved the BMP credit duration spreadsheet, with the caveat that the pre-amble will be shared with the workgroup. The spreadsheet is available for download on the calendar event page.

March 18-19, 2015 AgWG Decision:
*DECISION***:** Agriculture Workgroup members recommended that the Poultry Litter report be moved forward to the WQGIT. Communication will emphasize that the poultry litter data is just one piece of the larger Scenario Builder, which will be reviewed by the full Partnership between October 2015 and October 2016.
*DECISION***:** Agriculture Workgroup members approved the AMS' Phase 6.0 land use classification, with agreement that the relative land use loading rates will still need to be finalized.

March 13, 2015 AMS Decision:
*DECISION***:** The group agreed to the nutrient spread method presented with the modifications and next steps below:

- There will be separate curves for inorganic and manure nutrients
- There will be unique curves for each of the major row crop land uses
- Remove the inorganic to row application step, because there will be unique values for each of the major row crops.

*DECISION***:** AMS approved the Phase 6.0 land uses to be presented to the Agriculture Workgroup next week.

- Keep corn silage without manure as a unique land use.
- There should be a separate curve for each type of hay. Both types would be eligible for manure.
- A small group of experts will review land use loading targets starting the week of March 23. The small group will report back up through the AMS and then the Agriculture Workgroup on the way to the April Modeling Quarterly Review meeting.

*DECISION***:** AMS approved the poultry litter report and Curt will present to the Agriculture Workgroup next week.

February 12, 2015: AMS Decision:

DECISION: For broiler P concentration, members decided to use bay wide trend between 1995-2013.

DECISION: Virginia and West Virginia layer/breeder nutrient concentration data will be used for layers.