



CAST21 Workplan

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Water Quality GIT Meeting
September 28, 2020



Workplan for CAST21

Task 1

- Key Action: Continue with updates to data and methods for the following that typically occur every two years – as well as other proposals agreed-to and approved by the CBP Partnership:
- Participating Entities: Relevant source workgroup (Agriculture, Forestry, Land Use, Urban Stormwater, Wastewater Treatment, Wetlands), BMP Expert Panels, BMP Verification Ad-Hoc Action Team, Watershed Technical Workgroup, WQGIT, Jurisdictions, CBPO technical staff
- Timeline (Findings Presented to Lead Participating Entity for Decision): June, 2021



Workplan for CAST21

Task 1 Status Update

- Key Action: Continue with updates to data and methods for the following that typically occur every two years:
 - New or updated BMPs, their effectiveness values, and implementation costs – current Expert Panels and ad-hoc groups:
 - urban and non-urban stream restoration
 - animal mortality
 - impervious cover removal and floodplain restoration
 - Oysters
 - Recommendations, reports approved by Sept. 1, 2021 in CAST21
 - Revised reported BMP history from jurisdictions – final QA/QC data due from jurisdictions Dec. 1, 2021



Workplan for CAST21

Task 1 Status Update

- Key Action: Continue with updates to data and methods for the following that typically occur every two years:
 - County-level and/or Census zone population, housing, and employment projections – Jurisdictions + CBPO GIS Team
 - The number of septic systems and their projections, related to sewer service area boundaries – Jurisdictions + CBPO GIS Team
 - MS4 area boundaries – Jurisdictions + CBPO GIS Team
 - Zoning – Jurisdictions + CBPO GIS Team
- Data and methods approved by Sept. 1, 2021 in CAST21



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Task 1 Status Update

- Key Action: Continue with updates to data and methods for the following that typically occur every two years:
 - State-specific land use data, especially where it relates to land use by agency type – Jurisdictions + CBPO GIS Team
 - Construction acres – Jurisdictions + CAST Team, due 8/31/21
 - Manure nutrient concentrations – Jurisdictions + CAST Team, 8/31/21
 - Manure or litter mass produced per animal – Jurisdictions, due 8/31/21
 - Permitted/Non-permitted animal fractions– Jurisdictions, due 8/31/21
 - Soil phosphorus data by crop type and county – Jurisdictions + CBPO Modeling Team
 - AAPFCO for fertilizer sales and use data for farm (crop) and non-farm (urban turfgrass) entities – Jurisdictions + CBPO CAST Team



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Task 1 Status Update

- Key Action: Continue with updates to data and methods for the following that typically occur every two years:
 - USDA-NASS crop yield data, e.g. bushels per acres – completed w/ CAST19
 - Harvested forest areas – due Aug. 31, 2021
 - Biosolid and spray irrigation mass and nutrient concentration applications – Dec. 1, 2021
 - Rapid infiltration basin load data – Dec. 1, 2021
 - Large monitored onsite septic system load data – Dec. 1, 2021
 - CSO connections and pass-through data – Dec. 1, 2021



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Task 2

- Key Action: Investigate alternatives to the current methods for forecasting agricultural land uses and animals and propose options for Partnership consideration. Particular attention will be paid to trends in acres of full-season soybeans and double-crops
- Participating Entities: Agriculture Workgroup, Land Use Workgroup, Watershed Technical Workgroup, WQGIT, CBPO technical staff
- Timeline: March, 2021



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Task 2 Status Update

- In July, 2020, USDA-National Agricultural Statistics Service (NASS) personnel examined 2012-2017 data for full-season soybeans and did not identify errors with data, no additional insights
- CBPO CAST Team investigating four alternative projection methods for animals and agricultural lands
- Informational briefings will be provided starting in November, 2020



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Task 3

- Key Action: Investigate 2012-2017 Ag Census change for crop types “Cropland in cultivated summer fallow” and “Cropland idle . . . ” and attempt to determine if reported increases are reflective of on-the-ground change. To the extent that information becomes available that demonstrates that census-reported changes are not reflective of real change, explore mechanisms by which model inputs for CAST 2021 might be adjusted . . .
- Participating Entities: Agriculture Workgroup, Land Use Workgroup, Watershed Technical Workgroup, WQGIT, CBPO technical staff
- Timeline: August, 2021



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Task 3 Status Update

- NASS investigation of WV land data, fallow and idle:
 - Changes in line with historical data
 - No questionnaire changes and
 - WV ag land ↑2% from 2012
 - Large ↑ for cropland idle & cropland failed
 - Large ↓ for woodland pastures & permanent pasture
 - No methodology changes since 2012
- WV presented questions to the AgWG September 17th,
“Are reported increases reflective of on the ground change?”
- AgWG to decide how to proceed



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Task 4

- Key Action: Investigate use of latest landcover and LiDAR imagery to better define changes in total agriculture areas and crop acres through time as well as all other source categories in the developed sector, forest, mixed open, and wetlands
- Participating Entities: Land Use Workgroup, Agriculture Workgroup, Forestry Workgroup, Urban Stormwater Workgroup, Wetlands Workgroup, Watershed Technical Workgroup, WQGIT, CBPO technical staff
- Timeline: August, 2021



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Task 4 Status Update

- CBPO GIS and CAST Teams discussed w/ NASS use of the Cropland Data Layer (CDL) in the future.
- CDL combined with National Land Cover Database (NLCD) next year to improve on total agriculture areas (crop and pasture) and improves recent history and forecast of acres of most land use types.



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Task 5

- Key Action: Investigate alternatives for estimating acres of double-crops and propose options for Partnership consideration
- Participating Entities: Agriculture Workgroup, Watershed Technical Workgroup, WQGIT, CBPO technical staff
- Timeline: July, 2021



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Task 5 Status Update

- In July, 2020, USDA-National Agricultural Statistics Service (NASS) personnel communicated w/ the CBPO CAST Team that we were using data from the Census of Agriculture appropriately for calculating double cropped acres and did not suggest any improvements.



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Task 6

- Key Action: Consider additions to current methods for “crediting” Nutrient Management on soybeans and propose options
- Participating Entities: Agriculture Workgroup, Watershed Technical Workgroup, WQGIT, CBPO technical staff
- Timeline: May, 2021



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Task 6 Status Update

- Presented to Agriculture Workgroup
- Will be discussion topic of CAST21 Ad-Hoc Meeting #2



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Task 7

- Key Action: Accommodate with CAST21 QA/QC'd historic and current layer population data for Hillandale Farms, Spring Grove, PA.
- Participating Entities: Agriculture Workgroup, Watershed Technical Workgroup, WQGIT, CBPO technical staff
- Timeline: May, 2021



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Task 7 Status Update

- Acquired layer population data from facility and checking quality
- CBPO CAST Team running model assessments of the benefits of the Manure Treatment Technology



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Task 8

- Key Action: Build in Partnership-approved products of the BMP Verification Ad-Hoc Action Team as it relates to credit duration
- Participating Entities: Relevant source workgroup (Agriculture, Forestry, Urban Stormwater, Wetlands), BMP Verification Ad-Hoc Action Team, Watershed Technical Workgroup, WQGIT, CBPO technical staff
- Timeline: June, 2021



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Task 8 Status Update

- BMP Verification Ad-Hoc Action Team is focused on BMP credit durations and partial credit
 - Next meeting is October 8th
- Watershed Technical Workgroup
 - Ongoing discussions of “cut-off” and “back-out”; next meeting is October 1st



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Task 8 Status Update

- Watershed Technical Workgroup (continued)
 - The following will be going to the BMP Verification Team for approval:
 - Timing of updates for BMP Verification Plans
 - Consistently apply requirements of BMP verification (annual progress data) across jurisdictions.
 - Transparency in how verification is treated in terms of credit duration



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Additional Tasks Identified by WQGIT Workgroups

- Agriculture Workgroup + ad-hoc need more time to consider additional requests for CAST21 updates and/or future versions of the model



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Additional Tasks Identified by WQGIT Workgroups

- WQGIT, WTWG, etc. (DC DOEE)
 - Suggesting two months for jurisdictions to use both CAST19 and CAST21 to evaluate potential issues = sufficient time for the states to compare the outputs of both models together
- Want to make sure that every [work]group that has data due in August, for example, has initiated the data effort to collect the necessary data several months in advance so that they can accomplish the task on time.



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Additional Tasks Identified by WQGIT Workgroups

- Wastewater Treatment and Land Use Workgroups (DE DNREC)
 - The number of septic systems and their projections, related to sewer service area boundaries
 - DE monitoring/updating septic permitting databases and should get better/more accurate data for the program
- Land Use Workgroup (Chesapeake Conservation Partnership)
 - Strengthen or expand Land Policy BMPs
 - Include growth and land-use trends in addition to current zoning at least to be able to compare the growth trends to current zoning as we proceed
- Prioritize