Meeting Minutes
Oct 15, 2020
10:00 AM-12:00 PM
AgWG Conference Call

Summary of Actions & Decisions:

- **Decision:** The AgWG approved the September meeting minutes.
- **Decision:** The AgWG approved Elizabeth Hoffman, MDA (primary) and Bill Tharpe, MDA (alternate) signatory representatives for MD.
- **Action:** Interested parties please reach out to Olivia Devereux (olivia@devereuxconsulting.com) with further feedback regarding double cropping calculation methods.
- **Action:** Interested parties please reach out to Peter Claggett (PClagget@chesapeakebay.net) and Jacob Czawlytko (jczawlytko@chesapeakeconservancy.org) with further feedback regarding mapping and forecasting ag acres. Peter will be returning to the AgWG in early 2021 seeking a decision on the methods introduced today.
- **Action:** AgWG members and interested parties are asked to review materials and send feedback to Loretta Collins (lcollins@chesapeakebay.net) and Gary Felton (gfelton@umd.edu) with additional feedback regarding today's discussion of CAST concerns by **COB Friday November 6th.**

Welcome, introductions, roll-call, review meeting minutes   Workgroup Chair
- Roll-call of the governance body
- Roll-call of the meeting participants
- Approval of meeting minutes from the September Conference Call

New Signatory Member Selections
Chair Gary Felton will introduce new Signatory Member appointments.

Maryland:
Primary - Elizabeth Hoffman, MDA
Alternate - Bill Tharpe, MDA

DECISION: The AgWG approved the September meeting minutes.

DECISION: The AgWG approved Elizabeth Hoffman, MDA (primary) and Bill Tharpe, MDA (alternate) signatory representatives for MD.

Data & Modeling

CAST-21 DRAFT WORKPLAN TASK 4/5
Double Cropping Method and Total Agricultural Acres (20 min)   Olivia Devereux

Olivia Devereux, Devereux Consulting, presented the method and sources of data for estimating acres for the double cropped land use and overall agricultural acres. She reported out on recommendations from NASS on both of these topics. NASS indicated that the double cropping method was reliable and recommended using spatially explicit data rather than Ag Census summed acres for the total agricultural area rather than summing each crop and pasture type.

Summary of Questions/Discussion:
- **Ted Tessler:** You mentioned that as an example double-cropping vegetables does not count or is not included in this model of double cropping. Can you give a quick list of what does count? I know you mentioned the corn-wheat-bean model, but is that the only model that counts towards double cropping?
- **Oliva Devereux:** Yes, so the vegetables are important only because we sum those up for as part of the total agricultural cropland. The crops that are double cropped are corn, beans, and small grains (including wheat). Since we are comparing it to the total cropland area that total vegetables comes into play when we are looking at the total cropland area which is a sum of all the crops planted. So, we add in the vegetables because that is a crop that is planted but it is not double cropped. The double cropped is corn, sorghum, soybeans vs. small grains.
- **Ted Tessler:** Great, thank you.
- **Gary Felton:** I have a clarifying question. We are using spatially explicit data only for looking at ag land, correct? We are not using all that they have available, correct?
- **Olivia Devereux:** Right, their expertise is the cropland data layers for ag land. Peter Claggett will talk about the other sources of information that he is going to use.
- **Gary Felton:** Sounds good, thank you.

ACTION: Interested parties please reach out to Olivia Devereux (olivia@devereuxconsulting.com) with further feedback regarding double cropping calculation methods.

CAST-21 DRAFT WORKPLAN TASK 4
Mapping and Forecasting Agricultural Acres (45 min)   J. Czawlytko and P. Claggett

Jacob Czawlytko (Chesapeake Conservancy) illustrated how the CBP will be mapping agriculture for 2017 and remapping it for 2013 with high-resolution imagery. He demonstrated how these methods are better than what has been used previously. Fourteen prototype counties have been identified that represent a range of agricultural conditions to test, evaluate, and refine the ag mapping methods. Peter Claggett (USGS) and Jacob requested input from the AgWG on the method and ideas presented. Peter presented the schedule for land use data production and review. He also presented new methods for forecasting agriculture to 2025. 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.

Summary of Questions/Discussion:
- **Dave Montali (chat):** Will the chicken houses in West Virginia be identified?
- **Jacob Czawlytko:** Yes, they should be. We had pretty good success in WV. NY had less results, but I want to compare what those results looked like in the Ag Census to see how closely they match up. We had the data actually delivered last night around 1 AM from our colleagues at Microsoft so we hope to dive into the results a little bit better as time goes on.
- **Steve Levitsky:** How do you verify if the houses are actually in use or abandoned as CAFOs? **(chat)**

- **Jacob Czawlytko:** There is not currently a method for that. The algorithm bases it mostly on spectral imagery and geometric patterns picked up by AI models. It does not pick up older chicken houses with rusted roofs, but I understand that is not necessarily the best indicator of whether the house is operational or not. If there is a dataset out there that we could use to help verify these types of things that would be really awesome but, in the meantime,, we just have – is there a chicken house, yes or no? But I am happy to look into anything that anyone has a suggestion on with how to solve that.
- **Peter Claggett:** Poultry houses is not part of our land use. It will not necessarily be a feature in our land use but when you are looking at this to explore not just poultry houses but really the identification of AFOs for CAST23. We are excited about these AI methods for detecting CAFOS and we will be monitoring this overtime so we can look at new chicken houses from 2013-2017 assuming that those are probably occupied. It is going to be interesting because I think that some of the fallow issues that have been discussed in WV may be associated with a significant growth of poultry houses in the state.
- **Frank Schneider (chat):** How do chicken houses differ from a turkey house or a swine building. We need to be careful with our terminology both chicken and turkey equal poultry but are the shapefiles different if you are talking about swine vs. poultry?
- **Jacob Czawlytko:** Currently, we do not have a great way to differentiate between the two. We have been colloquially calling the chicken houses but likely it would be poultry houses. I am wondering if there is anyway to tell with remote sensing data and the geometry of that building. Maybe or maybe not but we could also bring in another dataset to help differentiate these. This is very new data to us and there are a lot of questions we still need to ask so I appreciate the input on how to use better terminology.
- **Mark Nardi (chat):** The USGS has used 'old fashioned' heads up digitizing techniques to map poultry feeding operations on the Delmarva Peninsula, you may find it helpful - here's a link to the dataset: https://www.sciencebase.gov/catalog/item/5e0a3fcde4b0b207aa0d794e. The USGS dataset used ancillary observable facets to ID out of use operations.
- **Jacob Czawlkytko:** Mark, we actually used that dataset as training data for the AI model and it worked very well in my opinion while I am not in an expert in agricultural structures from land use terms I think it looks pretty good.
- **Greg Albrecht (chat):** Could you further overview how pastures are differentiated from perennial hayfields?
- **Jacob Czawlkytko:** Yes, it is part of the classification scheme that we pulled from NLCD. We included that in the reclassification, correct Peter?
- **Peter Claggett:** Yes, but we are not differentiating from pasture and hay in NLCD they are lumped together, NASS has said it is very difficult for them to differentiate. They don't have a lot of confidence in that differentiation, so we are in a sense lumping them together.
- **Mark Dubin (chat):** There are producers who raise multiple species of livestock, including both poultry and swine at the same location.
- **Jacob Czawlkytko:** Yeah and we will not be adding that into this data set until we have something much more refined. We are just using that dataset to help us identify which lands are agricultural. We are not saying there are chickens in the land use, we are just saying – we know there is a building that is likely some kind of animal in an agricultural setting. As Peter mentioned, in later datasets we hope to include that but, in the meantime, we are not differentiating.
- **Dave Graybill:** So, this data would eliminate the problem of slope which gives different acres vs a flat view from above on a map?

- **Peter Claggett:** So, our data are flat in a sense. We are using the aerial imagery and there may be some nuances due to slope but nothing as severe as what would be affecting our 30M data or any other dataset we used to assess acreage. The Bay Program has currently never used slope projections to get a flattened view of the watershed. We do not have plans to do that now.
- **Ken Staver:** On our last call there were concerns about certain state's loads going up because when they couldn't find somehow in the cropland acres, they just took it out of forest. So, you had these acres that were getting forest loads that were now getting ag loads. You are basically saying that you are going to take care of that issue, is that correct?
- **Peter Claggett:** Yes, whatever is mapped as forest or tree we will count as a tree. That is what we thought would be the case when we came up with the data in 2013 but as the need for the true-up method arose at the time we had to abandon the claim that every tree we mapped counts. We will not be adjusting trees and forest acres because everything has to be something on the map. It is categorical so we will just keep the ag footprint that we have on the map.
- **Ken Staver:** That is really a good thing, so I'll go with that. My second question was on the back-casting. I understand why we have to forecast because we don't know the future yet but with the back-casting I am unclear what you are trying to do there.
- **Peter Claggett:** Here is the problem. Over my 20-year career the problem with mapping land is low density residential development. It is not apparent in our historical data. The historic data that everyone in the country uses misses low density residential. That is where a lot of the action is happening in terms of loss and conversion of forest and farms. That is where our high-resolution data can capture that segment. Using the parcels and the LC map, we can intelligently look back through time.
- **Ken Staver:** Okay, thank you!
- **Loretta Collins:** Just to clarify with Peter in terms of the schedule, you are presenting to us what you are thinking about doing moving forward and eliminating the true-up method used previously and you are looking to come back to the AgWG in February?
- **Peter Claggett:** Yes, February timeframe we would like to come back with full county data for the 14 counties and then we will be asking for formal approval of the data and methodology for those 14 counties which will then be applied across the board to the two hundred counties. We also at that point will be asking formal approval for using the formal footprint of agriculture in place of the true-up for the ag footprint. The reason we are coming to you today is because if you have anxieties or issues about this method and you are panicking like this is a horrible idea – now is the time to tell us. We will be working hard over the next four months to finish this and we don't want to hear something later that we could have heard today.
- **Loretta Collins:** I wanted to make sure that point was hammered home because I know with every decison we make at the partnership there is always a little bit of, "What is this going to do to us later?" and that is a reasonable anxiety to have. I just want everyone to keep that in their frame of reference and think about this after the meeting. If you have issues or questions – take them to Peter and Jacob and take them to Gary or I so we can get those things talked about before they come back and we have to say yes or no. The final decision is the LUWG but it is imperative they have AgWG approval on this.

ACTION: Interested parties please reach out to Peter Claggett (PClagget@chesapeakebay.net) and Jacob Czawlytko (jczawlytko@chesapeakeconservancy.org) with further feedback regarding mapping and forecasting ag acres. Peter will be returning to the AgWG in early 2021 seeking a decision on the methods introduced today.

- **Gary Felton:** Peter I suspect you are going to need two things including a real clear explanation for people of how the things that you are proposing have been ground-truthed and include the method and quality of this data to ensure that this is correct. In addition, expect for people to ask you what the change in the nutrients will be that they will need to consider.
- **Peter Claggett:** In some counties we will map more agriculture than we have before, but it will be more correct, and I will provide evidence for that. In other counties, it will be less.
- **Mark Symborski:** As you (Peter Claggett) and I have discussed in the past, your ag census combined with the land use model to predict urbanization is not going to work for Montgomery County because so much of our ag land is protected. You look at it, you see it, it is agriculture on the satellite imagery, but you cannot build on it. We provided the state and you (Peter) with GIS data that indicates what ag land is potentially urbanizable and what is not. Do you still have that, and will it be used to correct for Montgomery County?
- **Peter Claggett:** We should have an offline conversation to discuss that further.

BREAK (5min)

Prioritization of CAST Concerns (35 min)   G. Felton & L. Collins

On its July call, the AgWG agreed to form and ad hoc group to discuss concerns raised by states regarding CAST. On Oct 9th, the ad hoc group had its 2ⁿᵈ meeting to discuss the "CAST-21 Workplan" items and prioritize additional concerns that were raised by the AgWG's jurisdictional membership. Gary Felton, Chair, and Loretta Collins, coordinator, discussed the results of that discussion and solicit feedback from the AgWG.

Resources to further understand the CAST concerns, priorities, and actions can be found on the AgWG Calendar Page in the "Reference Materials" Zip Folder. The reference materials include pertinent information for each of the issues that came up from the states (not Bay Program published). The sheets have background, effectiveness estimates where relevant, possible NRCS codes, suggested actions, challenges, leads, timelines, and WIP information.

Summary of Questions/Discussion:
- **Matt Kowalski:** I know there was a group in MD using some satellite imagery to do some verification for cover crop is that something that would fall into the category 8 that was looking into verification?
- **Loretta Collins:** I think so, Vanessa do you have any insight on that?
- **Vanessa Van Note:** In terms of deliverables for the ad hoc team we are solely dealing with credit duration and partial credit. But, if you want to email me what satellite imagery is being used and what the intention is with the cover crops I would really like to take a look at that because that is something we would like to delve further into after our preliminary focus.
- **Loretta Collins:** It would be great if we could use some of that data for verification. Obviously, we have a verification ad hoc group because it turned out to be a little bit of a challenge. I also want to note we do not have a decision on the AgWG right now, but I want you to leave here today feeling comfortable that we are moving forward and listening to state's concerns.
- **Loretta Collins:** I apologize that we did not have more time for this. I am going to give an update to the WQGIT of where we are. Does anyone have any burning concerns? Most of this had to be done last Friday so the turnaround time is tight.

- **Bill Angstadt:** What is the timeline to move to WQGIT decisions on amendments to CAST21 Workplan?
- **Loretta Collins:** I have been told that there is no time on the October agenda for this. You will see on the timeline [in the presentation powerpoint] that we have a quick update on October 26th and can give an extended update during their November meeting and by that time we would have met again and you all will have the opportunity to talk instead of me.

ACTION: AgWG members and interested parties are asked to review materials and send feedback to Loretta Collins (lcollins@chesapeakebay.net) and Gary Felton (gfelton@umd.edu) with additional feedback regarding today's discussion of CAST concerns by **COB Friday November 6th.**

New Business & Announcements (5 min)
- **Non-Urban Stream Restoration** EPEG – In progress
- **Animal Mortality** Expert Panel Report – Finalizing report
- **At-Large AgWG membership**
  - 6 At-Large positions will be ending their two-year terms in February 2021. Start think about possible nominees. Governance here.
- November 16 - 20, 2020 VIRTUAL **Mid-Atlantic Crop Management School**
  - Registration is OPEN
- **NE SARE Farmer Grant applications**
  - The Northeast Sustainable Agriculture Research and Education (SARE) Program has released the call for 2021 Farmer Grant applications. Proposals are due online by **Nov. 17, 2020** at 5 p.m. ET.
- **SE SARE 2021**
  - On-Farm **Research Grant** Call for Proposals: submission deadline: **Dec. 4, 2020** at 12 p.m. EST.
  - Producer Grant Call for Proposals: submission deadline: **November 13, 2020** at 12 p.m. EST
- **Other Announcements? -** send to Whitney for inclusion in "Recap" email
  - **Kristen Saacke Blunk:** I wanted to give all of you a heads up that you should be hearing very soon from the National Fish and Wildlife Foundation about the upcoming 2020-21 Ag Networking Forum. Every 2-years NFWF has convened an all-bay networking forum. Loretta has been great to have onboard with the planning team as have a number of you from across the region.

ACTION: Please send Loretta Collins and cc' Gary Felton with any relevant COVID-19 Updates that you would like to share with the group.

Review of Action and Decision Items and Adjourn (5 min)   Whitney Ashead
Whitney Ashead, CRC, will review action and decision items from the meeting.

Next Meeting:
Thursday, November 19, 10AM-12PM: Conference Call

Participants

Loretta Collins, UMD
Gary Felton, UMD
Whitney Ashead, CRC
Ken Staver, UMD
Matt Kowalski, CBF
David Graybill, PA Farm Bureau & Dairy Operator
Christian Richter, U.S Poultry & Egg Association
Jeremy Daubert, VT
Emily Dekar, Upper Susquehanna Coalition
Clint Gill, DDA
Elizabeth Hoffman, MDA
Bill Tharpe, MDA
Frank Schneider, PA SCC
Cindy Shreve, WVCA
Seth Mullins, VA DCR
Marel King, CBC
Gary Flory, VA DEQ
Kristen Saacke Blunk, Headwaters LLC
Jacob Czawlykto, Chesapeake Conservancy
Olivia Devereux, Devereux Consulting
Steve Levitsky, Perdue Farms
Katie Walker, Chesapeake Conservancy
Vanessa Van Note, EPA
Arianna Johns, VADEQ
Elliott Kellner, WVU
Kate Bresaw, PA DEP
Ron Ohrel, American Dairy Association North East
Ruth Cassilly, UMD
Tyler Groh, PSU
Mark Dubin, UMD
Lori Brown, DE DNREC
Rachel Soobitsky, Chesapeake Conservancy
Shelly Aprill, MD Dept. of Planning
Patrick Thompson, EnergyWorks Group
Patricia Gleason, EPA
Karl Berger, MWCOG & LUWG Chair
Amanda Barber, NY-Cortland SWCD
Jeremy Hanson, VT
Sally Claggett, USFS & Forestry Workgroup
Mark Nardi, USGS

Dave Montali, Tetra Tech
Greg Albrecht, NYS Dept of Agriculture & Markets
Peter Claggett, USGS
Bill Angstadt, Angstadt Consulting
Ted Tessler, PA DEP
Jason Keppler, MDA
Sarah McDonald
Mark Symborski, Montgomery County Planning Dept.
Kendall Tyree, VASWCD
Jeff Sweeney, EPA
Labeeb Ahmed, Attain