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Agriculture Workgroup (AgWG)
Meeting Minutes
May 16th, 2024
10:00 AM – 12:00 PM
Meeting Materials

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Summary of Actions & Decisions

Decision: The AgWG approved of the minutes from the April AgWG call.

Action: Please review the draft agroforestry EPEG charge. The AgWG will be asked to approve the draft charge and formation of the EPEG at the June meeting. Please email Ruth Cassilly (rcassilly@chesapeakebay.net) and Katie Brownson (katherine.brownson@usda.gov) with the following: a) feedback on the draft EPEG charge; b) if you want to volunteer to serve on the EPEG; or c) if you have any information on state implementation of alley cropping and/or silvopasture.

Action: Eric Hughes will coordinate with AMT leadership to get the ag industry data topic on future AMT agendas. Members suggested the AMT put together a best practices document or guidelines for the future to clarify what we should be looking for if we want to work with industry partners beyond poultry.

Action: Send AgWG leadership ideas for agenda topics for the in-person meeting.

Intro & Announcements

10:00   **Welcome, roll-call, review meeting minutes – 5 minutes**
Kathy Brasier, AgWG Chair
- Roll-call of the governance body
- Roll-call of the meeting participants - *Please enter name and affiliation under "Participants" or in "Chat" box*
- **Decision:** The AgWG approved of the minutes from the April AgWG call.

10:05   **Introduction of Presentation Topics – 5 minutes**
Eric Hughes, AgWG Coordinator

Data & Modeling

10:10   **2022 Census of Ag: Bay-specific Numbers – 15 minutes (presentation and Q&A)**
Joseph Delesantro, CBPO/ORISE Fellow

Last month, the AgWG heard an overview of nation-wide trends and data from the 2022 ag census. This month, Joseph shared data and trends specific to the Chesapeake Bay Watershed.

Discussion

Ruth Cassilly (in chat): Hi Joseph- are crop acreage amounts for the major crops supplemented with Annual NASS data, or is this information coming only from the 5 Year Ag Census?

Joseph Delesantro: Yes, it is supplemented with annual NASS data. The 7 big crops have annual data in the survey that we use to supplement the 5-year ag census data.

Ruth Cassilly: Not the yield, but just the total acreage amount? Is that supplemented with NASS data?

Jess Rigelman: I think we only use the annual data from NASS for the yields and not acreage.

Ken Staver: You had a slide that showed cropland and harvested cropland. They got closer together in recent times, but there is still a discrepancy between the two - can you explain that?

Joseph Delesantro: Probably some of it is cover cropping or cropland that is fallow for the year.

Ken Staver: Not pasture though?

Joseph Delesantro: Correct, not pasture.

Ken Staver: How is that assigned a load in CAST?

Joseph Delesantro: If it's not harvested, then it has no yields. So in P7 when yields control inputs, that would be how it affects the total loading.

James Martin (in chat): Hay?

Ruth Cassilly (in chat): We get pasture vs cropland from the land use data.

Ken Staver: I would just assume that it would be getting wider over time instead of closer, because there is more cover cropping now than in the 80s.

Jess Rigelman: In CAST we take the acres of the individual harvested crops as a total and compare them to the total harvested cropland. That is how we define double cropped acres. So the harvested cropland in general should be less than total acres of harvested crops when reported individually. Not sure if that's what Joseph is grasping here.

Ken Staver: Well here it's more.

Jess Rigelman: In general, 1 acre has two crops on it, so the total harvested crops as individuals would be larger than the total harvested cropland acreage as a category in itself.

Joseph Delesantro: What I'm showing is different. This is just the raw data from the ag census. Jess is talking about how we process that data for use in CAST, but that's not shown here. Most of the data we use is aggregated up from the individual crop level, while this is a high level ag census data.

Jim Riddell: We've lost a lot of farmland acres over the years so that makes sense why it would be decreasing but have a higher percentage of harvested acres. Right?

Joseph Delesantro: Yes, that's correct.

James Martin (in chat): Does the non-harvested land get any nutrients applied in the model?

Joseph Delesantro: In Phase 7, yields from harvesting will largely define nutrient inputs. I don't think that would get much of a load, but I haven't thought about it that way.

Jess Rigelman: The non-harvested land in general is not counted. A few categories like fallow and idle are reported and we count those, but they don't have any nutrients applied.

Dave Graybill (in chat): Is this just the bay states or the national average?

Jim Riddell (in chat): How did you separate the bay areas from other part of the state?

Joseph Delesantro: The Bay states. For the crop yields slide, we are just looking at counties within the Chesapeake Bay Watershed. I can add some additional graphs to the end of the presentation that I pulled together and resend my PPT to be posted on the website.

Kathy Boomer: You looked at crop yields by acre. We are assuming that those increased yields are due to additional fertilizer application. Is that correct?

Joseph Delesantro: We don't do causality. The way we look at increased yields is that if you have a larger yield, you need more N and P to support the larger yield. It's not *due* to greater nutrient application. I would guess that a lot of it has to do with seed genetics and improved technology. But the result of increased yields is just that we need to apply more nutrients and in general there are more nutrients being uptaken by the plant and removed from the landscape.

Kathy Boomer: More marginalized lands could be the ones that are retiring and we could be left with more productive lands. There could be other technologies as well. We don't often talk about water management and how that has been a tool in increasing yields. I raise that because it could have detrimental effects on other agro-ecosystem outcomes that could impact water quality.

Don't think this is the time to have the conversation but I wanted to flag that about the assumption of increasing N with increasing yields.

Joseph Delesantro: The census does report irrigated acres. That's not something we analyze but might be something you are interested in looking at.

Clint Gill (in chat): USDA-ERS has definitions of these terms here: https://www.ers.usda.gov/data-products/major-land-uses/glossary/#cropland

USDA ERS - Glossary Definitions, sources of data, and estimation techniques have varied little over time in the Major Land Uses (MLU) series. The following definitions and explanations of the data are for the most rec…

Clint Gill (in chat): improved genetics and precision agriculture is likely driving yields, I concur Joseph.

Jim Riddell: The most limiting factor in crop production is moisture. I'm sure the model adjusts for increased moisture and climate change.

Alex Echols (in chat): Be careful about the inputs associated with yields. Lots of concurrent changes like seed genetics, precision application, increased N fixation, conservation drainage. So no 1:1 relationship whatsoever.

James Martin (in chat): Improved soil health from tillage and cover crops can also provide more nutrients without making additional applications.

Kathy Boomer (in chat): Water management includes drainage and irrigation.

Ruth Cassilly (in chat): Quick reminder that nutrient applications to crops is not just based on crop need (which factors in yield) but also fertilizer sales data.

Accounting & Reporting

10:25   **Supporting Agroforestry Implemented throughout the Chesapeake Bay Watershed –**
         35 minutes (presentation and Q&A)
         Eric Hughes, AgWG Coordinator; Ruth Cassilly, UMD

Eric provided an overview of the Expert Panel Evaluation Group (EPEG) process, and Ruth explained next steps for establishing an EPEG for agroforestry practices (silvopasture and alley cropping).

Discussion

James Martin (in chat): Do you envision this being a BMP that converts traditional ag to Agroforestry? How would this practice mesh with the land use classification?

Ruth Cassilly: There are several potential BMPs we are looking into crediting - silvopasture and alley cropping. Under one, would possibly be ag retirement to open space or alternative crops, possibility of tree planting, several possibilities. Our preference would be to credit all of those under existing BMPs, but if we determine that we can't do that, then we'd request an expert panel. First we need to gather nutrient reduction information.

Natahnee Miller (in chat): PA would like to see if there is anyway we can stay within the definitions of existing BMPs so that we can more quickly start crediting the practice. Is that part of Step 3?

Ruth Cassilly: Part of the EPEG process will be determining if that's possible.

Ken Staver: It seems like a new land use class as opposed to a BMP.

Ruth Cassilly: We can consider that as an option, but that's not what we were envisioning. We were thinking about a combination of BMPs that stack.

Alex Echols (in chat): How does the model score cover crops for P? Does it make a distinction between ortho and bound P?

Jess Rigelman: I think cover crops just have an N efficiency and not P.

Ken Staver: Yes, the EP only assigned a N reduction credit.

Alex Echols: Cover crops do not sequester P. All of the ortho is released when the cover crop is killed down - there may be a minor savings for bound P if they slow erosion.

James Martin (in chat): What about conversion of forest to agroforestry?

Ruth Cassilly: NRCS definition allows that currently, but CBP may have to change our definition from that because we're not looking to thin forest and have animals move into forest, we're looking to do the opposite. NRCS is looking into revising their silvopasture definition, but it might take a while.

James Martin: Well Phase 6 is locked. We'd be developing a phase 7 practice, is that right?

Jess Rigelman: Phase 6 will be off the table because it's a practice that has been in history. It would be available in draft but not be put into the model.

Ruth Cassilly: So this would be for Phase 7 then?

Jess Rigelman: Yes.

Kathy Boomer: Can you clarify what you're talking about when you say agroforestry? Are we talking about converted forest to agricultural land?

Ruth Cassilly: No, that would be harvested forest. We are talking about silvopasture, specifically planting trees in pasture or integrating forest and pasture, and then alley cropping, which would be integrating trees into cropland systems.

Eric Hughes: How are people feeling about this EPEG? Are there any major reservations?

James Martin: I want to echo Ruth's request for any implementation data that might be out there for these types of practices. I don't think we have either in our cost share program of the practices that Ruth referred to, so NRCS would be our practices for VA. If there isn't a lot of implementation, then maybe this effort is not worth it.

Elizabeth Hoffman: Definitely interested in this in MD. We have participation from our federal partners, NRCS, and we also have a healthy soils program where there's a lot of growing interest to work in this realm.

Elizabeth Hoffman (in chat): MD also would like to draw parallels to existing BMPs to quickly credit the practices. This is sort of an expansion of how we crosswalk NRCS practices to NEIEN crediting. We'd also like to keep it as a BMP - similar to a prescribed grazing or tree planting - rather than a land use so we can demonstrate the many benefits. There is increasing interest in this practice in the lens of soil health.

Cassie Davis (in chat): https://www.usda.gov/topics/forestry/agroforestry.

Jess Rigelman (in chat): There is a P credit for some cover crops. If you look in the CAST source data in the BMP efficiency worksheet you can see which ones - https://cast-reports.chesapeakebay.net/public/SourceData.xlsx

Ken Staver (in chat): They were put in at a higher level I think based on erosion potential.

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11:00 **Update: Remote Sensing Verification of Conservation Tillage BMPs in Pennsylvania – 15 minutes (presentation and Q&A)**
Ashley Hullinger & Scott Heidel, PA DEP; Tom Howard, Resolve Hydro

Ashley, Scott and Tom provided an update on Pennsylvania's project focused on remote sensing verification of conservation tillage BMPs.

- Currently in Phase 1 of the project and are developing the methodology. Methodology documentation + one-page summary of project will be shared with the AgWG the first week of June. Will present methodology at June AgWG meeting and request approval.
- Phase 2 will begin in July. Will be creating an Advisory Committee with representation from different jurisdictions and expertise to help provide input and review products. Will be coordinating with Watershed Technical WG starting in July to determine how this may be implemented into CBP reporting.

Data & Modeling

11:15 **Use of Agricultural Industry Data in Phase 7 Modeling Tools – 30 minutes (presentation and Q&A)**
Paul Bredwell, U.S. Poultry and Egg Association

Building on their presentation given at the March 2024 AgWG meeting, Paul returned to provide additional information on a project to include additional lines of evidence (data sources) in the Chesapeake Bay Program's Phase 7 suite of modeling tools.

Discussion

Lee McDonnell: EPA is very supportive of this effort. We think this is a great idea to get data from the industry. Huge resource and opportunity to build better relationships with the ag community. Right now there is low confidence in some of our data inputs and they are willing to work with us to improve that. Also, Paul suggested setting up these regional meetings. Poultry Execs are here today tuning in and have agreed to the regional meetings. Just wanted to give an endorsement.

Paul Bredwell: Poultry industry is responsible and if we go through this process and see that we have a greater footprint then they will respond accordingly.

James Martin: My question is for the AgWG - should we be looking to try and replicate this with other ag industry groups to continue to build multiple lines of evidence?

Amanda Barber (in chat): https://www.scenichudson.org/viewfinder/n-y-farmers-explore-silvopasturing-as-climate-solution/ https://projects.sare.org/project-reports/fne12-762/ https://scholars.unh.edu/cgi/viewcontent.cgi?article=3182&context=dissertation

Kristen Hughes Evans (in chat): Re: James Martin's question - yes! Especially with agribusinesses that are working towards GHG emissions reductions goals. They are also tracking practice implementation and there is an opportunity to identify gaps and report practices that we may not currently getting credit for.

Marel King (in chat): I second James' suggestion.

Clint Gill: I agree with James. I think we're going to need it.

Eric Hughes: Any reservations from the group about this?

Ken Staver: Where does something like the Hillandale case fall into this discussion? They are their own big operation.

Paul Bredwell: They aren't an integrator but they are their own company. The layer industry is a bit different than the integrated broiler or turkey industry. The ag land companies are our members as well. We have the ability to reach out to them. We can do it either through other organizations like the United Egg Producers Council or American Egg Board, so we can reach them

that way if we don't have a direct line of communication. Also can reach out through the state associations, like PennAg for example.

Natahnee Miller (in chat): I'm filling in today so I will take all this back to Kate and Brady- they can send you (Eric) any questions or concerns that they might have.

Action: Eric Hughes will coordinate with AMT leadership to get the ag industry data topic on future AMT agendas. Members suggested the AMT put together a best practices document or guidelines for the future to clarify what we should be looking for if we want to work with industry partners beyond poultry.

Wrap-up

11:45   **New Business, Announcements & Updates – 15 minutes**
  ● **Agricultural Modeling Team**
    ○ The AMT did not come to consensus on updating the land uses for Phase 7. No decision was made at the May meeting.
    ○ The AMT also held a discussion about alternative crop yield data sources since certain NASS annual surveys & programs may be discontinued in 2024.
  ● **AgWG in-person meeting 2024**
    ○ Eric provided an overview of the tentative plan for this year's in-person AgWG meeting.
    ○ **Action:** Send AgWG leadership ideas for agenda topics for the in-person meeting.
  ● **2023 Progress Scenarios**
    ○ Now available on CAST
  ● **Modeled Load Reduction Indicator (MLRI) updated with 2023 implementation data**
    ○ See updates on ChesapeakeProgress
  ● **Federal Advisory Committee for Urban Agriculture and Innovative Production**
    ○ The U.S. Department of Agriculture (USDA) is seeking nominations for four positions on the Federal Advisory Committee for Urban Agriculture and Innovative Production. USDA will accept nominations from May 7, 2024, to July 7, 2024.
  ● **Other Announcements?**
    ○ Send to Eric Hughes (Hughes.Eric@epa.gov) for inclusion in "Recap" email.

12:00   **Review of Action and Decision Items; Adjourn**

Next Meeting: Thursday, June 20th, 2024: 10AM-12PM (Virtual).

Participants

Jackie Pickford, CRC
Eric Hughes, EPA-CBPO
Kathy Braiser, PSU
Caitlin Grady, GWU
Clint Gill, DDA
Elizabeth Hoffman, MD
Greg Albrecht, NY
Natahnee Miller, PA
Cindy Shreeve, WV

Marel King, CBC
Jeff Sweeney, EPA
Zach Evans, Mountaire Farms
Kendrick Flowers, NRCS
Ken Staver, UMD
Dave Graybill, Farm Bureau
Paul Bredwell, US Poultry & Egg
R.O. Britt, Smithfield Foods
Emily Dekar, USC

Jim Riddell, VA Cattlemens Association
Amanda Barber, NY
Ashley Hullinger, PA DEP
Alex Echols
Carlington Wallace - ICPRB
Caroline Harper, The Campbell Foundation
Cassie Davis, NYSDEC
Dean Hively USGS
Dylan Burgevin, MDE
Grant Gulibon
Hobey Bauhan, Virginia Poultry Federation
Hannah Sanders
James Martin, VA DCR
Jeremy Daubert, Virginia Extension

Jessica Rigelman, J7 Consulting, CBPO contractor
Joseph Delesantro, ORISE/CBPO
Kristen Hughes-Evans
Karl Blankenship, Bay Journal
Kathy Boomer, STAC/FFAR
Ken Staver UMD Wye REC
Mark Dubin, UME/CBPO
Peter Hughes
Ruth Cassilly, UMD CBPO
Sara Ramotnik, CCWC
Thomas Howard, ResolveHydro
Lee McDonnell, EPA-CBPO

Acronym List
AgWG- Agriculture Workgroup
AMT- Agricultural Modeling Team (Phase 7)
BMP – Best Management Practice
CAST- Chesapeake Assessment Scenario Tool (user interface for the CBP Watershed Model)
CBP- Chesapeake Bay Program
CBPO- Chesapeake Bay Program Office
CBW-Chesapeake Bay Watershed
CTIC – Conservation Technology Information Center
CVN – Conservation Validation Network
EPA - [United States] Environmental Protection Agency
FSA – Farm Service Agency
MLRI – Modeled Load Reduction Indicator
NRCS – Natural Resources Conservation Service
NFWF – National Fish and Wildlife Foundation
ORISE – Oak Ridge Institute for Science and Education
PADEP – Pennsylvania Department of Environmental Protection
PSC – Principals' Advisory Committee (CBP)
PSU- Penn State University
SWCD – Soil and Water Conservation Districts
WQGIT- Water Quality Goal Implementation Team
UMD - University of Maryland
USDA – United States Department of Agriculture
USGS – United States Geological Survey
USFS – United States Forestry Service