MEETING MINUTES
Nov 19th, 2020
10:00 AM-12:00 PM
AgWG Conference Call

Calendar Page:
https://www.chesapeakebay.net/what/event/agriculture_workgroup_conference_call_november_2020

Summary of Actions & Decisions:

- **Decision:** The AgWG approved the October meeting minutes.
- **Action:** Interested parties contact Scott Ator (swator@usgs.gov) with further questions and comments regarding the USGS study on factors affecting N and P trends in non-tidal streams.
- **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**

- **REMINDER:** (**Oct 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 on October 15.* Jake and 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**

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 Oct 15th Conference Call

DECISION: The AgWG approved the October meeting minutes.

Data & Modeling

Factors Driving Non-tidal Nitrogen & Phosphorus Trends (30 min) Scott Ator

Scott Ator, USGS, discussed the agricultural aspects of USGS research and synthesis through the early 2010s, recently released in the Journal of Environmental Quality: *Factors driving nitrogen and phosphorus trends in non-tidal streams of the Chesapeake Bay watershed*. Further feedback and questions after today's meeting can be directed to Scott (swator@usgs.gov).

Questions/Discussion:

- **Kelly Shenk (chat):** Are these trends playing out this year? Your date is from 2010's, so looking for what is happening today.

- **Scott Ator:** This review does not reflect what is going on recently. As far as more recent trends I would have to look towards others that have been looking at recent trends. I do not personally have that other information.
- **Paul Bredwell (chat):** What is the source that indicates poultry production doubled?
- **Scott Ator:** The source is in the publication by Jennifer Keisman, I think we said they increased by 50% , thelink is included in the report.
- **Alex Soroka (chat):** I don't remember who asked about poultry production numbers. The poultry population numbers are from the USDA census of Agriculture. Results were compiled by Lamotte in 2015 and cover 1950-2012.
- **Jeremy Daubert (chat):** Do non carbonate areas include all karst areas and where are they all included from this study? This would be a large amount of exclusion.
- **Scott Ator:** Carbonate areas are underlaying carbonate rocks which would include karst areas. Looking at agriculture, the vast majority of agriculture is in non-carbonate settings. I am not sure what you mean by exclude. It was not excluded from the story. We looked at nutrient trends differently in the carbonate and non-carbonate settings, so they were not excluded from the study. If that is still unclear, please feel free to send me an email.
- **Joel Clune:** None of the reports or models the summary paper was are based on excluded karst carbonate or non-carbonate settings from their analysis so there was no exclusion.
- **Doug Moyer (chat):** Here is a link to the latest NTN Loads and Trends for the period 2009-2018: https://va.water.usgs.gov/storymap/NTN/
- **Doug Moyer (chat):** The link to the latest NTN load and trend results is for a Story Map that allows you to navigate the results and obtain our current understanding for these trends.
- **Marel King (chat):** What is the theory for the increasing P yields? I think your charts were showing that the P overall was increasing overtime.
- **Scott Ator:** In the overall flux of the Bay?
- **Marel King:** Yes
- **Scott Ator:** That is driven by the Conowingo Reservoir.
- **Dave Graybill (chat):** Were there temperature trends in the info you gave us for the time period covered?
- **Scott Ator:** We did not look specifically at temperature trends. That could be another study.
- **Gary Felton:** The WQIA (Water Quality Improvement Act) of 1998 implemented nutrient management in MD and subsequent states are still refining nutrient management. The MD Fertilizer Use Act of 2011 limited turf fertilizer to zero P and the act only covered MD but the fertilizer producers sell the same fertilizer to the entire mid Atlantic so there is 0 P in the turf fertilizers. Will trends in your modeling work reflect that in the future?
- **Scott Ator:** Our modeling work reflects the net effects of what is going on in the watershed. It would be difficult to tease out something specific like that based on how we have done the model. I can't say specifically whether the trends we are seeing or not seeing are the cause of that. It's really the overall effect of everything that is going on in all the catch points.
- **Gary Felton:** All of those changes would occur post-2012 so I am wondering about the future modeling work. Not necessarily this part here.
- **Scott Ator:** Yeah, so the data here would not be affected by that.
- **Ruth Cassilly:** Can you explain why increase in temperature and precipitation would decrease N delivery to Bay is that because of increased N uptake by plants and bacteria?

- **Scott Ator:** We are not exactly sure why increasing temperature reduces or may reduce nitrogen flux to the bay. It could be due to increases denitrification and uplands. It could be due to increasing ammonia volatilization (this is speculative) but I don't know if we are exactly sure why that correlation might exist.
- **Kelly Shenk:** I just wanted to thank Scott for this presentation and to let the workgroup know that USGS, NRCS, and EPA are working together to develop a set of recommendations for our senior leadership on how we can enhance our work and make the linkage between agriculture conservation practices and how it is benefiting the local water quality of our streams and the Chesapeake Bay. We have been having several meetings with our federal agencies to review data like this as well as some more fine scale assessments where USGS and NRCS and others are trying to make this link between ag conservation work in ag dominated watershed and how it is affecting and improving water quality. I think we will be able to come to the AgWG and present some of the opportunities we have identified to enhance that work. We feel like it is really important since a huge part of the WIPs are on agriculture so demonstrating how these practices have an effect on water quality is growing more and more important. Loretta and Gary, I hope to work with you on when we might be able to find a time to present some of the opportunities we identify over the rest of this year.
- **Loretta Collins:** That would be great, Kelly.
- **Gary Felton:** Kelly, when you mentioned all of the federal agencies in there I did not hear USDA. Are they in there?
- **Kelly Shenk:** Yes, NRCS is in there. We have a water quality monitoring team and one focused on ag conservation funding to coordinate pots of money to make it easier for partners to access. We can come back and present on those sometime in the early part of next year. The states, universities, and other partners play a huge role in this so this is just a starting point on federally what we think we could do together but it would be a great opportunity to engage the full workgroup on some of these opportunities.
- **Loretta Collins:** Thank you Kelly, that is great. Thank you, Scott, for coming to talk with us.
- **Dave Graybill (chat):** Kelly, excellent comments. I am on that EPA committee, FRRCC. What you commented about is the type of info our committee may be interested in using in our recommendations to the EPA administrator.

ACTION: Interested parties contact Scott Ator (swator@usgs.gov) with further questions and comments regarding the USGS study on factors affecting N and P trends in non-tidal streams.

CAST-21 DRAFT WORKPLAN TASK 2

Forecasting Agricultural Trends (30 min) Sucharith Ravi

Sucharith Ravi, UMCES, will present findings from investigations on alternatives to the current methods for forecasting agricultural land uses and animals and propose options for partnership consideration. Feedback is requested from the AgWG to direct further investigation and subsequent presentations. Should the AgWG wish to change forecasting methods for CAST-21, a decision for such a change will be requested in March 2021 to allow for timely consideration in other relevant workgroups and the Water Quality GIT.

Questions/Discussion:

- **Loretta Collins:** I just want to make sure that everyone understands the current forecasting method is double exponential smoothing and Sucharith has gone through a lot of work to figure out if there is a better method to do this. The caveat is that we will have to pick one method and it is not going to be perfect for every crop, all data, in every county. The states probably need to delve into this a little bit and think about it to identify another method or just to do what we have already been doing with double-exponential smoothing. If there is anything else, he should look into he can do that. But if we are going to make a change that decision should be made in the AgWG in late winter or March so that it can be ready for CAST-21.
- **Greg Albrecht (chat):** My sense / local observation from NY is the very high grain prices around 2011-12 led to the upward tick in grain acres on fields not usually used for grain and lower prices have since returned those fields to forage production. Guessing 2012 census data is causing an issue for NY.
- **Ken Staver:** Following up on what Greg said which is the heart of the problem and why you will not get a perfect method is because there are numerous global forces that drives what agriculture does. Without being able to predict corn and milk prices you cannot nail down a statistical method that is going to work that well. I think you need to take a general view of this and not get hung up in it.
- **Greg Albrecht:** I know this probably doesn't help us until 2025 but what would the second method look like with for instance more conventional acreage from NY without 2012 as an estimate what it might be. That is sort of fantasy land because of Ken's comment but it would be interesting to see how the new methods react or rule out the anomaly of 2012.
- **Sucharith Ravi**: I think it is possible to project to 2025 with any of those methods. At that point it would be more of a guessing work. But if that is something you want to look into I can create those datasets using all these four methods and see whether we are going on an upward or downward trend for some of these crops.
- **Clint Gill:** Our issue isn't really on projection or on corn it is more-so on double crop and full-season soybean. We don't think our switch from full season soybeans to double crop soybeans in 5 years is real. We don't think our farming practices have changed that much. We don't think the projection is bad we just think this is a "bad" ag census. I mean to say I don't know that happened.
- **Sucharith Ravi:** The census is the source data that we use for the majority of this crop and animal numbers and if there is a mistake in the census information itself I don't think my projection can fix that. But yes, double cropping is another issue and I think Loretta or Olivia can speak on that. But, there is another key action item for that and I'm not sure what the status is on that.
- **Loretta Collins:** I will get to that later. The status is that Olivia has presented on it twice and we don't really have any other ways to do it at this point. Olivia hasn't gotten any other feedback on ways to do this and she has talked to NASS. At the end of the day Sucharith's reference [point] is the ag census and we know there is some concern on this but I do not know what we can do about that constructively at this point.
- **Gary Felton (chat):** Is there any document to explain Double Exponential Smoothing?

- **Sucharith Ravi:** Yes, documentation is part of the model. I actually took a snip of that for this presentation.
- **Dave Graybill:** Do we have multiple persons looking at this math problem across all of our different land grant universities?
- **Sucharith Ravi:** I am not sure if we do.
- **Loretta Collins:** This is one of the problems we face when we all focus in on our own piece of the puzzle, that is a good question though Dave. That said, what Sucharith does is based off of a lot of decisions in the past.
- **Clint Gill (chat):** I just wanted to add that DE is perfectly happy with the current projection
- **Emily Dekar:** Is part of the issue with the Ag Census data, the way that the questions are actually asked? So landowners are answering using a different thought process from census to census?
- **Loretta Collins:** Good question. From my sense of what I have heard from Dave Montali and Olivia, from NASS's perspective they have not really changed any of the language from 2012-2017 so they don't see why it would be any different but then again we are all human so the way that someone may interpret and read the question could change from year to year. I do think this is very important that the ag census is as accurate as it can be.
- **Dave Graybill (chat):** Double crop bean became economical in the year 2012 due to a spike in bean prices above $15/ bu. I think the residual affect of those 3 years of extremely high prices paid for beans out of the field from 2012 - 2015 affected bean acres everywhere in the US. The data is out there to suggest it.

- **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**

Prioritization of CAST Concerns (35 min) Loretta Collins

The CAST concerns ad hoc group has been meeting monthly since September to discuss the draft "CAST-21 Workplan" items and prioritize additional concerns that were raised by the AgWG's jurisdictional membership. Loretta Collins provided status updates to the CAST-21 Draft Workplan and additional concerns related to the Chesapeake Assessment Scenario Tool (CAST) and ag data watershed model inputs. The AgWG CAST Concerns ad hoc group has continued to meet monthly to discuss and decide next steps for concerns expressed by the jurisdictions over the summer. The resulting effort is summarized in the updated "AgWG Updated State Signatory CAST Concerns, Nov. 2020" table available on the Nov calendar page. Some concerns have been resolved and need no further action. The Ad Hoc Cast Concerns group recommended maintaining a living document to keep track of jurisdictional concerns related to 2-year CAST updates and the post-Phase 6 version of the model (long-term issues), which will be posted in the AgWG homepage. No concerns were expressed regarding the recommended next steps of the ad hoc group. Loretta will update the Water Quality Goal Implementation Team on its November 30 call.

Questions/Discussion:

- **Dave Montali:** Basically, I talked with Peter and we will just have to see. He is taking his new methods in test 14 counties, two in WV. We will have to wait to see how those methods shake out and whether they really will make any changes to what we think it

wrong relative to this idle crop land. Looking into this he also noticed that the number of farms from 2012-2017 has a 50% increase across the WV counties. He has a suspicion that Ag Census reporting may be related to other issues like tax issues that are going on and subsequently influencing how they report land. Peter said that since we have the parcel data now those kinds of things may jump out at us. It is just a wait and see. I am kind of in agreement that there is nothing else we can do with NASS and since I haven't gotten any feedback I suspect no one has a good real-world possibility as to why idle crop land has increased across WV so we will just wait and see what happens as those things get sorted out.

- **Loretta Collins:** Okay, Dave. Thank you for sharing that. I want to leave the floor open for all of you.
- **Bill Angstadt:** As I said on the ad hoc the way we now have it focused, I do not think we need to recommend any changes or additions to the CAST-21 workplan. I think we are in-sync with this matrix and approach in parallel with what has been presented by the modeling team for the CAST-21 workplan.
- **Loretta Collins:** One of the things that came up in the ad hoc was that we have a working document now that documents and tracks all concerns or what the states are looking for in future CAST models and potentially the next phase. This showcases that there is work going on behind the scenes. Please understand that. I broke all these things down and have taken notes. A while back we had a rolling timeline with all the BMP expert panels. It was on the home page. I am happy to have something like this up here so that the states know behind the scenes where it makes sense, we are really trying to figure things out or come to a common understanding.
- **Gary Felton:** Please go ahead and put this up on thehomepage.
- **Clint Gill:** This is probably a question for the modelers. In terms of manure transport and getting into sub-watershed. I have noticed when I try to report nutrient management plans on a county level and then go to the watershed level, we lose a lot of acres because basically the model has acres in that watershed and if you exceed the acres in that watershed for plans that you reported it falls out. So, its better to just report at the county level. Is that the same with manure transport?
- **Dave Montali:** I think the reporting is from a county to a county for manure transport and you have an option for "out of Chesapeake Bay Watershed". I do not think you have an option for going higher resolution than county.
- **Clint Gill:** Right, but isn't that one of the things we are talking about in this plan is going watershed to watershed.
- **Loretta Collins:** This is one of those long-term issues. We need to confer with the modeling workgroup because I know there is not a lot of discussion beyond the modelers what Phase 7 might look like but they are looking at finer scales and sub-watershed but that is one of the things we need to flush out in the coming months.
- **Bill Angstadt:** If Phase 7 goes to a finer scale. Right now, manure is county average so if you have an instance where a single farm has excess manure and then transfers that manure to a farm five miles away that might have a deficit, there is currently no way to report that as a practice within the county.
- **Loretta Collins:** Right, that is the crux of the matter and we will have to work with the relevant people to figure out how we might be able to do that moving forward but that is a long-term discussion. We are going to maybe within the next months have to start thinking about process we need for some of these things.

- **Clint Gill:** I feel like maybe we should see if that is actually going to make a difference in the model because I don't know that the model works that fine.
- **Loretta Collins:** Yeah and I'm not sure of the nature of how much finer that will be in the future.
- **Dave Montali:** We definitely cannot do anything in Phase 6 but as you move forward to consider how we could do this in Phase 7 you have to look at other nutrient inputs so it is going to be a tough challenge.
- **Loretta Collins:** Yes we will just have to keep talking about it. We will talk more about this in the ad hoc, AgWG, and modeling group moving forward. Are there any other thoughts on providing this update to the WQGIT on November 30th?
- **Gary Felton:** Loretta, I get a feeling that you did a really good job parsing out what we can take action on and what we cannot.

New Business & Announcements (10 min)

- **Updates on Impacts of COVID-19**
  - **Financial Assistance through the USDA CFAP 2 Program Webinar:** providing producers with financial assistance that gives them the ability to absorb some of the increased marketing costs associated with the COVID-19 pandemic.
    - **Thu., Nov. 19, 2020 Thu. 8-9:30 AM ET**
    - Registration is required to receive the link to access the webinar.
    - Registrants will also **receive access to the webinar recording**.
- **6 At-Large members will be ending their two-year terms in February 2021.** Start thinking about possible nominees. Governance **here.**
- **BMP Verification Ad Hoc Action Team**
  - Leadership vote results: Elliott Kellner (WVU), Chair; Jason Keppler (MDA), Vice-Chair
- **Non-Urban Stream Restoration** EPEG – In progress
- **Animal Mortality** Expert Panel Report – Finalizing report, webinar announcement soon.
- Press Release: **Chesapeake Bay dead zone smaller than in recent years**
- **SE SARE 2021**
  - On-Farm **Research Grant** Call for Proposals: submission deadline: **Dec. 4, 2020** at 12 p.m. EST.
- **Other Announcements? -** send to Whitney for inclusion in "Recap" email

11:55 **Review of Action and Decision Items and Adjourn (5 min)** Whitney Ashead

Whitney Ashead, CRC, will review action and decision items from the meeting.

- **Decision:** The AgWG approved the October meeting minutes.
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Next Meeting:

Thursday, December 17, 10AM-12PM: Conference Call

Participants:

Loretta Collins, UMD CBPO
Gary Felton, UMD
Whitney Ashead, CRC
Ken Staver, UMD
Matt Kowalski, Chesapeake Bay Foundation
David Graybill, PA Farm Bureau, Dairy Operator
Paul Bredwell, U.S Poultry & Egg Association
Jeremy Daubert, Virginia Tech
Emily Dekar, Upper Susquehanna Coalition
Kendall Tyree, Virginia SWCD
Clint Gill, DDA
Elizabeth Hoffman, MDA
Bill Tharpe, MDA
Frank Schneider, PA State Conservation Commission
Cindy Shreve, WV Conservation Agency
Seth Mullins, VA DCR
Marel King, CBC
Kelly Shenk, EPA
Matt Monroe, WVDA
Mark Nardi, MD-DE-DC WSC USGS
Ruth Cassilly, UMD
Kristen Saacke Blunk, Headwaters LLC
Ron Ohrel, American Dairy Association North East
Karl Blankenship, Bay Journal
Pat Thompson, EnergyWorks Group
Elliott Kellner, WVU
Tammy Zimmerman, USGS PA WSC
Mark Dubin, UM CBP Senior Agricultural Advisor
Steve Levitsky, Perdue Farms
Doug Moyer, USGS VA-WV WSC

Sucharith Ravi, UMCES CBPO
Alex Sokora MD-DE-DC WSC USGS
James Webber, USGS VA-WV WSC
Bill Angstadt, MA3RA, Angstadt Consulting
John Clune, USGS-PA
Joel Blomquist, USGS MD-DE-DC WSC
Jeff Sweeney, EPA CBPO
Evin Fitzpatrick, Environmental Management Specialist, Country View Family Farm