



Alternative Agricultural BMP Verification

**WQGIT BMP Verification Ad-Hoc Action Team
Meeting**

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UNIVERSITY OF
MARYLAND
EXTENSION

Solutions in your community



Chesapeake Bay Program

A Watershed Partnership

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Alternative Agricultural Data



Alternative Agricultural Data



- The Agricultural section of the CBP Partnership's Verification Framework document identified alternative options for BMP verification in addition to standard data collection methods, i.e., permits, cost-share contracts, etc.
 - Producer Surveys
 - Transect Surveys
 - Remote Sensing

Alternative Agricultural Data



- The CBP Partnership's Verification Framework document also identified a need to develop and implement new data sharing arrangements between traditional and new partners.
 - Federal Agencies
 - State Agencies
 - County and Municipal Agencies
 - NGOs
 - Associations and Private Industry
 - Producers

Alternative Agricultural Data

- A variety of agricultural data pilot projects have been and are being implemented across the Bay watershed by a diversity of partners. All of them have the potential of enhancing agricultural data through collaboration and verification.
 - Data Management Projects
 - Survey Projects
 - Research Projects
 - Remote Sensing Projects

Agricultural Data



Agricultural Data



- Agricultural Conservation Data Aggregation Pilot Project
- Multi-Partner Pennsylvania Pilot (2020 - 2021)
 - Federal Agencies: USDA, USGS, EPA
 - State Agencies: PADEP, PDA, State Conservation Commission
- Purpose
 - To develop a method to more comprehensively account for agricultural conservation practices implemented in a portion of the Chesapeake Bay Watershed.

Agricultural Data



- Agricultural Conservation Data Aggregation Pilot Project
- Background
 - USDA-NRCS and FSA currently have individual MOUs with USGS under which they provide 100% of their conservation practice data (along with location data) within the Chesapeake Bay Watershed.
 - USGS aggregates the data to remove duplicate entries and protect personal information, then provides it to state agencies for use in reporting progress toward the Chesapeake Bay TMDL goals.
 - EPA provides funding to USGS to reimburse the costs of this analysis through an Inter-Agency Agreement.

Agricultural Data



- Agricultural Conservation Data Aggregation Pilot Project
- Background
 - State agencies have requested location specific USDA practice data to account for practice implementation between federal and state efforts. This legally cannot be provided under Section 1619 of the 2008 Farm Bill and related privacy statutes.
 - EPA, USDA, and USGS have developed a creative solution to this issue that they will test through the pilot project with Pennsylvania state agency partners.

Agricultural Data



- Agricultural Conservation Data Aggregation Pilot Project
- Process
 - For Pennsylvania agencies to share with USGS a subset of its historic location specific conservation practice data through an MOU(s) to protect personal information. Four pilot counties have been selected by PA for the pilot.
 - USGS will combine the State data with USDA data, remove duplicates, and aggregate the data.
 - USGS will provide the aggregated dataset and an administrative report on the results of the pilot project to USDA, EPA, and the PA state agency partners.

Agricultural Data



- Agricultural Conservation Data Aggregation Pilot Project
- Process (USGS)
 - Summarize the duplication and omission among practices and programs.
 - Summarize of point-based location information affected analysis outcomes.
 - Evaluate whether combined datasets could enable a more comprehensive assessment of ag practices on water quality improvement.
 - Provide USGS Administrative reports to PA-DEP, EPA, and NRCS. Each agency will receive a different report due to data sharing limitations laid out in the USGS data sharing agreements.

Agricultural Data



- Agricultural Conservation Data Aggregation Pilot Project
- Potential Utility
 - *Credit Farmers for Conservation:*
A state could elect to use this collaborative data management method to enable fuller accounting of conservation on the ground and a better characterization of state progress toward Chesapeake Bay restoration goals.
 - *Inform Program Management & Direction:*
States and USDA could use this information to assess development and delivery of programs and practices moving forward.

Agricultural Data



- Agricultural Conservation Data Aggregation Pilot Project
- Potential Utility
 - *Evaluate Water Quality Benefits of Conservation:*
USGS, USDA, and states could use this more comprehensive data for enhanced analyses between implementing conservation practices and changes of nutrients and sediment in streams and rivers.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Multi-Partner Virginia Pilot (2020 – 2025)
 - Federal Agencies: USDA - NRCS
 - State Agencies: VADCR
- Purpose
 - The nature of this technical assistance is that DCR will assist NRCS, through identification of potential conservation effects resulting from conservation practice implementation, with improvements to the NRCS technical assistance delivery infrastructure.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Background
 - NRCS has determined that in order for VADCR to provide this technical assistance, VADCR requires access to information provided to NRCS by one or more agricultural producers or owners of agricultural land, or related geospatial information.
 - The MOA authorizes disclosure of such protected information, upon authorization by the agricultural producer, as necessary to provide such assistance by the DCR, as a cooperating entity with a USDA program providing technical or finance assistance with respect to an agricultural operation, agricultural land, or farming or conservation practices.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Process (VADCR)
 - Coordinate with NRCS Science and Technology (S&T) and Soil Science and Resource Assessment (SSRA) Deputy Areas to identify assessment criteria that will best facilitate the conservation practice review and to provide NRCS with the specific findings of each conservation practice review conducted using such assessment criteria.
 - Conduct an assessment effort of a parcel only when voluntary cooperation, agreement, and access is agreed by the producer in writing.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Process (VADCR)
 - Offer, with each conservation practice review allowed by a producer, either a Best Management Practice (BMP) data authorization form (Form DCR # 199-206), a Continuing Conservation Initiative cost share practice application pursuant to the Virginia Agricultural Cost-Share Program, or a Resource Management Plan (§10.1-104 et al) application.
 - Provide NRCS with the results of every request for conservation practice review.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Process (VADCR)
 - To request permission, confirmed in writing, from producers to review federally funded conservation practices.
 - Where authorized by the producer, to review conservation practices on the producer's land having expired lifespans in accordance with assessment criteria developed in coordination with NRCS S&T and SSRA Deputy Areas.
 - To ensure that the confidentiality of protected information is used for these technical assistance purposes only.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Process (NRCS)
 - Provide to VADCR annually names, mailing and physical addresses, and phone numbers of producers with conservation practices implemented in the Chesapeake Bay watershed with NRCS assistance and having expired lifespans.
 - For those producers who agree to assessment by VADCR, provide to VADCR annually a list of all conservation practices, dates of installation, sizes/extents, and dates of lifespan expirations for conservation practices installed in the Chesapeake Bay watershed with NRCS assistance and having expired lifespans.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Process (NRCS)
 - For those producers who agree to assessment by VADCR, provide to the Commonwealth of Virginia annually the decimal degree locations of individual conservation practices installed in the Chesapeake Bay watershed with NRCS assistance and having expired lifespans.
 - For those producers who do not agree to a site-specific assessment by VADCR, provide to VADCR only such data that NRCS determines is necessary to assess potential on-going conservation effects beyond practice lifespan resulting from conservation practice implementation as described herein.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Current Test Pilot
 - Limited to Augusta County, VA only to develop a process and methodology that works efficiently and effectively before going bay wide in VA.
 - NRCS Conservation Practice data for the project goes back to practices implemented beginning in 2005.
 - NRCS Conservation Practice lifespans are being used to determine expiration dates.

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Current Test Pilot
 - Targeted Conservation Practices (11)
 - Agrichemical Storage Facility
 - Waste Storage Facility
 - Animal Mortality Facility
 - Grade Stabilization Structure
 - Grassed Waterway
 - Roof Runoff Structure
 - Heavy Use Area Protection
 - Streambank and Shoreline Protection
 - Underground Outlet
 - Fence
 - Lined Waterway or Outlet

Agricultural Data



- Virginia Technical Assistance Agreement Pilot Project
- Potential Utility
 - To enable VADCR to identify, verify, and track expired NRCS Conservation Practices with voluntary producers over time.
 - To remove possible data duplication with other sources of BMP data such as from SWCD and Virginia Cooperative Extension reports.
 - To retain and report expired BMPs as part of aggregated implementation data for annual progress reporting to the CBP.

Agricultural Surveys



Agricultural Surveys



- Pennsylvania State University
- Pennsylvania Farmer Survey (2016 - 2020)
 - Agency / Sector Partnership
 - Document Ag Conservation
 - Onsite verification (10% sample)
 - Publish aggregated data reports
 - Identify USDA, State, and Privately implemented BMPs

Farmers to be surveyed on use of conservation practices in Chesapeake Bay basin



A Penn State survey will ask farmers in the Chesapeake Bay watershed about conservation measures they have implemented – such as streambank fencing and vegetative buffers – in an effort to show agriculture's contributions to protecting water quality. **IMAGE: PENN STATE**

Agricultural Surveys



- Virginia Cooperative Extension
- Virginia Farmer Survey (2020 - 2021)
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VIRGINIA FARM VOLUNTARY AGRICULTURAL BEST MANAGEMENT PRACTICES INVENTORY

We hope you will consider participating in this survey to help us learn more about voluntary conservation practices on Virginia farms in the Chesapeake Bay watershed... like yours! The information you provide will help Virginia tell the story of what farmers are doing to conserve soil and improve water quality. This is incredibly important information that can help agriculture achieve its water quality goals for the Watershed Implementation Plan for the Chesapeake Bay.

For more information please visit
<https://vaswcd.org/virginia-farm-voluntary-agricultural-bmp-inventory>
or contact your local Extension or SWCD office.



Agricultural Surveys



- State Transect Surveys
- Transect Surveys
 - Multi-State Surveys: DE, PA, and VA
 - Agency / Sector Partnership
 - Crop Residue Management
 - Cover Crops
 - Document Land Use Change
 - Develop County-Scale Reports



Agricultural Research



Agricultural Research



- Virginia Polytechnic Institute and State University
- Commercial Poultry Production (2019 - 2021)
 - Agency / Industry Partnership
 - Virginia and West Virginia
 - Commercial Populations
 - Litter Nutrient Generation
 - Document Management Change
 - Develop Publications



Agricultural Research



- Virginia Polytechnic Institute and State University
- Commercial Poultry Production (2019 - 2021)
 - West Virginia Poultry Facilities
 - Verification of Waste Storage and Animal Mortality Facilities
 - Use CBP Resource Improvement (RI) BMP Verification Checklists
 - Provide aggregated data reports to WVDA.



Agricultural Imagery



Agricultural Imagery



- Agricultural Remote Sensing Projects
- There are multiple past, current, and proposed remote sensing projects developed by the CBP partnership. Examples include:
 - PADEP / USDA-NRCS Potomac Watershed Remote Sensing Pilot Project
 - MDA / USGS Cover Crop Remoting Sensing Project
 - USGS / Chesapeake Conservancy Land Use Mapping Project
 - USGS Land Use Mapping Pilot Project using Transect Surveys (Proposed)
 - Remote Controlled Drone Imagery (Conceptual)



Questions?