

Meeting Minutes  
May 20, 2021  
10:00 AM-12:00 PM  
AgWG Conference Call  
**Meeting Materials:** [link](#)

## Summary of Actions & Decisions

**Decision:** The AgWG approved the [April meeting minutes](#).

**Action:** If interested, the AgWG is encouraged to reach out to Katie Brownson ([katherine.brownson@usda.gov](mailto:katherine.brownson@usda.gov)) for additional information about the STAC Workshop: *Rising Watershed and Bay Watershed Temperatures*.

**Decision:** CAST-21 Draft Workplan Task 4: *Investigate use of latest land cover & LiDAR imagery to better define changes in total ag (& other land use) acres.* The AgWG supported the adoption of the proposed land use methodology for determining the change in total agricultural area from 2013 to 2017.

**Decision:** CAST-21 Draft Workplan Task 5: *Investigate alternatives to double-crop estimates.* The AgWG approved the continued use of the current double-cropping methodology.

**Pending: (See Below) Decision** CAST-21 Draft Workplan Task 6: *Consider additions to current methods for “crediting” Nutrient Management on soybeans and propose options.* The AgWG was asked to endorse or not endorse application of a non-zero reduction efficiency for the Supplemental Nitrogen Nutrient Management BMP on the full-season soybean load source (rate, timing, and/or placement). Long-term recommendations discussed in the Ad Hoc group include a review of ag loading rates, continued efforts to improved accuracy of crop data sources, and improved understanding of real-world soybean management for future incorporation into CAST (watershed model).

## Intro

**Welcome, introductions, roll-call, review meeting minutes**

**Decision:** The AgWG approved the [April meeting minutes](#).

### **Seeking Input on Rising Water Temperatures (5 min)**

Katie Brownson

Katie Brownson, US Forest Service, sought input from the AgWG regarding the impacts of ag BMPs on water temperature in preparation for an upcoming Scientific and Technical Advisory Committee Meeting (STAC) workshop: “Rising Watershed and Bay Water Temperatures—Ecological Implications and Management Responses”. Katie is leading a sub-group to synthesize what is known about the effects of BMPs on water temperature. She can be reached at [katherine.brownson@usda.gov](mailto:katherine.brownson@usda.gov).

**Action:** If interested, the AgWG is encouraged to reach out to Katie Brownson ([katherine.brownson@usda.gov](mailto:katherine.brownson@usda.gov)) for additional information about the STAC Workshop: *Rising Watershed and Bay Watershed Temperatures*.

## Data & Modeling

### **CAST-21 DRAFT WORKPLAN TASK 4/5**

#### **Accounting for Total Ag and Double Cropped Acres (20 min)**

Peter Claggett, USGS, and Olivia Devereux, Devereux Consulting, requested the following decisions from the AgWG. Olivia provided an [updated Tableau link](#) that compares the CAST-17d, CAST-19, and draft 14 counties for CAST-21.

## Discussion

**Greg Albrecht:** So the category of biases that we're working through and advancing this analysis, for example shifts from successional land use to turf grass that we found in NY and other jurisdictions - that would fit into that category of work we're committed to ahead? It wouldn't be impacted by the support of this decision, right?

**Peter Claggett:** Correct, we're fixing those issues. My presentation will clarify what issues are being fixed before they go into CAST.

**Gary Felton:** Is it safe to say this will get better in time, improve the acreage, and will be continually worked on, even if we approve this now?

**Peter Claggett:** That is correct.

**Gary Felton:** Anybody opposed to approving decision item 1 - Workplan Task 4? Hearing no opposition I believe we have consensus on decision item 1.

**Clint Gill:** Move to approve.

**Matt Kowalski:** I second the motion.

**Decision:** CAST-21 Draft Workplan Task 4: *Investigate use of latest land cover & LiDAR imagery to better define changes in total ag (& other land use) acres.* The AgWG supports the adoption of the proposed land use methodology for determining the change in total agricultural area from 2013 to 2017.

**Gary Felton:** Motion to approve decision item 2 - Workplan Task 5?

**Clint Gill:** Move to approve.

**Matt Kowalski:** I second the motion.

**Gary Felton:** Anyone opposed to endorsing this?

**Gary Felton:** Hearing none, the AgWG approves this decision.

**Decision:** CAST-21 Draft Workplan Task 5: *Investigate alternatives to double-crop estimates.* The AgWG approved the continued use of the current double-cropping methodology.

## Land Use Change Product (40 min)

Peter Claggett

The 2013-2017 land use change data, methodology, and the comparison between CAST-19 and CAST-21 was made available to the AgWG and interested parties on May 7th via email with instructions for review. Peter Claggett asked for **feedback** from the AgWG to communicate back to the Land Use Workgroup later in the day. Rachel presented a prioritized list of identified errors and fixes to the 2013-2017 Land Use Change data.

## Discussion

**Matt Kowalski:** To clarify - the intention here is not to backcast the original data in CAST, the 2013 data is what we're working from and considering changes there forward. Am I correct that the best purpose of this is so that we can accurately predict trends and changes?

**Peter Claggett:** Correct, well said.

**Olivia Devereux:** The Phase 7 version of the model will be when we can go back into the past, like 1985, and make revisions. Right now we're just looking at the trends.

**Dave Montali:** From the images, how do you determine additional pasture and crop? Where we had succession in 13, how do you use the imagery to say that is now pasture?

**Peter Claggett:** Additional pasture and crop come in when we see forest clearing. It's in the context of being surrounded by other pasture or crop land. One indicator is what kind of land the area is surrounded by, and the second indicator is if there is a history of timber harvest in

that parcel of land. If there is no history of rotation, and it's surrounded by pasture or landscape, then we'll say it's going to crop land or pasture.

**Dave Montali:** In WV we don't really do rotational timber harvest, so I've noticed some misclassification for that. The other issue I noticed was fields that looked like fields in 2013 and look like fields now really, that shouldn't be classified as change, right?

**Peter Claggett:** I think those issues are in the process of being corrected.

**Ken Staver:** How does this all work on CRP acres?

**Peter Claggett:** The CRP lands are in common land units and only USGS can see them, so we can't really use them explicitly.

**Ken Staver:** It seems like the CRP should be in the equation with thousands of acres coming in and out of production.

**Peter Claggett:** That's something we'll explore for CAST-23. I think it would require looking more long term at the ag census history about land going in and out of production to get a sense of how much is in active production and how much isn't. We won't be able to solve it in the next couple of months but I definitely think it's worth looking at.

**Greg Albrecht:** This is awesome, thank you for this and all of the tools. Do you have a rough timeline for when the next updates will be made?

**Rachel Soobitsky:** The goal is to have all 206 counties done by the end of June. Every Friday the viewer will be updated with counties. The first round will include the next version of the 14 prototype counties.

**Peter Claggett:** The data posted in the next month will be going into CAST-21. If you find additional issues with these data when you review them, we can fix those in the Fall for the public release of the data in Feb 2022. So additional comments are encouraged and appreciated, but they won't affect CAST 21. They will affect the data moving forward.

## **CBP Assignments**

### **CAST-21 DRAFT WORKPLAN TASK 6**

#### **Addressing Full-Season Soybean Nutrient Management (30 min)**

Loretta Collins

Loretta Collins, UMD, reviewed discussions related to nutrient management on full-season soybeans and a path forward for CAST Workplan Task 6.

#### **Discussion**

**Matt Kowalski:** Am I understanding you correctly that there seems to be a lack of literature to support a non-zero reduction rate for supplemental nutrient management?

**Loretta Collins:** The short answer is yes. The real concern is the NM Phase 6 Expert Panel doesn't specifically talk about soybeans and why they put a 0% reduction rate for supplemental, so in the ad-hoc group we've spent a lot of time trying to understand it. We've spent months on this issue and we do have a better understanding now of why they decided not to provide an efficiency value for supplemental.

**Ted Tesler:** This is PA's spear-headed effort and the issue is that we're seeing a disconnection between what the expert panels have recommended and what the model is doing in terms of loading establishments. The model would say there are loads being applied to these fields and the expert panel would say that the supplemental credits can't be applied, so we are now creating a load on these fields that can't be further reduced. This creates a condition where we're permanently loading these fields at a very small amount, but as these thousands of acres are multiplied, they do add up, which is basically the heart of the issue. We've come to learn that nutrients are being applied to these fields in starter amounts, but the amount of N fixation

is reduced with nutrient application, and that hasn't been quantified, which is one of the literature gaps. But we are firmly of the mind that using control measures would be practicable and have a benefit, and again, we need to address the disconnection between loads being applied to these fields without BMP being available to further reduce them. And I think it was the ag modeling sub committee that allowed the small load to be applied to these, but there was a change at some point.

**Loretta Collins:** I don't think the expert panel was opposed to that application. Also, I created a [summary document](#) that outlines what the group has discussed over the last few months. There was definitely acknowledgment that we need more research to better characterize N fixation and what's really happening. It came down to best professional judgement. One of the things I've emphasized is that there is a small crop application goal on soybeans because there is nitrogen going out on soybean fields, so they put a modicum amount of that. In order to have distribution of fertilizer and manure that functions properly in the model, having a small crop application goal is necessary. Also, I want to mention that the NM BMPS are addressing applied nutrients. The supplemental BMPs are applied to the edge of stream load, which means that you're not talking about the little amount of applied nitrogen, you're also talking about nitrogen fixation, which is the vast majority of the load that is attributed in the Bay Model.

**Gary Felton:** Are we calling for a decision today?

**Loretta Collins:** Yes, with the caveat that we have a lot of long-term recommendations to better address soybeans or look for better ways to address soybeans in the future.

**Olivia Devereux:** I think part of the issue is that the term "goal" makes it sound like a recommendation for people to put nitrogen on their crops. The term "goal" is simply a label used in the back end of the model to determine what the application will be. It's not a goal in the sense of a nutrient management plan. It is trying to reflect the reality that a tiny bit of nitrogen does get applied in some cases. Also, Loretta, can you please clarify the question or the decision being asked of the group?

**Loretta Collins:** PA wanted an efficiency value, something like 3% or 5%, to apply to full season soybeans, which is currently at 0%. Our group decided that we don't have scientific justification to change the efficiency at this time. The question is - does the AgWG think we need to apply a reduction efficiency to this BMP or not? And then there's a whole different question of how we proceed with that because we had an expert panel that determined this and everyone agreed to it four or five years ago.

**Frank Schneider:** We did have an expert panel that we agreed to, but the model was changed in that time period. At the time of the expert panel we weren't aware of that. My opinion is that these need to be living documents and need to change and adapt.

**Loretta Collins:** Right, but the expert panel's job is to follow the science and give recommendations based on that, not what impact it would have as far as TMDL load reductions on the model side. It's based on the science side.

**Gary Felton:** Well the process is that the AgWG looks at an expert panel report and says yes this is good, then it goes to the WQGIT and they decide what needs to be implemented, not necessarily how. It goes on to someone else in the program to figure out the "what", probably the modelling group but I'm not entirely sure.

**Loretta Collins:** I understand the point made about having living documents, but in order to maintain the integrity of the expert panel, we need to reconvene the experts to talk about it.

**Frank Schneider:** Well to have the integrity of the program, the targets need to stop changing.

**Loretta Collins:** I do agree there should be updates to expert panels but I'm not sure we've figured out how to do that yet.

**Gary Felton:** It's a long way from looking at science to making a change in the model.

**Olivia Devereux:** In CAST-19, people started paying more attention to the full season soybeans, the nutrients applied, and the BMPs available, because the double cropped acres shrank compared to the previous versions of the model which resulted in the loads going up. People assumed that it was because of the nutrients applied to those full season soybeans, compared to the nutrients that would have been applied to double crop soybeans, but that's not why the loads went up. The reason that the loads went up was because of the nitrogen fixation that occurs with full season soybeans. You still get the core nutrient management BMP, but the efficiencies are for rate, time, and placement, which is not addressing the nitrogen fixation, that is addressing application.

**Dave Montali:** That all comes from the ag census right? The change introduced by then?

**Olivia Devereux:** It did, but we decided today that we're using land use change instead of the mapped acres. So you won't be seeing that in CAST-21.

**Dave Montali:** Is the change from double cropping to full season soybeans a real change or is that an anomaly from the ag census data that could, to some extent, be mitigated by the decision to use the imagery?

**Olivia Devereux:** It is mitigated. Using the draft data for the 14 counties we don't see that, and if you look at the Tableau data that I provided, it shows the comparison between CAST-17, CAST-19, and CAST-21 and you can see the change in double crop vs full season.

**Dave Montali:** That would suggest to me the action of reconvening the expert panel to address this issue more formally and try to make an improvement for a change in CAST-23, if the other thing happens to alleviate the increase in CAST-19.

**Mark Dubin:** The phase 6 expert panel did consider this issue in their discussions. If you look back into the minutes of this report you can see the explanations of this decision. They were looking at the carry over in nitrogen in fertilizer formulation applications. The info that Loretta shared about the land grant university recommendations was definitely on target with what the panel considered. They did not consider manure applications in this or additional fertilizer applications of nitrogen other than the carry over. These folks wrote nutrient management in all of these states and they fully understood the question and responded accordingly. The information that Olivia raised about the changes in CAST due to the use of imagery and Dave's comments could be things to look at moving forward.

**Ted Tesler (in chat):** Also does not consider high-yield soybeans that receive nutrients

**Mark Dubin:** We're using the mass yields at the county level that are average yields. We don't have the information on high-yield soybeans so there's not an opportunity to go beyond an average, which is well below the level that Ted is talking about.

**Ted Tesler:** Right, but I just wanted to point out that there is a difference between reality and what the expert panel considered.

**Dave Graybill:** I like this discussion and as a farmer, I know that everything changes over time, so you guys are shooting at a moving target here. It makes sense to me that we do need more research on this. I agree that these things need to be living documents.

**Loretta Collins:** This was a task for CAST-21. I think there is room to reevaluate this but we should do it in the way we agreed to in the partnership. Changing it without doing that process again is problematic from a process perspective in the Bay Program. I think we should table it for now, but longer term, maybe we can consider convening a panel. Let's break up the decision into pieces - first, do we have consensus in the AgWG to endorse a change? If we don't, do we want to make a long-term recommendation for fixing this in the near future?

**Ken Staver:** Can you be eligible for a supplemental credit when you don't have the core credit?

**Loretta Collins:** No you have to have the core credit.

**Ken Staver:** I think that complicates things then because you can't really deal with it in isolation.

Loretta Collins: I agree.

Gary Felton: Are people ready to vote on this at this time?

Matt Kowalski: I would be prepared to address that issue. I'm not prepared to endorse making a change. My reason is I'm not ready to make an endorsement if we don't have the proper literature to know what I would change it to. I would endorse putting together an expert group or even asking PA to put together literature for us to review.

Elizabeth Hoffman (in chat): MD would need more info at this time.

Frank Schneider: Making a motion to endorse a change for non-zero reduction.

Ted Tesler: I second.

Greg Albrecht: I wonder if we need to review what protocols are in place to make a change like this. I don't know what the process is for overturning an expert panel decision. I'm not even clear if we're allowed to do this, regardless of whether or not it's a good idea.

Gary Felton: I agree. I think it's worthy of more discussion and research and that we need to look at the process we have to follow to do that. Let's go through the membership to see where everyone stands.

**Decision:** CAST-21 Draft Workplan Task 6: Consider additions to current methods for "crediting" Nutrient Management on soybeans and propose options. The AgWG CAST Concerns Ad Hoc was not able to achieve consensus to support a change to the Supplemental Nitrogen Nutrient Management BMP on the full-season soybean load source (Rate, Timing, and/or Placement). The AgWG was asked to endorse or not endorse application of a non-zero reduction efficiency for the Supplemental Nitrogen Nutrient Management BMP on the full-season soybean load source (rate, timing, and/or placement). Long-term recommendations discussed in the Ad Hoc group include a review of ag loading rates, continued efforts to improved accuracy of crop data sources, and improved understanding of real-world soybean management for future incorporation into CAST (watershed model).

Matt Kowalski: Without a specific value, I would not be willing to endorse it.

Seth Mullins: We don't endorse it either.

Elizabeth Hoffman: We do not endorse.

Greg Albrecht: We need to look at the question deeper, so we don't endorse either.

Frank Schneider: I stand by my motion - PA endorses.

Ken Staver: Hold.

Tim Rosen: Can't endorse.

Dave Graybill: I endorse.

Emily Dekar: Can't endorse.

RO Britt: Do not endorse.

Paul Bredwell: Can't endorse without further information.

\*The AgWG did not achieve consensus on this issue and ran out of time for further discussion. Will continue discussion at June meeting.

Signatory	Name	Affiliation	Endorse/Not Endorse
DE	Clint Gill	DDA	?

MD	Elizabeth Hoffman	MDA	Not Endorse
NY	Greg Albrecht	NY Dept of Ag & Markets	Not Endorse
PA	Frank Schneider	PA SCC	Endorse
VA	Seth Mullins	VA DCR	Not Endorse
WV	Cindy Shreve	WVCA	?
CBC	Marel King	(PA Office)	Not Present
EPA	Kelly Shenk	CBPO	Not Endorse
<b>At-Large</b>	<b>Name</b>	<b>Affiliation</b>	<b>Endorse/Not Endorse</b>
19-21	Jeff Hill	York Cty. Conservation District	?
	Evin Fitzpatrick	Country View Family Farms	Not Present
	Denise Coleman	USDA NRCS	Not Present
	Dave Graybill	Farm Bureau (dairy)	Endorse
	Matt Kowalski	CBF	Not Endorse
	Ken Staver	UMD	Hold
21-23	Paul Bredwell	US Poultry and Egg Association	Not Endorse
	RO Britt	Smithfield Foods	Not Endorse
	Emily Dekar	USC	Not Endorse
	Tim Rosen	ShoreRivers	Not Endorse
	Matt Royer	Penn State	Not Present

	Gurpal Toor	UMD	?
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### New Business & Announcements

- Welcome to **NRCS Chesapeake Bay Coordinator**: Leon Tillman (previously Tennessee NRCS)
- Welcome to **CBP Office Deputy Director**: Martha Shimkin (coming from EPA Region 3 Office of Water, Office of Wetlands, Oceans and Watersheds) starts May 23
- The USGS just released a science summary on "[Occurrence of toxic contaminant mixtures in surface water and groundwater in agricultural watersheds of the Chesapeake Bay](#)". The summary includes findings from several recent publications, with information on the:
  - Occurrence of toxic contaminants
  - Factors affecting occurrence of toxic compounds and estrogenicity
  - Potential co-benefits of best management practices
- [2019-2020 Bay Barometer](#)
  - Updates for 12 outcomes of the *Chesapeake Bay Watershed Agreement* (2025 Watershed Implementation Plans, Blue Crab Abundance, Blue Crab Management, Diversity, Environmental Literacy Planning, Forest Buffers, Oysters, Protected Lands, Public Access, Student, Underwater Grasses and Water Quality Standards Attainment and Monitoring), as well as highlights on progress for all 31 outcomes. As a reminder, all of our outcomes are updated in real-time on [ChesapeakeProgress](#).
- **2021 North American Agroforestry Conference**, June 28<sup>th</sup>-July 2<sup>nd</sup>
  - The 2021 North American Agroforestry Conference will bring together farmers, landowners, researchers, climate scientists, investors, philanthropists, policymakers, and global leaders on climate change, carbon drawdown, and agroforestry. <https://www.savannainstitute.org/agroforestry-2021/#>
- **Animal Mortality** Expert Panel Report – Finalizing report (summer 2021)
- **Other Announcements?** - send to Jackie Pickford (Pickford.Jacqueline@epa.gov) for inclusion in "Recap" email

### Meeting Adjourned

### Next Meeting:

**Thursday, June 17th, 10AM-12PM: Conference Call**

### Meeting Chat

From Greg Albrecht to Everyone: 10:10 AM

I assume Stroud is involved in the effort?

From Katie Brownson (she/her) to Everyone: 10:10 AM

Yes, Matt Ehrhart from Stroud is on our BMP team

From Greg Albrecht to Everyone: 10:10 AM

Excellent!

From Olivia Devereux to Everyone: 10:22 AM

This is a comparison of CAST-17d, CAST-19, and CAST-21 using the draft land use for the 14 counties for the CAST-21 version.

<https://public.tableau.com/profile/olivia.devereux#!/vizhome/LandUseExploration/ReadMe>

From Loretta Mae Collins to Everyone: 10:25 AM

The Land Use Workgroup will be discussing these topics again later today. Peter would like feedback from the AgWG to take to that meeting. Calendar page for the LUWG meeting @ 1PM.

[https://www.chesapeakebay.net/what/event/land\\_use\\_workgroup\\_conference\\_call\\_may\\_20211](https://www.chesapeakebay.net/what/event/land_use_workgroup_conference_call_may_20211)

From Matt Kowalski- CBF to Everyone: 11:04 AM

thanks for the break!

From Joel Blanco-Gonzalez, USEPA to Everyone: 11:09 AM

Great video!

From Cassandra Davis to Everyone: 11:09 AM

Thanks for sharing!

From Me to Everyone: 11:30 AM

Nutrient Management on full-season soybean summary document:

[https://www.chesapeakebay.net/channel\\_files/41826/summary\\_nm\\_fullseasonsoybeans\\_v4.pdf](https://www.chesapeakebay.net/channel_files/41826/summary_nm_fullseasonsoybeans_v4.pdf)

From Ted T to Everyone: 11:49 AM

Also does not consider high-yield soy beans with receive nutrients

From Elizabeth Hoffman, MDA to Everyone: 11:59 AM

MD would need more info at this time

From Greg Albrecht to Everyone: 12:03 PM

Is this our protocol (not for discussion now, but perhaps for clarification next meeting)?

[https://www.chesapeakebay.net/channel\\_files/22798/cbp\\_bmp\\_expert\\_panel\\_protocol\\_wqgit\\_approved\\_7.13.15.pdf](https://www.chesapeakebay.net/channel_files/22798/cbp_bmp_expert_panel_protocol_wqgit_approved_7.13.15.pdf)

From Clint Gill to Everyone: 12:05 PM

Delaware is a fence sitting situation same as Ken

From Ted T to Everyone: 12:06 PM

Thank you Loretta for your time and help on this

From Greg Albrecht to Everyone: 12:06 PM

Thank you Gary, Loretta, and Jackie.

From Matt Kowalski- CBF to Everyone: 12:07 PM

thanks

## **Meeting Participants**

Loretta Collins, UMD/CBPO

Gary Felton, UMD

Jeremy Daubert, VCE, vice chair

Jackie Pickford, CRC

Clint Gill, DDA

Elizabeth Hoffman, MDA

Greg Albrecht, NY

Frank Schneider, PA SCC

Kate Bresaw, PA DEP

Seth Mullins, VA DCR

Cindy Shreve, WVCA

Matt Monroe, WVDA  
Dave Graybill, Farm Bureau  
Matt Kowalski, CBF  
Paul Bredwell, US Poultry  
RO Britt, Smithfield Foods  
Emily Dekar, USC  
Tim Rosen, ShoreRivers  
Cassie Davis, NYS DEC  
Carlington Wallace - ICPRB  
Olivia Devereux, Devereux Consulting  
Ted Tesler, PaDEP  
Karl Blankenship, Bay Journal  
Jenna Schueler, Chesapeake Bay Foundation  
Peter Hughes, Red Barn Consulting  
Gurpal Toor, UMD  
Ken Staver UMD  
Ruth Cassilly UMD  
Jennifer Skaggs, WV Conservation Agency  
Bill Tharpe, MDA  
Rachel Soobitsky- Chesapeake Conservancy  
Peter Claggett, U.S. Geological Survey  
Susan Minnemeyer, Chesapeake Conservancy  
Leah Martino, EPA Region 3  
Patrick McCabe, Chesapeake Conservancy  
Sarah McDonald, U.S. Geological Survey  
Dave Montali, Tetra Tech, MWG Co-chair, WV  
Jeff Hill- District Manager York County Conservation District  
KC Filippino, HRPDC, co-chair LUWG  
Mark Dubin UME/CBPO  
Jason Keppler, MDA  
Joel Blanco-Gonzalez, USEPA  
Elliot Kurtz, Chesapeake Conservancy  
Ron Ohrel, Mid-Atlantic Dairy Association  
Dave Mortensen, PSU  
Jacob Czawlytko, Chesapeake Conservancy