This meeting is recorded for internal use to ensure the accuracy of the meeting minutes

AGENDA
January 21st, 2021
10:00 AM-12:00 PM
AgWG Meeting Minutes

Calendar Page:
https://www.chesapeakebay.net/what/event/agriculture_workgroup_conference_call_january_2021

Workgroup Areas of Focus

Accounting & Reporting ● Implementation ● Innovation

Data & Modeling ● CBP Assignments

Summary of Actions and Decisions

Decision: The AgWG approved the December meeting minutes.

Action: Contact Charlie White (cmw29@psu.edu), Penn State with further questions and comments related to his research on cover crops receiving fall manure.

Action: Interested parties please reach out to Peter Claggett (PClagget@chesapeakebay.net) with further feedback regarding mapping and forecasting ag acres. *Peter will be returning to the AgWG in February [amendment: for more discussion] seeking a decision [amendment: in March] on the methods introduced on October 15 and further discussed this month.* Peter discussed changes to come in the way the CBP maps agricultural acres through use of high-resolution imagery with examples based on 14 prototype counties, as well as a new method for forecasting ag land to 2025. **CAST-21 Draft Workplan: Task 4**

***Decision (pending agreement on language):** *The AgWG reached consensus regarding CAST-21 Workplan Task 3: Investigate 2012-2017 Ag Census change for fallow/idle acres, recognizing that the 5-year census indicates a significant increase in fallow & idle acres within some counties in the Chesapeake Bay watershed. The AgWG acknowledges that investigation has not provided evidence to indicate that the 2017 Ag Census data is or is not reflective of on-the-ground change, therefore cannot recommend adjustment to CAST-21 model inputs at this time. The AgWG has exhausted its available resources to investigate this issue, but this decision does not preclude interested parties from pursuing further lines of inquiry and bringing information back to the workgroup for review.*

***ACTION:** **Please send objections WITH suggested modifications to the above language to Loretta Collins (lcollins@chesapeakebay.net) and Gary Felton (gfelton@umd.edu) by COB Thursday, February 4th.**

REMINDER: (Nov Action) Interested parties are asked to send additional feedback/questions/requests regarding alternate methods of forecasting agricultural data to Sucharith Ravi (sravi@chesapeakebay.net). *A decision on how to forecast ag data will be sought in early 2021*. **CAST-21 Draft Workplan: Task 2**

This meeting is recorded for internal use to ensure the accuracy of the meeting minutes

Meeting Minutes

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

- Roll-call of the governance body
- Roll-call of the meeting participants- *Please enter name and affiliation under "Participants" or in "Chat" box.*
- Approval of meeting minutes from the December 17th Conference Call
    - **Decision:** The AgWG approved the December meeting minutes.

Data & Modeling/Accounting & Reporting

N fate (45 min) Charlie White

Charlie White, Penn State, shared research on cover crops receiving fall manure that has been conducted in Pennsylvania to determine the extent to which cover crops can recover the fall nitrogen and protect against leaching losses. Data collected in the studies includes soil profile nitrate concentrations and cover crop N uptake in spring. The data suggest that cover crops are effectively scavenging fall applied nitrogen, possibly because of relatively slow leaching rates in fine textured soils.

This presentation will help inform future AgWG discussions regarding the proposal for a "Winter Crop" BMP brought forward by PA with support from NY and MD.

Discussion:

Paul Bredwell: Would you expect similar results if it was poultry manure?

Charlie White: if anything, I would expect less potential for fall poultry manure because organic N needs warmer temperatures. I would expect even less losses from fall applied poultry manure. The only trade- off is that you could have volitation losses and then the dairy and poultry manure would be on par with each other.

Steve Levitsky: Did you also sample for phosphorus and have any comments on that?

Charlie White: We did not sample for phosphorous and I am not aware of any research currently

Charlie White: cover crops can make great forage, then can be cut and bailed or put in a bunker silo. There are a lot of farms managing them in this way. If anything, it's great for protecting leaching because you have more advance boot stage. That can increase extraction of N by 40-50 lbs. That would be an extra 40- 50 Lbs. not available for the next corn crop. Generally, I think it's a good practice.

Frank Snyder: What would your thoughts be on cover crops that are harvested in the spring? Since the N credit wouldn't be realized, would we see a net decrease in the soil profile and less leaching?

Charlie White: I think we would see less leaching but less recycling in the corn. Generally, I think it's advantageous. That forage produced could offset other feed imported into the watershed.

Mark Dubin: Was the cover crop used in the demonstrations all rye cover crop, which is the more efficient of full-term cover crops? Did you look at the possible effect of other cover crops and planting dates?

Charlie White: These were all rye cover crops except for the on-farm study which had wheat, rye crimson clover. Those showed the same success (observational). We did not look at the effect of planting dates. All the studies shown had planting dates on the earlier side of things, so they were after corn silage.

Peter Hughes: How many winters was your first study conducted. Would you say that is was a "typical" (if that exists anymore) winter?
Charlie White: We only did one winter in 2018. WE have had some pretty odd precipitation patterns in 2018-19. That might have set things up differently in the cover crop phase. I feel like the winter months were fairly normal.
Mark Nardi: Was any water table sampling done or did you rely on the soils profiles to infer leaching to ground water?
Charlie White: it's all inference from the soil profiles and it all goes back to how this research operates with the limited research
Kristen Hughes Evans: This seems consistent with results observed with manure injection in the fall on dairy forage crops.
Gary Felton: Your crop yields exceeded your goal by roughly 15 Bu/ac. Is the 1:1 ratio too high? Should we think about 0.9 or 0.8 lbs N/Bu yield?
Charlie White: It is a fundamentally different way of calculating nitrogen. Under this new calculating method. The results are showing us that yes you need 0.8 but sometimes you need 1.2 or 1.3 lbs. per bushel I think our current framework is out of date.
Tim Sexton: When we were working on the last part of the Phase 6 model all the states agreed that the 1 lb. per bushel would be the baseline for corn. If you apply less than that then that becomes the new baseline. We set it up that way because so many farmers struggle to reach that. I think if we take what PA Is talking about, without having any piezometer and knowing how volatile and leachable nitrate is, I wouldn't expect to see any left at any depth.
Charlie White: I wouldn't dispute any of that information, but I would expect that those are very sandy soils. The soils we are looking at here were much loamier, with clay, and things don't move quite as fast. I wouldn't propose changing anything about that because I think it's too deeply rooted in the Bay Program. The new nitrogen system we are developing could fit in as a test. Sometimes that adaptive decision is calling for more nitrogen or less nitrogen. It's hard to take that adaptive thing and place it on a strict framework.
Ted Sexton: I agree. The PSNT test allows us to figure out the best nitrogen. We have a lot of farmers looking for that cutting edge.
Dave Graybill: As a dairy farmer, I can concur that is how it looks in actual practice. Your research looks like what happens on our farm. Great presentation! Would love to see this study done on numerous soil profiles and areas of the bay.

Action: Contact Charlie White (cmw29@psu.edu), Penn State with further questions and comments related to his research on cover crops receiving fall manure.

BREAK (5 min)

Data & Modeling

CAST-21 DRAFT WORKPLAN TASK 4

Mapping and Forecasting Agricultural Acres (20 min) Peter Claggett

Peter Claggett, USGS returned to follow-up on his October 2020 presentation to the AgWG. Fourteen prototype counties have been identified that represent a range of agricultural conditions to test, evaluate, and refine the ag mapping methods. Peter Claggett is still seeking input from the AgWG on the method and ideas presented in October and will review the schedule for land use data production and

review. ***Peter will be back to the AgWG in February 2021 to present mapping results for the 14 prototype counties and request final approval of the data and approach.***

Discussion:

Gary Felton: What is the accuracy for LIDAR elevation data? Should I use LIDAR to define "watershed" boundaries on 10,000 square foot areas?

Peter Claggett: If the LiDAR was collected before 2010 its accuracy is a little suspect. Anything after 2010-2012 should be pretty good. And 10,000 ft is very detailed. We've been able to map drainage ditches in very small areas. I would think it would work for a ¼ acre but that's a small area.

Amanda Barber: Please explain the mapped footprint of agriculture

Peter Claggett: Each of these fields would probably be separated into different segments. We look at the size of the area how much impervious there is and isn't and we look at the crop layer. If we have a large rectangular herbaceous patch of land most often that's agriculture. We rely on ancillary data to tell us if it's something else like an abandoned mine etc. The LiDAR will likely detect if the field is going back to forest and we can determine

???: In the model, a lot of the modeling is done on crop types. Are those total acres the sum of those crop types and do you have any idea if the crop types are off by that much?

Peter Claggett: that is a good question, and I can't answer if the census is less accurate or not. We would scale all crops accordingly to fit into the footprint generated at the county scale.

???: The number that is reported to NASS is the sum of all crop types?

Peter Claggett: Yes, it is the sum of crop types.

Gary Felton: please explain the treatment of a poultry house? Is it treated as agriculture?

Peter Claggett: Actually, I asked the CC to map poultry houses and they developed an AI algorithm to map those. It was really successful. They are doing a similar thing with solar panels. We will have that as an ancillary data set because right now it's not a land use. Being able to identify these for BMP purposes we wanted to start mapping them. Right now, it will get rolled up into impervious surfaces.

Gary Felton: there is a difference between how you are treating it and how the census is treating.

Peter Claggett: the census calls out buildings etc. So, I was only including pasture etc. and not the ag buildings from that census.

Paul Bredwell: They tried this kind of thing in north Georgia, how are going to take into effect houses that are no longer in service? Because that was quite a big number. I think if you want an accurate data set you would want a way to count them

Peter Claggett: that is a good point. That is one of the reasons why we are not explicitly including poultry houses in the data yet because we don't know that information yet. WE are pretty good at identifying where we have those long building and we are getting much better where we have all animal operations. But we are not incorporating right now, this will be something to explore with you all as we move into phase 7. Can this information inform management and models that everyone is comfortable with?

Loretta Collins: Whatever concerns you may should be answered by Peter and whatever you need to see to feel comfortable making a decision by February then we need to make sure that you get that information.

Amanda Barber: In reviewing some previous land use mapping there was significant discrepancy between what was considered cropland and pasture, and what we know to be actual use. In many cases cropland was considered pasture. This may be a result of long rotations with many years of hay? Pasture was missed and considered non-ag, and some urban/residential land was considered cropland. We are anxious to see and review this new mapping. Thank you.
Peter Claggett: we want to evaluate this data as objectively as possible. This is why I pull in the land units and the ag census. However, nothing is perfect so in February we are trying to put all these counties on a web viewer to give you a sense for the data. What I can promise you they will be significantly more accurate than what we did in 2013. The number one thing we are trying to correct with this new methodology is any overestimates in ag land.
Clint Gill: will we be seeing the trial county data before the decision needs to be made?
Peter Claggett: Ideally, yes, I would like to have this up before I present but we have a lot to work through before then.
Loretta Collins: I am a bit shaky on that because it might be hard to get a decision without the group having time to review the information first.
Peter Claggett: I have been struggling on what that decision is exactly too. The impact of this new methodology is not going to impact CAST as much as you think because we are only putting the change into CAST and not the total acres.
Loretta Collins: I will talk to you offline to make sure that we all know what is being asked and what need to be responded to.
Dave Graybill: will the data catch the difference between grass cropland and very large areas of mowed yards around homes?
Peter Claggett: yes, it should catch that difference. In suburban areas that is the biggest source of confusion, but we should be able to do this.
Loretta Collins: If there are any questions please send them to Peter.

Action: Interested parties please reach out to Peter Claggett (PClagget@chesapeakebay.net) with further feedback regarding mapping and forecasting ag acres. *Peter will be returning to the AgWG in February [amendment: for more discussion] seeking a decision [amendment: in March] on the methods introduced on October 15 and further discussed this month.* Peter discussed changes to come in the way the CBP maps agricultural acres through use of high-resolution imagery with examples based on 14 prototype counties, as well as a new method for forecasting ag land to 2025. **CAST-21 Draft Workplan: Task 4**

CBP Assignments

11:15 **Ag Data Concerns Review (30 min)** Loretta Collins

The CAST concerns ad hoc group has been meeting monthly since September to discuss the draft "CAST-21 Workplan" items and additional concerns that were raised by the AgWG's jurisdictional membership. Loretta Collins, AgWG coordinator, will provide an update on progress of both the Workplan and additional concerns solicited from the state jurisdictions over the summer.

Decision: The Ag Workgroup is asked to approve a *Status Update* to CAST Workplan Task 3: *Investigate 2012-2017 Ag Census change for fallow/idle acres* indicating "Task Completed."

Discussion:

Gary Felton: I would propose that we say the task is completed and no changes are recommended. If that is unacceptable let us know now.
Loretta Collins: the task was to evaluate the change to ag acres and find out information on why there was jump in acres and we haven't found anything.
Gary Felton: we have no reason to say this is why the change happened and this is what needs to be done. If there are objections to stating the above, please speak up.
Phone #: Should we say something about looking at this more at some point or just that there was a change.
Gary Felton: as a scientist I would love to say here is the direction we should go in. We do not have a direction to go but we recommend that this discrepancy be investigated further.
Mark Dubin: I was just was wondering if the work that we just saw presented by Peter is really the future for how to better describe ag land uses moving forwards if that's the direction we should be going in instead of trying to address data from USDA.
Gary Felton: As LiDAR imagery becomes more accurate it may explain this discrepancy.
Tim Sexton: at this point in time, we should let it go, but we may have answers in the future.
Loretta Collins: I can add a sentence to this decision and send it out in the recap email and if anyone has a problem with the language then they can let me know.
Paul Bredwell: I agree with that.
Gary Felton: I think I would like to do is get together with Dave Montali to discuss the ramifications.
Loretta Collins: Dave Montali was okay with this. I checked in with him.
Gary Felton: I am asking for people to raise their hand if we should not say this task is completed please do so now.
Matt Kowalski: Made a motion
Paul Bredwell: Seconded the motion
Gary Felton: We are reporting to the MB that we investigated it, we recognize it is a problem ,there is no direction to go but it should still be investigated further.

***Decision (pending agreement on language):** *The AgWG reached consensus regarding CAST-21 Workplan Task 3: Investigate 2012-2017 Ag Census change for fallow/idle acres, recognizing that the 5-year census indicates a significant increase in fallow & idle acres within some counties in the Chesapeake Bay watershed. The AgWG acknowledges that investigation has not provided evidence to indicate that the 2017 Ag Census data is or is not reflective of on-the-ground change, therefore cannot recommend adjustment to CAST-21 model inputs at this time. The AgWG has exhausted its available resources to investigate this issue, but this decision does not preclude interested parties from pursuing further lines of inquiry and bringing information back to the workgroup for review.*

***ACTION: Please send objections WITH suggested modifications to the above language to Loretta Collins (lcollins@chesapeakebay.net) and Gary Felton (gfelton@umd.edu) by COB Thursday, February 4th.**

11:45 **Nominations for 2021-2022 Term (5 min)** Chair
Time to answer any questions regarding the nomination and voting process for 6 At-Large positions open for the 2021-2022 term. Additionally, the vice- chair position is still open. Nominations are welcome to fulfill the remainder of the two-year term, ending in February

2022. The vice- chair is expected to rise the chair position for 2022-2023 term. **All nominations are due NO LATER than COB January 22nd. Submit to Hilary Swartwood (swartwood.hilary@epa.gov) and Loretta Collins (lcollins@chesapeakebay.net).**

11:50 **New Business & Announcements (5 min)**

- **COVID-19 Updates?**
- **2021 All-Bay (All-Virtual) Agriculture Network Forum**
  - The 2021 all-virtual Forum will be organized around six intensive sessions focused on critical needs and opportunities in enhancing conservation delivery for the region, as informed by NFWF's program partners, stakeholders, and the region's agricultural community. Each session will be delivered through a roughly 3-hour virtual program featuring a variety of informational presentations, panels, and case studies.
  - REGISTRATION: Click here.
- **2021 Innovative Nutrient and Sediment Reduction Grants Program**
  - The National Fish and Wildlife Foundation (NFWF), in partnership with the U.S. Environmental Protection Agency (EPA) and the federal-state Chesapeake Bay Program partnership, is now soliciting Letters of Interest for the 2021 Chesapeake Bay Innovative Nutrient and Sediment Reduction (INSR) Grants program. Click here for more info.
- **Making Cover Crops Pay Webinar Series: Using Cover Crops to Improve Soil Fertility**
  - February 10, 2021 10:00 AM - 11:30 AM: This session hosted by Charlie White will review ways to determine nitrogen credits and cover recent research from across the state. Charlie will also discuss how non-legume cover crops cycle nutrients from previous crops and manure applications.
  - https://extension.psu.edu/making-cover-crops-pay
- **Non-Urban Stream Restoration** EPEG – Next meeting early February
- **Animal Mortality** Expert Panel Report – Finalizing report, webinar announcement early 2021.
- **Other Announcements? -** send to Loretta Collins (lcollins@chesapeakebay.net) for inclusion in "Recap" email

12:00 **Adjourn**

Next Meeting:

Thursday, February 18th from 10AM-12PM: Conference Call

Call Participants

Signatory		
DE	Clint Gill	DDA
MD	**Elizabeth Hoffman**	MDA
	Bill Tharpe	MDA
NY	**Greg Albrecht**	NY Dept of Ag & Markets
	Amanda Barber	NY Cortland County SWCD
PA	**Frank**	PA SCC
VA	**Tim Sexton**	VA DCR
WV	**Cindy Shreve**	WVCA
WV	Matt Monroe	WVDA

This meeting is recorded for internal use to ensure the accuracy of the meeting minutes

CBC	**Marel King**	(PA Office)

At-large		
	Paul Bredwell	**U.S. Poultry and Egg Assoc.**
	Jeremy Daubert	**Virginia Tech**
	Emily Dekar	**USC**
	Peter Hughes	**Red Barn Consulting, Inc.**
	Gurpal Toor	**UMD**
	Kendall Tyree	**VA SWCD**
	Evin Fitzpatrick	**Country View Family Farms**
	Dave Graybill	**Farm Bureau (dairy)**
	Matt Kowalski	**CBF**
	Ken Staver*	**UMD**

Loretta Collins, UMD
Hilary Swartwood, CRC
Charlie White, PSU
Kristen Saacke Blunk, Headwaters LLC.
Bill Angstadt, Angstadt Consulting
Cassie Davis, NYSDEC
Curt Dell, ARS
Elliott Kellner, WVU
Gary Flory, VA DEQ
Gary Felton, UMD
John Clune, USGS
Karl Blankenship, Bay Journal
Kristen Hughes Evans, Headwaters LLC
Mark Nardi, USGS
Mark Dubin, UMD
Ruth Cassilly, UMD
Steve Levitsky, Perdue Farms
Ted Tesler, PA DEP
Tyler Groh, PSU
Katie Walker, Chesapeake Conservancy
Jeff Sweeney, EPA-CBPO
Patrick Thompson, EnergyWorks

This meeting is recorded for internal use to ensure the accuracy of the meeting minutes