Maryland
Agriculture Best Management Practices (BMP) Implementation Reporting Procedures

Quality Assurance Project Plan
(QAPP)

Approved by:

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This Quality Assurance Project Plan (QAPP) is submitted to the US Environmental Protection Agency Chesapeake Bay Program Office as part of the FFY2011 Chesapeake Bay Regulatory and Accountability Program (CBRAP) grant funded under Section 117 of the Clean Water Act (CWA): the Chesapeake Bay Program. The QAPP is required as part of Objective #11: Agricultural Watershed Implementation Plan (WIP) Coordination

Introduction/Project Description

The Maryland Department of Agriculture (MDA), working in collaboration with Maryland's Conservation Partnership, assists agricultural producers in conservation planning and Best Management Practice (BMP) implementation that balance crop and livestock production with the need to protect natural resources. A key role in this process is the accurate accounting and verification of BMP implementation consistent with USEPA guidance to ensure appropriate quantification of nutrient reduction in support of Maryland's Watershed Implementation Plan.

As the lead partner in the delivery of agricultural conservation programs in Maryland, Maryland Soil Conservation Districts (SCDs) have a key role in the implementation, documentation and verification of various conservation measures on the landscape. A Memorandum of Understand between MDA, the SCDs and USDA-Natural Resource Conservation Service (NRCS) is in place that defines the roles and responsibilities of each agency and directs their mutually cooperative efforts to achieve the conservation and protection of soil, water and related resources through the optimum use of state and federal resources.

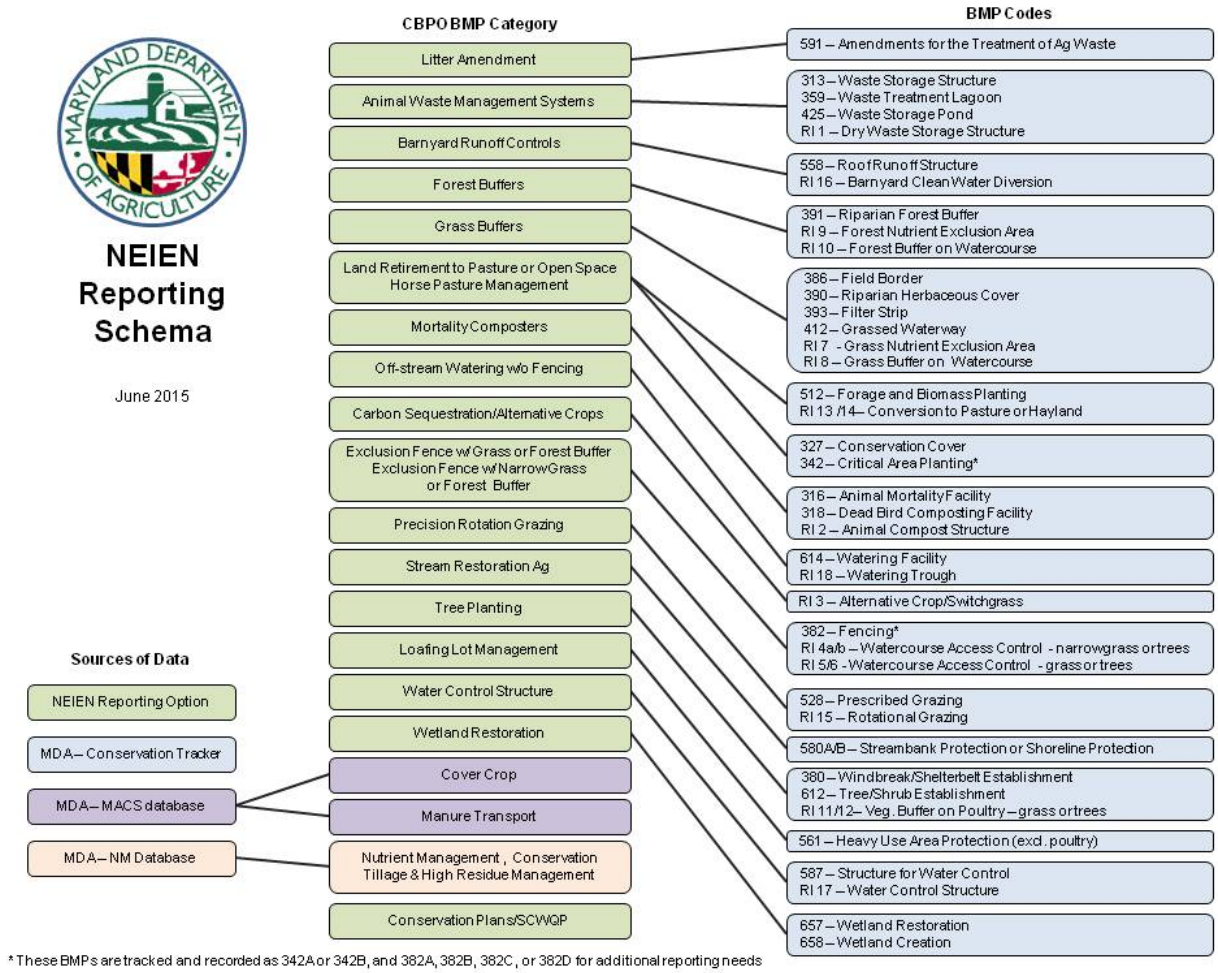
In addition, Maryland's Nutrient Management Program regulates the application of nutrients on agricultural land. MDA's Phosphorus Management Initiative includes revised Nutrient Management Regulations that modify how a farm nutrient management plan is developed and implemented and also changes the way organic nutrient sources and other materials are managed. The requirements are being phased in over the next several years and will help Maryland meet nutrient reduction goals outlined in its Watershed Implementation Plan (WIP) for restoring the health of Chesapeake Bay. The Maryland Nutrient Management Manual outlines specific requirements related to Maryland's Nutrient Management Program.

As the lead agency for the agricultural sector in Maryland, MDA tracks and reports agricultural BMP implementation annually to the Chesapeake Bay Program Office (CBPO) through the National Environmental Information Exchange Network (NEIEN), the node of which is managed by the Maryland Department of the Environment. The established reporting protocol (Figure 1) involves a manual transfer of data to the Maryland Department of Environment utilizing a pre-formatted spreadsheet. The following outlines documentation of data sources and any analyses that are done by the Maryland Department of Agriculture for each BMP for which implementation

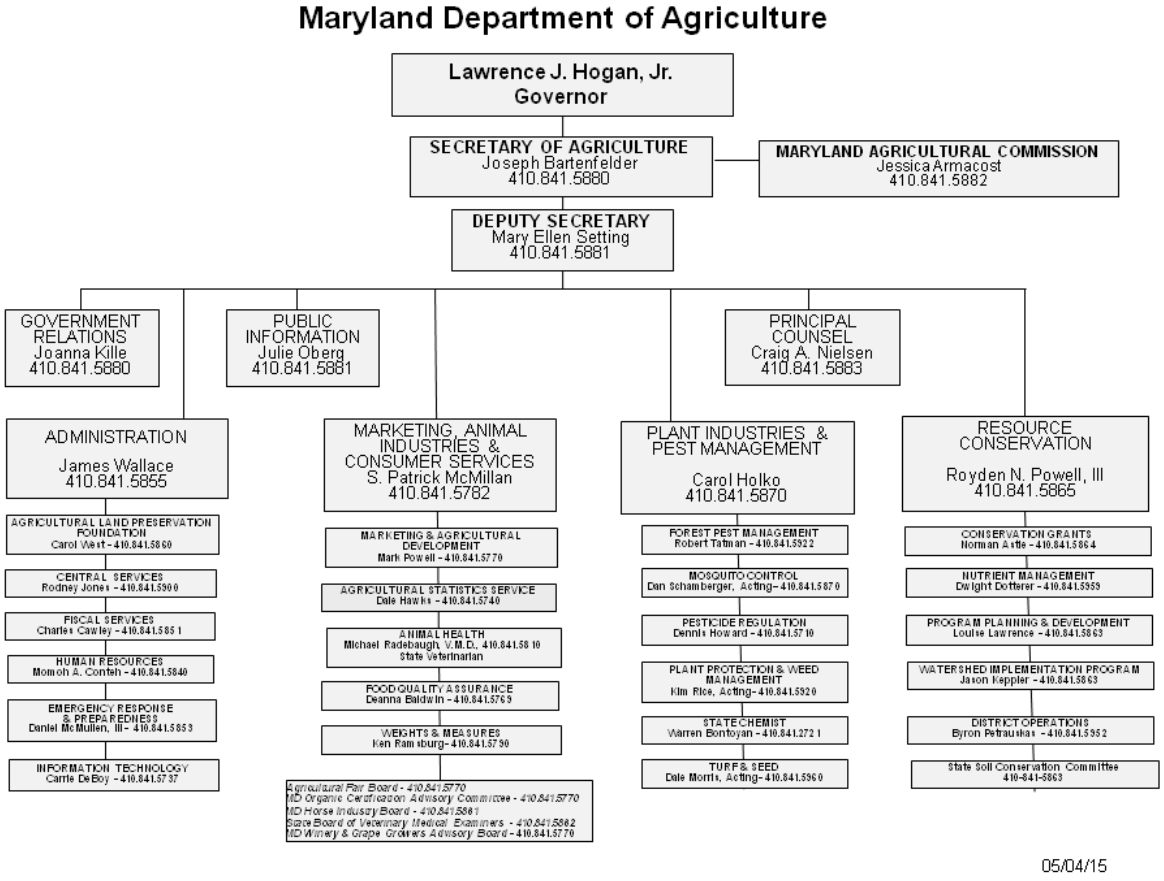
is tracked, compiled, and analyzed prior to submission to the Maryland Department of the Environment.

The MDA's implementation tracking data currently includes data from MDA's Conservation Tracker and Nutrient Management Program databases, which together capture agricultural BMP implementation regardless of funding source. Outlined within this document are the proposed protocols to identify and verify the implementation of all reported BMPs across Maryland's agricultural landscape.

Figure 1: Flow diagram of data systems and reporting protocols for BMP implementation

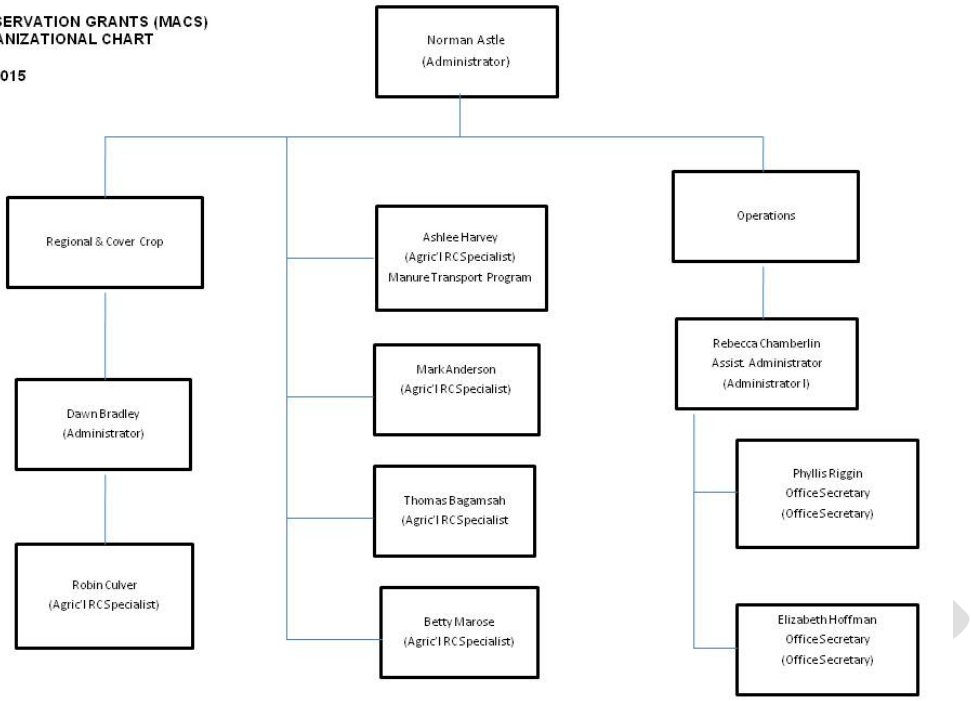


Management and Organization



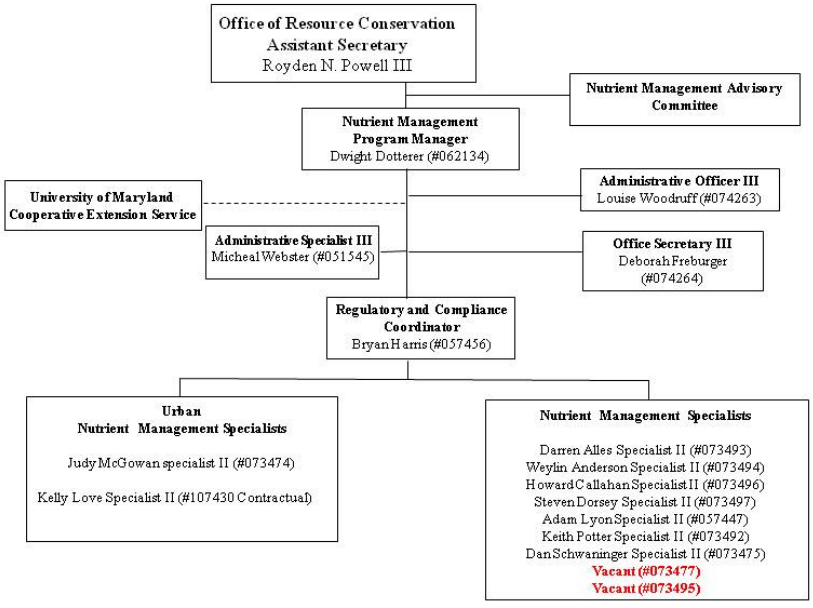
CONSERVATION GRANTS (MACS)
ORGANIZATIONAL CHART

May 2015



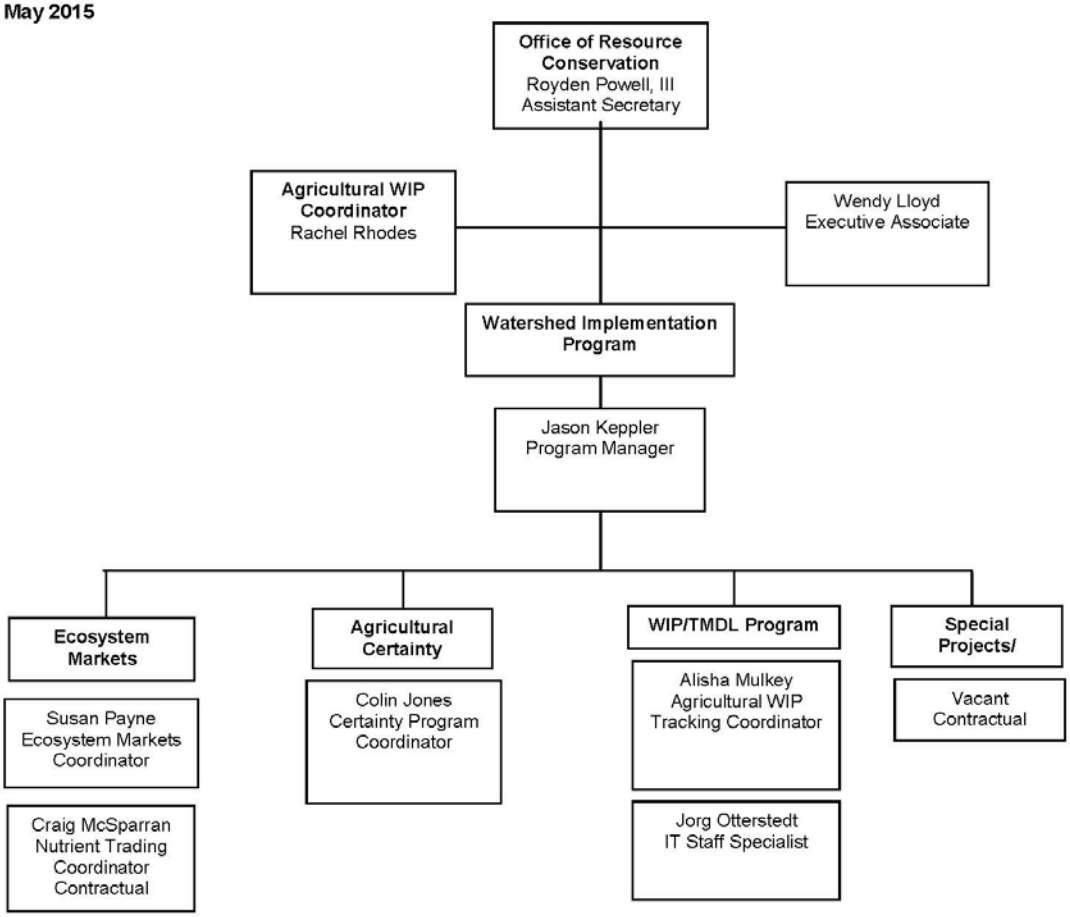
MARYLAND NUTRIENT MANAGEMENT PROGRAM
CURRENT ORGANIZATIONAL CHART

July 2015



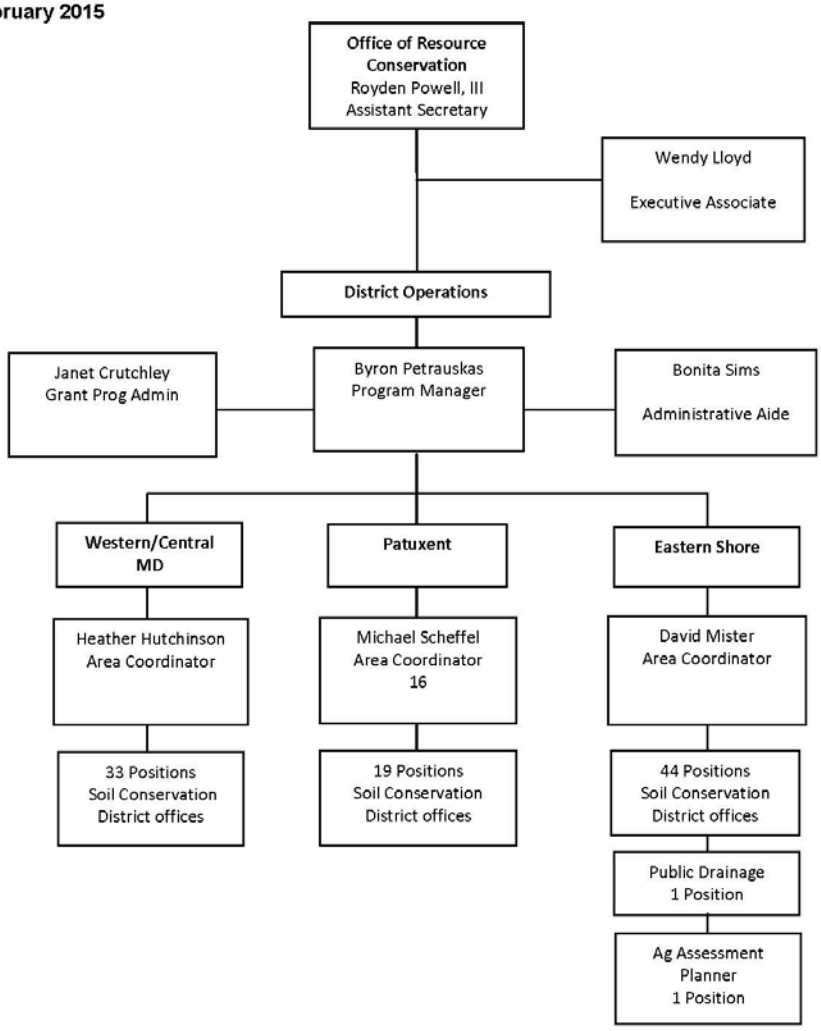
WATERSHED IMPLEMENTATION ORGANIZATIONAL CHART

May 2015



DISTRICT OPERATIONS ORGANIZATIONAL CHART

February 2015



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Best Management Practice Organization

While various Best Management Practice options exist for reporting agricultural conservation measures, four logical groupings have been designated for ease in summarizing verification protocols. *Visual Multi-Year* BMPs are those structural type practices which meet established NRCS Standards and Specifications and have been verified by trained Soil Conservation District Staff prior to reporting. *Visual Single Year* BMPs are those practices which are agronomic in nature but only remain on the landscape for less than one year. *Non-Visual Single Year* BMPs are practices which cannot be typically visually assessed due to lack of physical presence on the landscape. *Resource Improvement Visual Multi-Year* BMPs are those structural practices that have been approved by the CBP Partnership as providing environmental benefits while not adhering to NRCS Standards and Specifications.

Tables 1 and 2 below have been developed to organize individual BMPs into the appropriate grouping. While Figure 2 attempts to summarize each, a full description of the proposed verification protocol is also provided as a narrative. Each BMP identified has CBP approved definitions and all Resource Improvements are consistent with the approved CBP Resource Improvement Practice Definitions and Verification Visual Indicators Report.

Table 1: BMP Groupings

NRCS/MDA Code	Name	CBP Name	BMP Grouping	Data Source
327	Conservation Cover	LandRetireOpen	Visual Multi-Year	Conservation Tracker
342	Critical Area Planting	LandRetireOpen	Visual Multi-Year	Conservation Tracker
318	Dead Bird Composting Facility	MortalityComp	Visual Multi-Year	Conservation Tracker
382	Fencing	GrassBuffExcl ForestBuffExcl	Visual Multi-Year	Conservation Tracker
386	Field Border	GrassBuffers	Visual Multi-Year	Conservation Tracker
393	Filter Strip	GrassBuffers	Visual Multi-Year	Conservation Tracker
412	Grassed Waterway	GrassBuffers	Visual Multi-Year	Conservation Tracker
512	Pasture & Hayland Planting	LandRetirePas	Visual Multi-Year	Conservation Tracker

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528	Prescribed Grazing	PrecRotGrazing	Visual Multi-Year	Conservation Tracker
391	Riparian Forest Buffer	ForestBuffers	Visual Multi-Year	Conservation Tracker
390	Riparian Herbaceous Cover	GrassBuffers	Visual Multi-Year	Conservation Tracker
558	Roof Runoff Structure	BarnRunoffCont	Visual Multi-Year	Conservation Tracker
580	Streambank and Shoreline Protection	NonUrbStrmRest	Visual Multi-Year	Conservation Tracker
587	Structure For Water Control	WaterContStruc	Visual Multi-Year	Conservation Tracker
612	Tree/Shrub Establishment	TreePlant	Visual Multi-Year	Conservation Tracker
313	Waste Storage Structure	AWMS	Visual Multi-Year	Conservation Tracker
635	Wastewater Treatment Strip	BarnRunoffCont	Visual Multi-Year	Conservation Tracker
614	Watering Facility	OSWnoFence	Visual Multi-Year	Conservation Tracker
657	Wetland Restoration	WetlandRestort	Visual Multi-Year	Conservation Tracker
380	Windbreak/ Shelterbelt Establishment	TreePlant	Visual Multi-Year	Conservation Tracker
340	Cover Crop	Various	Visual Single Year	MACS Program
590	Nutrient Management	Tier 1,2 or 3 NM	Non-Visual Single Year	Nutrient Management Program
N/A	Soil Conservation Water Quality Plan	Conservation Plans/SCWQP	Visual Multi-Year	Conservation Tracker
N/A	Dairy Manure Incorporation	LiquidInjection	Non-Visual Single Year	Nutrient Management

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N/A	Poultry Manure Incorporation	PoultryInjection	Non-Visual Single Year	Nutrient Management Program
N/A	Conservation Tillage	ConserTillTot Acres	Visual Single Year	Nutrient Management Program
N/A	Irrigation Water Capture and Reuse	CapReuse	Visual Multi-Year	Conservation Tracker
N/A	Poultry Litter Treatment	Alum	Non-Visual Single Year	Nutrient Management Program
N/A	Cropland Irrigation Management	Cropirrmgmt	Non-Visual Single Year	Nutrient Management Program
800	Sorbing Materials in Ag Ditches	DitchFilter	Visual Multi-Year	Conservation Tracker
512	Horse Pasture Management	HorsePasMan	Visual Multi-Year	Conservation Tracker
N/A	High Residue Management	HRTill	Visual Single Year	Nutrient Management
561	Loafing Lot Management	LoafLot	Visual Multi-Year	Conservation Tracker
N/A	Manure Transport	ManureTransport	Non-Visual Single Year	MACS Program
N/A	Poultry Phytase	PoultryPhytase	Non-Visual Single Year	Established by CBP
N/A	10’ & 35’ Nutrient Application Setbacks	TBD	Visual Multi-Year	Conservation Tracker

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Table 2: Resource Improvement Groupings

RI Code	Name	CBP Name	BMP Grouping	Data Source
RI-1	Dry Waste Storage Structure	AWMS	RI Visual Multi-Year	Conservation Tracker
RI-2	Animal Compost Structure	MortalityComp	RI Visual Multi-Year	Conservation Tracker
RI-3	Alternative Crop/Switchgrass	CarSeqAltCrop	RI Visual Multi-Year	Conservation Tracker
RI-4a	Watercourse Access Control - narrow grass	GrassBuffExclNar	RI Visual Multi-Year	Conservation Tracker
RI-4b	Watercourse Access Control - narrow trees	ForestBuffExclNar	RI Visual Multi-Year	Conservation Tracker
RI-5	Watercourse Access Control – grass	GrassBuffExcl	RI Visual Multi-Year	Conservation Tracker
RI-6	Watercourse Access Control – trees	ForestBuffExcl	RI Visual Multi-Year	Conservation Tracker
RI-7	Grass Nutrient Exclusion Area on Watercourse	LandRetireOpen	RI Visual Multi-Year	Conservation Tracker
RI-8	Grass Buffer on Watercourse	GrassBuffers	RI Visual Multi-Year	Conservation Tracker
RI-9	Forest Nutrient Exclusion Area on Watercourse	TreePlant	RI Visual Multi-Year	Conservation Tracker
RI-10	Forest Buffer on Watercourse	ForestBuffers	RI Visual Multi-Year	Conservation Tracker

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RI-11	Vegetative Environmental Buffer for Poultry - grass		RI Visual Multi-Year	Conservation Tracker
RI-12	Vegetative Environmental Buffer for Poultry - trees	TreePlant	RI Visual Multi-Year	Conservation Tracker
RI-13	Conversion to Pasture	LandRetirePas	RI Visual Multi-Year	Conservation Tracker
RI-14	Conversion to Hayland	LandRetireOpen	RI Visual Multi-Year	Conservation Tracker
RI-15	Rotational Grazing	PrecRotGrazing	RI Visual Multi-Year	Conservation Tracker
RI-16	Barnyard Clean Water Diversion	BarnRunoffCont	RI Visual Multi-Year	Conservation Tracker
RI-17	Water Control Structure	WaterContStruc	RI Visual Multi-Year	Conservation Tracker
RI-18	Watering Trough	OSWnoFence	RI Visual Multi-Year	Conservation Tracker

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Figure 1 - Verfication Table

A. WIP Priority	B. Data Grouping	C. BMP Type	D. Initial Inspection *(Is BMP there?)*				E. Follow-up Check *(Is BMP still there?)*			F. Lifespan/ Sunset *(Is the BMP no longer there?)*	G. Data QA, Recording & Reporting
			Method	Frequency	Who inspects?	Documentation	Follow-up Inspection	Statistical Sub-sample	Response if Problem		
Structural BMPs											
High	Visual Multi-Year BMPs	Structural	SCD staff is on-site throughout the construction phase guided by NRCS's Engineering Folder Completion Checklist to ensure all elements of the design and construction are verified and documented.	At completion of installation	SCD Staff	Engineering Folder Project Completion Checklist	Annual MACS Spot-check reviews. Field inspection to determine whether the BMPs were constructed according to plan specifications and whether the BMPs are being maintained in accordance with contract. MDA proposes re-verification of structural BMPs by a BMP Verification Task Force consisting of 5 independent MDA employees.	10% of practices are re-verified annually.	Where the teams find unsatisfactory conditions, a letter of notification is sent to the farmer identifying the issue to be addressed and establishing a time frame to correct the problem. The BMP is re-inspected again, normally within a year, to ensure compliance and performance. The cooperator is ineligible to receive additional cost-share assistance until the BMP is brought back into compliance.	Established CBP BMP credit duration	MDA's implementation is currently tracked in MDA's Conservation Tracker regardless of funding source. All practices are entered into the Conservation Tracker which the Service Center Office has provided conservation technical assistance. This database has made it comparatively easy to eliminate double

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A. WIP Priority	B. Data Grouping	C. BMP Type	D. Initial Inspection *(Is BMP there?)*				E. Follow-up Check *(Is BMP still there?)*			F. Lifespan/ Sunset *(Is the BMP no longer there?)*	G. Data QA, Recording & Reporting
			Method	Frequency	Who inspects?	Documentation	Follow-up Inspection	Statistical Sub-sample	Response if Problem		
											counting and accurately report conservation practice implementation.
Medium	Resource Improvement Visual Multi-Year	Structural	MDA has developed the "Non-Cost Shared Best Management Practice and Resource Improvement Practice Verification Procedures Manual." This is consistent with *Chesapeake Bay Program Resource Improvement Practice Definitions and Verification Visual Indicators Report* (July 2014) and is being rolled out in June 2015.	At the time of discovery via SCD on-site inventories.	SCD staff	Spatial location, extent, and date of installation recorded into Conservation Tracker.	Re-verification of RIs will be led by the BMP Verification Task Force and will follow the approved Visual Indicator checklist. The estimated date of installation will be the tracking mechanism.	20% of RIs are re-verified annually	Once assessed, the RI status will be updated in Conservation Tracker to indicate "satisfactory" or "unsatisfactory", where those practices assessed as satisfactory will be eligible for re-verification again over the next credit duration and will be submitted through NEIEN protocols. Practices assessed as unsatisfactory will be removed.	Established CBP BMP credit duration	See above.
Agronomic BMPs											
High	Visual Single Year	Tillage	Report through NM Program	Annual (AIRs)	MDA nutrient management	Recorded Annual Implementation	Maryland is pursuing multiple	MDA staff strives to	Any problems noted during	Annual Practice	MDA's implementati

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			Method	Frequency	Who inspects?	Documentation	Follow-up Inspection	Statistical Sub-sample	Response if Problem		
		practices	Annual Implementation Report.		staff (AIRs review)	Report	methods to verify the extent of these tillage practices: 1) Utilizing remote sensing capabilities in partnership with USDA and USGS;.2) utilizing existing tillage surveys conducted annually by the Maryland NASS office and surveys conducted through the national public-private partnership Conservation Technology Information Center (CTIC, http://www.ctic.purdue.edu/CRM/); 3) Continue using the AIR reported acres of conservation tillage and high residue minimum disturbance as a compliment to the estimated acreages under reduced tillage; and 4) Increase the frequency of Conservation Tracker as a tool for reporting	complete about a minimum of 10% plan inspections per year	the review requires notation on the PIE form and a follow-up review. The timing of the follow-up review depends on the deficiency noted. Failure to correct the deficiency within the allotted time warrants further enforcement action, including fines. All information gathered during the PIE review and results are subsequently entered into the NM database.		on is currently tracked in MDA's Nutrient Management Program Database.

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			Method	Frequency	Who inspects?	Documentation	Follow-up Inspection	Statistical Sub-sample	Response if Problem		
							agronomic practices by SCD staff similar to the reporting and tracking of structural practices. Document reduced tillage through SCD staff verification of conservation tillage (NRCS 345) and high residue minimum disturbance (NRCS 329) during on-site farm inventories as part of a comprehensive SCWQP effort. None of these methods are currently in place however.				
High	Visual Single Year	Cover & Commodity Crops	Farmers are required to fall certify cover crop acres planted within 7 days of the planting deadline. 100% of contracts are reviewed and verified by staff.	Within 7 days of the planting deadline	SCD staff	Status Documented on Fall/Spring Certification Form	Field checks are performed in both the fall and spring.	At least 20% of acres of cover crops that are certified as being planted for 100% of participants who fall certify.	If after review by the SCD or MACS office it is determined that an applicant has failed to provide required documentation then any MACS Cover Crop Agreement(s) for the acreage in question will	Annual Practice	MDA's implementation is currently tracked in MDA's Cover Crop Program Database.

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A. WIP Priority	B. Data Grouping	C. BMP Type	D. Initial Inspection *(Is BMP there?)*				E. Follow-up Check *(Is BMP still there?)*			F. Lifespan/ Sunset *(Is the BMP no longer there?)*	G. Data QA, Recording & Reporting
			Method	Frequency	Who inspects?	Documentation	Follow-up Inspection	Statistical Sub-sample	Response if Problem		
									be cancelled by the MACS Administrator. The offending applicant may be placed on probation for one year by the MACS Administrator. The applicant will be ineligible to participate in any MACS Program during their probation.		
High	Non-Visual Single Year	Nutrient Management	NMP is reviewed by regional MDA NM staff to assure plans are prepared in accordance with appropriate requirements. This constitutes 100% verification of acres subject to NM regulations.	NMP is reviewed when it is submitted	MDA nutrient management staff	New Plan Reporting form reviewed by MDA and recorded in NM Database	Plan Implementation Evaluation (PIE) reviews. Farms identified for on-site field inspections are weighted toward those operations considered to have the greatest risk for water quality impacts, i.e. primarily operations managing manure. For the operations selected, farmer's records of crops	MDA staff strives to complete about a minimum of 10% plan inspections per year	Any problems noted during the review requires notation on the PIE form and a follow-up review. The timing of the follow-up review depends on the deficiency noted. Failure to correct the deficiency within the allotted time warrants further	Established CBP BMP credit duration	MDA's implementation is currently tracked in MDA's Nutrient Management Program Database.

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			Method	Frequency	Who inspects?	Documentation	Follow-up Inspection	Statistical Sub-sample	Response if Problem		
							grown and nutrients applied are compared to the NMP. The farmer is required to maintain records documenting the rate, timing, and method of nutrient applications, as well as crop yields. Farmer requirements are included in the Maryland Nutrient Management Program Plan Implementation Review Process for Operators, which is available to all farmers and prepared by the MDA Office of Resource Conservation.		enforcement action, including fines. All information gathered during the PIE review and results are subsequently entered into the NM database.		
High	Non-Visual Single Year	Manure Transport	Compliance procedures for the Manure Transport cover activities at the application stage to verify the eligible distance for transporting	At application stage	MDA MACS Staff	Chain of Custody Form identifies sending/receiving operation, hauler information and actual weigh-ticket information for each load being transported.	Subsequent procedures track and verify the chain of custody of the manure transport to ensure compliance with the initial approval and process the claim reimbursement.	10% spot-check for on-site farm reviews	If the applicant fails to comply with program guidelines, follow up action is taken by requiring corrective actions, possible exclusion from	Annual Practice	MDA's implementation is currently tracked in MDA's Manure Transport Program Database.

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A. WIP Priority	B. Data Grouping	C. BMP Type	D. Initial Inspection *(Is BMP there?)*				E. Follow-up Check *(Is BMP still there?)*			F. Lifespan/ Sunset *(Is the BMP no longer there?)*	G. Data QA, Recording & Reporting
			Method	Frequency	Who inspects?	Documentation	Follow-up Inspection	Statistical Sub-sample	Response if Problem		
			manure, compliance with applicable nutrient management regulations, and eligible acreage for manure application.				Manure receiving operations are also subject to onsite farm reviews immediately after implementation and focus on a) receiving operation utilization of manure transported is consistent with the nutrient management plan; b) crops or crop residue in a field are consistent with the nutrient management plan; c) "Delivery Site Guidelines" or "Stockpiling Guidelines" have been followed or are being followed and d) any residual manure will not cause any water quality concerns.		future participation, liability for funds paid, and referral to the Nutrient Management Implementation team for compliance enforcement.		
High	Manure Injection/Incorporation	Manure Injection/Incorporation	MDA tracks the acres of cropland practicing manure injection or incorporation through its	Annual Implementation Report (NM)	MDA nutrient management staff (AIRs review)	Recorded Annual Implementation Report	Plan Implementation Evaluation (PIE) reviews conducted for nutrient management are also used to verify manure	MDA staff strives to complete a minimum of 10% plan inspections per year	Any problems noted during the review requires notation on the PIE form and a follow-up review. The	Annual Practice	MDA's implementation is currently tracked in MDA's Nutrient Management

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			Method	Frequency	Who inspects?	Documentation	Follow-up Inspection	Statistical Sub-sample	Response if Problem		
			AIRs				injection/incorporation.		timing of the follow-up review depends on the deficiency noted. Failure to correct the deficiency within the allotted time warrants further enforcement action, including fines.		Program Database.
Other											

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Quality Assurance to Verify and Track Visual Multi-Year BMPs

Visual Multi-Year BMPs are installed on the agricultural landscape through a combination of federal and/or state cost-share assistance, or are fully farmer-funded. Regardless of funding source, all BMPs in this grouping are subject to rigorous quality assurance protocols to verify and report implementation.

State and/or Federal cost-shared Visual Multi-Year BMPs

Tracking BMPs

Maryland Soil Conservation Districts (SCDs) are the lead partner is delivering cost-share programs in Maryland. SCD staff work with farmers to develop voluntary, farm-specific Soil Conservation and Water Quality Plans (SCWQP) that assess resource needs of the operation, appropriate BMPs to address those resource needs, and potential funding mechanisms. Staff then works with cooperators to implement BMPs over a time period based on priority needs and available funding.

The State's primary funding mechanism is the Maryland Agricultural Water Quality Cost Share (MACS) program. The MACS Program has established a procedures manual (MACS Manual) utilized by all 24 SCDs which sets forth the policies and procedures of installing eligible BMPs for MACS cost-share assistance. The US Department of Agriculture also cost-shares independently or co-cost shares with MACS on BMP implementation through the Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA) cost-share programs. In all circumstances, NRCS provides a series of manuals (Field Office Technical Guides – FOTG) that describe the standards and specifications for the installation and maintenance of NRCS approved BMPs. The MACS Program relies on the established NRCS technical standards and specifications in the FOTG for the actual placement and installation of these BMPs.

Once any BMP is designed and installed in accordance with established NRCS standards, trained SCD staff enter appropriate BMP information into MDA's Conservation Tracker system. SCD staff are responsible for the timely submission of data into Conservation Tracker including spatial location of the BMP, extent or amount of BMP installed in NRCS established official unit of measure, date of final inspection performed by qualified SCD staff, and any cost-share sources (state, federal, farmer or NGO).

In addition, MDA Headquarters receives an annual report from NRCS at the conclusion of the state fiscal year of federally funded practices. This report is cross-referenced with Conservation Tracker to confirm all installed practices have been accounted for by MDA.

Initial Verification

The majority of Visual Multi-Year BMPs installed in Maryland are implemented through MACS cost-share or co-cost-shared between MACS and USDA cost-share programs. For these

practices, technical designs and standards are provided through the SCD to the contractor installing the structural practice(s). Qualified SCD staff with appropriate job approval authority as determined by the NRCS State Engineer, are on-site throughout the construction phase guided by NRCS's Engineering Folder Completion Checklist to ensure all elements of the design and construction are verified and documented. Upon completion of the BMP a final construction review is performed by qualified SCD staff to ensure that the project meets appropriate NRCS standards and specifications. This process is completed for 100% of structural BMPs and represents initial verification of installed Visual Multi-Year BMPs reported through Conservation Tracker.

Re-verification

Per State Regulation, during the established contract life of a MACS funded BMP, the project is subject to annual review. This is to ensure the project is being used and maintained in accordance with contractual obligations. MACS Spot-checks are completed annually by SCD staff from January through March. The MACS Office has established a *Guidelines for On-Farm Status Reviews* protocol that governs the implementation of the annual status review process. A random, computer generated sampling of 10% of all active practices under MACS contract is used as a basis for the review. The MACS Office at MDA Headquarters generates this random sample from a report within the MACS Database and sends it to the SCDs for a field review of the practice(s).

Once the SCD receives the list of MACS BMPs for review, the SCD schedules a visit with the cooperator. A qualified SCD staff member with appropriate job approval authority who was not involved in the initial design of the project performs an in-field evaluation of the BMP to ensure that all NRCS standards, specifications, and maintenance guidelines are still being met in accordance with the Soil and Water Conservation Plan and MACS agreement on file with the cooperator. Result of the review are recorded on a MACS Status Review Form and mailed to the MACS Office. Once received by the MACS Office, the evaluation is entered into the MACS database. The electronic record is automatically cross-referenced through a database join to the Conservation Tracker database for reporting and tracking purposes.

Where the inspecting SCD staff find unsatisfactory conditions, a letter of notification is sent to the farmer identifying the issue to be addressed and establishing a time frame to correct the problem. The BMP is re-inspected by qualified SCD staff again, normally within a year, to ensure compliance and performance. Possible reasons for unsatisfactory conditions could include a lack of maintenance or a change of property ownership. If there has been a change in property ownership, MDA institutes a transfer of maintenance requirements to the new owner through a Property Transfer Worksheet. If the new owner does not agree to maintain the BMP in accordance with the original contract, MDA seeks repayment from the original owner of principle per MACS Regulation. Maintenance issues are required to be addressed using the same NRCS technical standards applied during design and construction. In addition, the cooperator is ineligible to receive additional cost-share assistance until the BMP is brought back into

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compliance. When a project is reviewed and determined satisfactory, it is removed from the inspection eligible list for two years.

Non cost-shared Multi-Year Visual BMPs

Tracking BMPs

In addition to State and/or Federal Cost-share funding to assist in the implementation of NRCS approved BMPs, additional funds may be acquired from other state agencies, NGOs, or the farmer may opt to use their own funds solely. Regardless of the funding source, SCD staff is on-site throughout the construction phase to ensure all elements of the design and construction meet NRCS technical standards and specifications. This process is completed for 100% of structural BMPs at time of implementation and is essentially the same as for those that receive State or Federal Cost-share assistance. Subsequently, trained SCD staff is responsible for the timely submission of data into Conservation Tracker including spatial location of the structure, extent of the structure, date of installation, and cost-share sources if any.

Alternatively, farmers may install BMPs that meet NRCS technical design standards but the technical assistance was not provided by the SCD staff. Under these circumstances, BMPs may still receive water quality credit according to the CBPO's protocol for reporting and tracking non cost-shared BMPs. These practices are generally self-reported to the SCD or documented by SCD staff during farm visits. Regardless of how they are initially implemented, All Non-cost shared Multi-Year BMPs are subject to initial verification before being reported through Conservation Tracker.

Initial Verification

Consistent with the CBPO protocol, MDA has developed the "Non-Cost Shared Best Management Practice and Resource Improvement Practice Verification Procedures Manual" which provides guidance in the initial verification of non-cost shared BMPs that meet NRCS standards and specifications. As described in the manual, trained SCD staff perform an in-field site evaluation of the BMP to ensure that the appropriate NRCS standards and specifications have been satisfied. Once a determination has been made, the SCD staff completes a *Non-Cost Shared Best Management Practice Initial Verification Report* to document the site visit. Upon return to the office, the BMP is reported in Conservation Tracker and hard-copy report(s) are filed in the Conservation Plan Folder for the farm.

Re-verification

Re-verification of Non-Cost shared Multi-Year Visual BMPs will be tracked in the Conservation Tracker system. A random 10% list will be generated out of the system annually for re-verification. Trained SCD staff or a member of the proposed BMP Verification Task Force will be responsible for performing an in-field assessment of the BMP to ensure that the practice continues to meet the appropriate NRCS standard and specification. A *Non-Cost Shared Best Management Practice Verification Report* will be completed to document the current status of the project. Upon return to the office, the BMP status will be updated in the Conservation Tracker system to indicate a "satisfactory" or "unsatisfactory" condition with appropriate

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notation. The hard-copy report is also filed in the farm's Conservation Plan folder. If the BMP has been determined to be unsatisfactory, trained SCD staff may assist the farmer to bring the practice back into a satisfactory condition within one year. If repairs are not made within the specified time period, the practice will be flagged as unsatisfactory and credit removed as per the NEIEN reporting protocol.

Resource Improvement (RI) Visual Multi-Year BMPs

Tracking RIs

Structural BMPs installed by farmers without cost-share assistance and without SCD assistance that provide similar annual environmental benefits for water quality but do not meet all the design criteria of existing NRCS standards are known as Resource Improvements (RIs). Preliminary surveys of RIs in some Maryland counties (e.g. Howard and Baltimore) revealed an extensive number of RIs on the agricultural landscape in Maryland. While record keeping availability on the timing of RI installation can be challenging, it is agreed by the CBPO that these practices provide water quality benefits and should be credited toward WIP progress. As a result, the CBPO has approved a separate but concurrent process to identify and document RI existence.

Maryland SCD staff will be the lead partner in identifying and tracking RIs according to the "Non-Cost Shared Best Management Practice and Resource Improvement Practice Verification Procedures Manual." This manual, in addition to training materials and training workshops, has been rolled out in June 2015 and includes Visual Indicator checklists that qualified SCD staff can use to assess the functionality of a potential RI. Identification of RIs would generally occur during on-site farm inventories by SCD staff. If an RI meets the defined requirements of the Visual Indicator checklist, staff would record the spatial location of the structure, extent of the structure, and date of installation into the MDA Conservation Tracker system. The RI would be noted as Farmer Installed in Conservation Tracker.

Initial Verification

Maryland SCD staff, utilizing the aforementioned manual, will initially verify 100% of identified RIs by performing an on-site evaluation of the practice and completing an appropriate Visual Indicator Checklist. Upon return to the office, the BMP is reported in Conservation Tracker and hard-copy report is filed in the Conservation Plan Folder of the farm.

Re-Verification

RI practices will be re-verified at a more frequent interval since their design may not be as extensive as similar NRCS practices. Re-verification intervals have been established and documented in the manual. MDA will generate a random 20% list of RI practices that will be subject to an in-field re-verification by trained SCD staff or BMP Verification Task Force member. Re-verification will follow the approved Visual Indicator checklist to assess the continued water quality functionality of the RI. Upon return to the office, the RI status will be updated in the Conservation Tracker system to indicate a "satisfactory" or "unsatisfactory" condition with appropriate notation. The hard-copy report is also filed in the farm's Conservation

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Plan folder. If the RI has been determined to be unsatisfactory, trained SCD staff may assist the farmer to bring the practice back into a satisfactory condition within one year. If repairs are not made within the specified time period, the practice will be flagged as unsatisfactory and credit removed as per the NEIEN reporting protocol.

Quality Assurance to Verify and Track Visual Single Year BMPs

Tillage Practices

Conservation Tillage (> 30% residue cover) and High Residue Minimum Disturbance (> 60% residue cover) are popular agronomic practices in Maryland, implemented without cost share assistance or by regulatory requirement. Maryland currently uses the Nutrient Management Annual Implementation Reports (AIRs) to document these BMP acres. The AIR is a regulatory requirement under Maryland's Nutrient Management Program that is signed under penalty of perjury by the farm operator/owner which details several elements of the farming operation. The AIR is mailed in January of each year with a required response date of March 1. An accompanying instruction form is also provided to assist farmers in accurately completing this report.

While verification at the 100% threshold is infeasible, Maryland is pursuing multiple methods to verify the extent of these tillage practices: 1) Utilizing remote sensing capabilities in partnership with USDA-ARS Hydrology and Remote Sensing Lab and USGS;.2) utilizing existing tillage surveys conducted annually by the Maryland NASS office and surveys conducted through the national public-private partnership Conservation Technology Information Center (CTIC, http://www.ctic.purdue.edu/CRM/); 3) Continue using the AIR reported acres of conservation tillage and high residue minimum disturbance with at least 10% of operations verified during annual Nutrient Management Program Plan Implementation Evaluations; and 4) Initiate reporting of annual agronomic practices such as tillage in Conservation Tracker by SCD staff, similar to the reporting and tracking of structural practices. Document reduced tillage through SCD staff verification of conservation tillage (NRCS 345) and high residue minimum disturbance (NRCS 329) during on-site farm inventories as part of a comprehensive SCWQP effort.

Cover and Commodity Crops

The MDA Cover Crop program provides cost share incentive for farmers to plant winter cover crops immediately following a harvest of corn, sorghum, soybean, vegetables, or tobacco to mitigate leaching of excess nitrogen into the soil profile. The Cover Crop program follows a strict protocol for NRCS planting standards, cost share structure, and verification.

Farmers are required to fall certify cover crop acres planted within 7 days of the planting deadline. Since they may be eligible for planting incentives based on early planting dates, the fall certified fields must be planted in accordance with up to three deadlines. The program is administered at the field level by SCD staff where 100% of contracts are reviewed and verified by staff. Additionally, SCDs conduct follow-up field checks on at least a random 20% of acres of cover crops that are certified as being planted for 100% of participants who fall certify. If

participants fall certify for more than one planting date, a random 20% of the acres for each planting tier are checked so the participant may have multiple field checks on any given farm. If any issues arise with the participant's 20% field check, the SCD then expands the field check to include all the participant's certified acres. An additional field check of 20% of the active agreements in each district is done in late February/March using a list that is randomly generated by the MACS office. These checks require that SCD staff check at least 1 field for that applicant that was not checked in the fall. These are also done prior to kill down of the cover crop. MDA also reserves the right to have the SCD's verify kill down if the need arises. All in-field verification of cover crop implementation is recorded on the Fall/Spring Certification form associated with the contract. Unsatisfactory reviews are entered into the MACS Cover Crop database and the cooperator's account is flagged as being out of compliance with the program. Should the unsatisfactory condition remain unrectified, the cooperator is subject to contract cancellation and forfeiture of any cost-share payment.

Quality Assurance to Track and Verify Non-Visual Single Year Practices

Nutrient Management

The Maryland Water Quality Improvement Act of 1998 requires farmers with gross annual incomes of $2,500 or more, or livestock operations with 8,000 pounds or more of live animal weight to manage their nutrient applications in accordance with farm-specific Nutrient Management Plans (NMPs) that protect waterways from excess crop fertilizers and animal waste according to MDA's Nutrient Management regulations. NMPs are valid for three years and must be prepared by certified professionals. When an operation becomes subject to MDA's Nutrient Management regulations and an initial NMP is submitted along with a New Plan Reporting Form. These documents are reviewed by regional MDA staff to assure plans are prepared in accordance with appropriate requirements. If the review determines the plan is inadequate, the farmer is notified and must work with the NMP consultant to correct all identified deficiencies. This review constitutes 100% verification of acres subject to Maryland's Nutrient Management regulations. Plans can be prepared by the farmer (with technical assistance from a University of Maryland Extension expert) or consultants, but plans can only be prepared by those that have been certified (farmer or consultant). Consultants who do not prepare the plans properly risk losing their licenses.

Subsequent compliance with NMPs are verified by multiple methods and maintained in a separate MDA database for regulatory compliance. Nutrient management implementation in the agricultural sector is tracked to comply with multiple regulatory requirements:

- Farmers submit an initial NMP to MDA written by a certified nutrient management planner.

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- Farmers must submit an Annual Implementation Report (AIR) to MDA by March 1 for the previous calendar year. The AIR notes any changes to the operation, crops grown, fertilizer use, acreage managed, animal production, etc.
- Farmers are responsible to keep prescribed records of nutrient inputs and outputs.

Upon receipt at MDA, all submitted AIRs are reviewed for completion and compliance with Nutrient Management regulations. Errors or concerns with the AIRs can result in an on-site review of the operation by MDA regional staff. Additionally, operations can be randomly selected for review to ensure Nutrient Management compliance. In both instances, the process is known as the Plan Implementation Evaluation (PIE) review. On-site field inspections of NMPs started in 2005 and MDA staff strives to complete a minimum of 10% plan inspections per year. The strategy for identifying farms to inspect is weighted toward those operations considered to have the greatest risk for water quality impacts, i.e. primarily operations managing manure. For the operations selected, farmer's records of crops grown and nutrients applied are compared to the NMP. The farmer is required to maintain records documenting the rate, timing, and method of nutrient applications, as well as crop yields. Farmer requirements are included in the *Maryland Nutrient Management Program Plan Implementation Review Process for Operators*, which is available to all farmers and prepared by the MDA Office of Resource Conservation. A multi-part Nutrient Management Program PIE report is prepared to document the review and serves as the compliance enforcement notification when certain deficiencies are noted in the review. Any problems noted during the review requires notation on the PIE form and a follow-up review. The timing of the follow-up review depends on the deficiency noted. Failure to correct the deficiency within the allotted time warrants further enforcement action, including fines. All information gathered during the PIE review and results are subsequently entered into the Nutrient Management database.

MDA demonstrates progress towards WIP Nutrient Management goals through operational information provided in the AIRs and NEIEN submitted acreage is reduced by an amount equal to the compliance rate achieved through the PIE reviews (Table 3). The rationale is the AIR should reflect the operation's compliance with Nutrient Management regulations, as detailed by the farmer's NMP, whereby PIE reviews provide on-site inspections to verify compliance.

Table 3: Annual Nutrient Management performance & verification

State Fiscal Year	No. of Site Inspections	Acreage Reviewed on Site Inspection	Percent Inspections In-Compliance
2008	450	--	65%
2009	400	101,500	69%
2010	412	168,117	62%
2011	450	97,533	70%
2012	647	151,740	69%

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2013	738	177,030	73%
2014	733	177,030	66%

MDA will continue to utilize the AIRs as the primary source of reported acres re-emphasizing that AIRs are a regulatory requirement, not a voluntary survey, subject to legal enforcement. Concurrently, MDA is initiating efforts to improve the data quality of the AIRs and public understanding of Nutrient Management regulations. These efforts include: 1) a revised 2014 AIR form with clarified questions and sections; 2) MDA presentations at Nutrient Management and University of Maryland Extension events as outreach opportunities to increase awareness of AIR importance; and 4) increased coordination between the MDA WIP staff and the MDA Nutrient Management staff to accomplish program goals.

Manure Transport

MDA has developed inspection and verification of program compliance procedures for the Manure Transport Program to ensure the generating and receiving operations are eligible for cost-share assistance. Procedures cover activities at the application stage to verify the eligible distance for transporting manure, compliance with applicable nutrient management regulations, and eligible acreage for manure application. Subsequent procedures track and verify the chain of custody of the manure transport to ensure compliance with the initial approval and process the claim reimbursement.

Manure receiving operations are also subject to onsite farm reviews, upon transport, on a) receiving operation utilization of manure transported is consistent with the nutrient management plan; b) crops or crop residue in a field are consistent with the nutrient management plan; c) “Delivery Site Guidelines” or “Stockpiling Guidelines” have been followed or are being followed and d) any residual manure will not cause any water quality concerns. If the applicant fails to comply with program guidelines, follow up action is taken by requiring corrective actions, possible exclusion from future participation, liability for funds paid, and referral to the Nutrient Management Implementation team for compliance enforcement.

Manure injection/incorporation (*interim practice*)

Since January 2014, MDA regulations have required, with limited exceptions, the injection or incorporation of all organic nutrients sources within 48 hours of application, and have limited the timing of application to minimize nutrient losses. Currently these BMP efforts are not credited by the CBPO towards WIP progress, but are under review for inclusion.

MDA tracks the acres of cropland practicing manure injection or incorporation through its AIRs. Subsequently, verification and enforcement of manure injection or incorporation is confirmed through the NM PIE reviews described above.The PIE reviews provide an on-site field inspection focused on reviewing the records and conditions of the operation, consistent with the NMP and Maryland NM regulations. The PIE review process is focused on identifying those operations considered to have the greatest risk for water quality impacts, i.e. primarily

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operations managing manure. As a result, many of the 2014 reviews noted in Table 3 were animal operations subject to the manure incorporation requirements. A multi-part Nutrient Management Program PIE report is prepared to document the review and serves as the compliance enforcement notification when certain deficiencies are noted in the review. Any problems noted during the review requires notation on the PIE form and a follow-up review. The timing of the follow-up review depends on the deficiency noted. Failure to correct the deficiency within the allotted time warrants further enforcement action, including fines. All information gathered during the PIE review and results are subsequently entered into the NM database.

If and when manure incorporation and injection BMPs are approved for WIP progress, MDA will continue to utilize the AIRs to track annual acres of the practice coupled with the PIE review process to determine any compliance concerns specific to this regulatory requirement. Acres submitted for WIP credit would be adjusted accordingly.

Cropland Irrigation Management (*interim practice*)

MDA traditionally relied upon cropland irrigation estimates as reported through the USDA NASS Agriculture Census. Recently, MDA modified the Nutrient Management Annual Implementation Report to include the reporting of irrigation practices annually. It is MDA's intent to continue to utilize the AIR as a primary mechanism for reporting irrigation management as the AIR submission is a regulatory requirement.

MDA staff is also coordinating with the MDE Division of Water Supply concerning cropland irrigation management. Operators subject to irrigation permit issuance from MDE are required to submit annual reports of water withdrawal (gallons per month). Reports are maintained in a central MDE database with limited spatial attributes. Per conversations with the MDE Division of Water Supply Management, reporting records could be shared with MDA to substantiate the extent of crop irrigation, and as a cross-reference to acres of cropland irrigation reported through the MDA AIR process.

BMP Verification Task Force

In addition to Spot-Checks performed under the MACS Program, MDA proposes to establish a BMP Verification Task Force of five employees whose primary focus would be BMP re-verification. These employees would be an independent review team that reports directly to the Watershed Implementation Program outside the purview of the SCD offices. This would allow for a complete independent review of BMP implementation thereby eliminating any potential conflict of interest associated within an SCD office.

Each BMP Verification Task Force member would be responsible for a specific region of the state, coordinating directly with MDA Headquarters, to develop lists of BMPs eligible for re-verification. As with SCD staff, each member would be trained in the evaluation of BMP implementation to ensure that they are knowledgeable in the appropriate NRCS standards,

specifications, and maintenance requirements associated with the BMPs they are tasked with re-verifying.

Re-verification of Visual Multi-Year BMPs will be managed similar to the MACS spot-check process described above and will complement MACS re-verification efforts. A report will be generated from Conservation Tracker which identifies 10% of each BMP type that are subject for review by the Task Force. The Task Force member will notify the appropriate SCD office to obtain all necessary information regarding the identified BMP, including but not limited to the latest Soil Conservation and Water Quality Plan, Plan Map, and NRCS Implementation Requirements and Certification (Job Sheets) for the associated BMP.

Once appropriate BMP documentation is obtained by the SCD, the Task Force member will review the documentation and schedule a review through the SCD with the cooperator. An in-field evaluation of the BMP is then performed by the Task Force member to ensure that all NRCS standards, specifications, and maintenance guidelines are still being met in accordance with the Soil and Water Conservation Plan. Results of the evaluation are recorded on a Watershed Implementation Program Re-Verification Form (*under development*). Upon return to the office, results are recorded into Conservation Tracker and a copy of the evaluation form is sent to the local SCD office.

The BMP Verification Task Force members will be responsible for data entry and quality assurance. Once assessed, the BMP status will be updated in the Conservation Tracker system to indicate “satisfactory” or “unsatisfactory”, where those practices assessed as satisfactory will be eligible for re-verification again over the next credit duration and will be submitted through NEIEN protocols. Practices assessed as unsatisfactory will be removed for credit through the NEIEN protocol.

In order to successfully implement an independent BMP Verification Task Force, a dedicated funding source is vital to provided necessary resources. MDA estimates a total cost of $400,000 per year to support this effort. As BMP verification is a key component in the accurate accounting of annual implementation, additional financial support provided by EPA through CBRAP will be required.

Personnel Qualifications and Training

SCD Staff

As previously indicated, Soil Conservation District (SCD) staff serve as the primary contact point with Maryland’s agricultural cooperators to promote and administer BMP implementation via a comprehensive resource assessment included in the SCWQP. SCD staff includes trained conservation planners, technicians, and engineers that have formal education, experience, or a combination of both in the agronomic sciences consistent with our federal partner NRCS’s national directive for delivering SCWQP assistance. Once hired, NRCS use a formalized on-job training process known as Essential Knowledge, Skills, and Abilities for achieving Level I and

Level II Planner certifications with comparable procedures for technician and engineering staff. Continuing education training is required to maintain Planner certification. Promotion to Level I and Level II Planner certification also requires a formal review and documentation of SCD staff proficiency.

NRCS technical standards are used as a basis for technical adequacy and NRCS provides technical oversight for practice design and implementation to ensure consistency in interpretation and application of conservation practices. Additionally, throughout the conservation planning process multiple levels of review and approval in the planning, design, construction and approval process exists. For example, detailed job approval authorities outline the levels of work and expertise that are needed in each phase of the planning, design and installation. Quality assurance is provided by the multiple levels of review and approval within approved job approval levels.

In addition to formal NRCS training and certification, SCD staff are also required to take specific MDA-provided training in the evaluation and certification of Resource Improvement Practices. MDA also conducts annual refresher training in the proper use of Conservation Tracker to ensure consistent data reporting throughout the State.

NM Staff

Nutrient Management staff employed by MDA has prior experience (educational, professional, or both) that qualifies them to implement Maryland's Nutrient Managment regulations. All individuals must achieve Nutrient Management certification within one year, if not completed prior to hiring, and are subject to Continuing Education Unit requirements throughout the calendar year to maintain certification. Staff are assigned regional territories, including being located at central field offices, to provide proximity and flexibility to implement Maryland's Nutrient Management program.

BMP Verification Task Force

Individuals hired for the BMP Verification Task Force will have training and certification consistent with certified verifiers roles under Maryland's Agricultural Certainty Program. A certified verifier is "an individual certified by the Department...to review, inspect, and evaluate conditions, records, and management of an operation." Eligibility requirements include 1) 3 or more years experience in developing SCWQPs or qualified as an NRCS Level II Planner; 2) certification in Maryland to prepare NMPs; and 3) certification in the use of the Maryland Nutrient Trading Tool (including training and passing a competency test).

Documents and Records

MDA utilizes a centralized ORACLE Relational Database Management System to store program records. Records include ownership, farm information, watershed information, practice information, requested cost share information, and expected costs and design information if needed.

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Additional details about MDA's program-specific databases are provided below. A flow diagram of data systems and reporting protocols are shown in Figure 2.

Conservation Tracker

Maryland's Conservation Tracker Program is an integrated database management system design to track agricultural conservation implementation in Maryland. This system allows for the accurate assessment of all conservation activity, whether publicly and privately funded, in meeting the Chesapeake Bay TMDL as prescribed in Maryland's Watershed Implementation Plan. MDA provides information on programs and BMP implementation to Maryland's BayStat Program and to the Chesapeake Bay Program Office via the National Environmental Information Exchange Network.

Conservation data is collected locally by Soil Conservation District (SCD) staff from information maintained in farm-specific Soil Conservation and Water Quality Plans. Once collected, SCD staff are responsible for the timely reporting of this data using a local Conservation Tracker terminal.

Conservation data obtained using Conservation Tracker is reviewed and verified for conformation to program requirements and validated using data quality objectives established by MDA Office of Resource Conservation Operations. Only data that are supported by appropriate quality control criteria and meet the data quality objectives will be considered acceptable for reporting.

Data validation occurs at the time of entry into the Conservation Tracker System through the extensive use of field validations, including table lookups, formulas, and data-type restrictions. Once processed in the database, MDA generates various quality control charts and reports on a quarterly basis to identify potential data quality issues. Evaluation and verification of any data issue is resolved locally by SCD staff.

Data entered into Conservation Tracker is stored centrally at MDA in an ORACLE RDBMS and is maintained and backed-up nightly per MDA Information Technology Department Standard Operating Procedures.

MACS program

The SCDs promote and administer the MACS programs locally. Trained staff assist potential participants in applying for cost share and act as the liaison to assure that all applicant information required for processing the request is provided. The SCDs forward the information to the MACS office (MDA headquarters) and within 30 days of receipt of a complete application, the SCD is notified if the applicant is eligible for cost share. Applications submitted for MACS cost share are reviewed to ensure that the practices are needed, there is a positive environmental impact, and that the limits and parameters outlined in state law and regulations and per practice criteria as delineated in the MACS Manual are met. Applications are reviewed by trained qualified professionals and if the criteria are met they are approved for submission to

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the Board of Public Works for funding approval. The Board of Public Works consists of the Governor, the Comptroller and the Treasurer of the State of Maryland. Upon their approval the applicant is informed they may proceed with the planning, design and construction of the BMP.

Additionally, MDA staff conducts cross compliance checks between nutrient management compliance and applications for MACS cost share programs. Farmers who are out of nutrient management compliance or have not submitted required nutrient management documentation are not eligible to participate in state incentive programs. Farmers who receive financial assistance for agricultural waste management BMPs must have their nutrient management plan reviewed and approved by nutrient management staff prior to receiving payment. Data on submitted MACS applications are recorded in a database maintained by MDA. The data is initially entered by one MACS staff specialist and is reviewed by a second MACS specialist as it moves through the review and approval process. Outside sources of information are utilized to assure accurate and correct information. Information sources used for verification include tax maps, watershed maps, and aerial photography.

Data entered into the MACS database is stored centrally at MDA in an ORACLE RDBMS and is maintained and backed-up nightly per MDA Information Technology Department Standard Operating Procedures.

Roles and Responsibilities with regard to NEIEN

The National Environmental Information Exchange Network (NEIEN) is a partnership between the Bay jurisdictions and the CBPO for the secure, real time exchange of BMP implementation information. The Network uses extensible markup language (XML), web services for geo-location, and common data standards to transmit data from the jurisdictions to the CBPO. Existing data management systems are able to remain in place and through the Network, data is transferred based on strict formatting methods, or a schema The schema in use contains fields such as jurisdiction, data source, contact information, name of practice, practice components, unique ID for practices, location, unit of measure, quantity, status, and funding source.

BMP data are submitted on an annual or more frequent basis from MDA to MDE as part of a program to disseminate this data from agriculture-related sectors. The data are sent via electronic mail in MS Excel spreadsheets to MDE's Science Services Administration (SSA). SSA converts the data into a single database with a consistent format that conforms to the rigors demanded by the NEIEN, which began accepting data in 2010. Once SSA receives the BMP data from MDA, it conducts several formatting tests to make sure the information provided is consistent with previous NEIEN submission formats to assure successful conversion into an XML document, and acceptance by the CBPO node. MDE-SSA personnel test submissions received by MDA immediately after receipt. If there are non-conforming data, SSA reports results back to MDA for further modification until the deadline for submission is met. The NEIEN submission is verified by CBPO by sending out a summary of acceptance of the individual BMP types when processed by its Scenario Builder tool. MDA then has the

opportunity to review and update the submission prior to finalizing the annual submission. The exchange data provided contains projects that were implemented between July 1 and June 30 of each calendar year, corresponding to the State fiscal year.

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