

Draft Agricultural BMP Verification Guidance: Version 3.6.0

Chesapeake Bay Program Agriculture Workgroup (AgWG)

January 24, 2014

The following BMP verification methods have been identified by the Agriculture Workgroup as representing primary pathways for BMP verification and reporting being utilized by the partnership. The associated opportunities and limitations inherent for each method and BMP category type represent the current level of confidence that a sufficient level of verification can be implemented to ensure that the BMPs have been (1) implemented, are currently operational, and are being maintained to meet the BMP definition and relevant practice standards and requirements; and (2) be in compliance with the Chesapeake Bay Program Partnership's BMP Verification Principles, including any supporting addendums.

Annual BMPs: Conservation Tillage, High-Residue Minimum Soil Disturbance, Cover Crops; Commodity Cover Crops; Dairy Precision Feeding; Swine Phytase; Poultry Litter Transport; Poultry Litter Treatment; Poultry Phytase; Conservation Tillage / **Interim BMPs-** Dairy Manure Injection; Annual No-till; Poultry Litter Injection

Agricultural BMP Verification Methods	Assessment Methods	Verification Expectations	Annual BMPs	Cost-Sharing Information					BMP Performance					
				Federal C/S	State C/S	NGO C/S	Private Funded	Previously C/S BMPs (Expired Contract)	BMP Detection	Meets USDA/ State Design Specs	Meets Federal/State O&M Specs	Functionally Equivalent (Non-spec)	Non-functional Equivalent (Non-spec)	Installation Date (M/Y)
1.) Permit Issuing Programs	Verified compliance with federal NPDES (CAFO) or state agricultural operational permit program requirements.	Annual frequency of permit compliance inspections for all or sufficient statistical percentage of permitted operations during permit life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Possibly eligible	Eligible	Eligible
2.) Regulatory Programs	Verified compliance with federal or state agricultural regulatory requirements (non-operational permit).	Annual frequency of regulatory compliance inspections for all or sufficient statistical percentage of regulated operations. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Possibly eligible	Eligible	Eligible

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3.) Financial Incentive Programs	Verified compliance with federal program contractual requirements.	Annual frequency of contractual compliance inspections for all or sufficient statistical percentage of contracted operations during contractual life span. Review of office/farm records.	Eligible	Eligible	Possibly eligible	Possibly eligible	Not Eligible	Not Eligible	Eligible	Eligible	Eligible		Not Eligible	Eligible	Eligible
4.) Financial Incentive Programs	Verified compliance with state or county program contractual requirements.	Annual frequency of contractual compliance inspections for all or sufficient statistical percentage of contracted operations during contractual life span. Review of office/farm records.	Eligible	Possibly eligible	Eligible	Possibly eligible	Not Eligible	Not Eligible	Eligible	Eligible	Eligible		Not Eligible	Eligible	Eligible
5.) Financial Incentive Programs	Verified compliance with NGO program contractual requirements.	Annual frequency of contractual compliance inspections for all or sufficient statistical percentage of contracted operations during contractual life span. Review of office/farm records.	Eligible	Possibly eligible	Possibly eligible	Eligible	Not Eligible	Not Eligible	Eligible	Possibly eligible	Possibly eligible		Not Eligible	Eligible	Eligible
6.) Farm Inventory	Farm inventory by trained and certified federal, state, and/or county agency personnel.	Annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Eligible	Eligible	Eligible

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7.) Farm Inventory	Farm inventory by trained and certified NGO personnel.	Annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Eligible	Eligible	Eligible
8.) Farm Inventory	Farmer completes self-certified inventory survey and trained and certified federal, state and/or county personnel verify on-site.	Annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Eligible	Eligible	Eligible
9.) Farm Inventory	Farmer completes self-certified inventory survey and trained and certified NGO personnel verify on-site.	Annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Eligible	Eligible	Eligible
10.) Farm Inventory	Farmer completes in-office self-certified inventory with assistance of trained and certified federal, state and/or county agency personnel. No on-site verification.	Annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Possibly eligible
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13.) Farm Inventory	Farmer without training and certification completes self-certified inventory survey.	Annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span.	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible		Possibly eligible	Possibly eligible	Possibly eligible
14.) Office Records	Review of existing office records by trained and certified federal, state and/or county agency personnel. No on-site verification.	Annual frequency of office records review and verification for all or sufficient statistical percentage of operations during BMP life span.	Possibly eligible	Eligible	Eligible	Possibly eligible	Possibly eligible	Eligible	Not Eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Possibly eligible
15.) Farm Records	Review of existing on-farm records by trained and certified federal, state and/or county agency personnel. No on-site verification.	Annual frequency of on-farm records review and verification for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Possibly eligible	Possibly eligible		Possibly eligible	Eligible	Eligible
16.) Farm Records	Review of existing on-farm records by trained and certified NGO personnel. No on-site verification.	Annual frequency of on-farm records review and verification for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Possibly eligible	Possibly eligible		Possibly eligible	Eligible	Eligible
17.) Transect Survey	Statistically designed and recognized transect survey completed by trained and certified federal, state and/or county personnel.	Annual frequency of statistical transect surveys for a sufficient statistical percentage of operations during BMP life span.	Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Eligible	Eligible	Eligible		Eligible	Possibly eligible	Possibly eligible

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19.) CEAP Survey	CEAP statistical survey conducted in-person at field-level scale following NASS verification protocols.	Non-annual frequency of statistical CEAP surveys for a sufficient statistical percentage of operations during BMP life span may limit verification.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Possibly eligible	Eligible	Possibly eligible
20.) NASS Survey	NASS statistical survey conducted at farm-level scale following NASS verification protocols.	Annual frequency of statistical NASS surveys for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Eligible	Possibly eligible	Possibly eligible		Possibly eligible	Eligible	Possibly eligible
21.) NRI Point (NRCS) or some other statistically selected sites	Statistical survey conducted in-person at field-level with NASS trained and certified personnel.	Non-annual frequency of statistical NRI surveys for a sufficient statistical percentage of operations during BMP life span may limit verification.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Possibly eligible	Eligible	Eligible
22.) Remote Sensing	Statistically designed and recognized remote sensing surveys with supporting field-level scale ground-truthing verification.	Annual frequency of statistical remote sensing surveys implemented by trained and certified agency personnel, for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Possibly eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Not Eligible

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Structural BMPs: Animal Waste Management Systems; Barnyard Runoff Control; Biofilters; Lagoon Covers; Loafing Lot Management; Mortality Composters; Non-Urban Stream Restoration: Shoreline Erosion Control; Off-Stream Watering w/o Fencing; Stream Access Control with Fencing; Pasture Alternate Watering Systems; Soil Conservation & Water Quality Plan elements; Water Control Structures; Wetland Restoration / **Interim BMPs-** Dirt & Gravel Road Erosion & Sediment Control; P-Sorbing Materials in Ag Ditches

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20.) NASS Survey	NASS statistical survey conducted at farm-level scale following NASS verification protocols.	Non-annual frequency of statistical NASS surveys for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Eligible	Possibly eligible	Possibly eligible		Possibly eligible	Eligible	Possibly eligible
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Management BMPs- Plans: Decision/Precision Ag, Enhanced Nutrient Management; Horse Pasture Management; Nutrient Application Management; Precision Intensive Rotational Grazing; Prescribed Grazing; Soil Conservation & Water Quality Plans

[illegible]

[illegible]

[illegible]

[illegible]

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Management BMPs- Practices: Alternate Crops; Continuous No-Till; Forest Buffers; Grass Buffers; Land Retirement; Stream-Side Forest Buffers; Stream-Side Grass Buffers; Stream-Side Forest Buffers; Stream-Side Wetland Restoration; Tree Planting / **Interim BMPs-** Cropland Irrigation Management; Irrigation Water Capture Reuse; Tree Planting; Vegetative Environmental Buffers- Poultry

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3.) Financial Incentive Programs	Verified compliance with federal program contractual requirements.	Non- annual frequency of contractual compliance inspections for all or sufficient statistical percentage of contracted operations during contractual life span. Review of office/farm records.	Eligible	Eligible	Possibly eligible	Possibly eligible	Not Eligible	Not Eligible	Eligible	Eligible	Eligible		Not Eligible	Eligible	Eligible
4.) Financial Incentive Programs	Verified compliance with state or county program contractual requirements.	Non-annual frequency of contractual compliance inspections for all or sufficient statistical percentage of contracted operations during contractual life span. Review of office/farm records.	Eligible	Possibly eligible	Eligible	Possibly eligible	Not Eligible	Not Eligible	Eligible	Eligible	Eligible		Not Eligible	Eligible	Eligible
5.) Financial Incentive Programs	Verified compliance with NGO program contractual requirements.	Non-annual frequency of contractual compliance inspections for all or sufficient statistical percentage of contracted operations during contractual life span. Review of office/farm records.	Eligible	Possibly eligible	Possibly eligible	Eligible	Not Eligible	Not Eligible	Eligible	Possibly eligible	Possibly eligible		Not Eligible	Eligible	Eligible
6.) Farm Inventory	Farm inventory by trained and certified federal, state, and/or county agency personnel.	Non-annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Eligible	Eligible	Eligible

Agricultural BMP Verification Methods	Assessment Methods	Verification Expectations	Management Plans: Multi-Year Practices	Cost-Sharing Information					BMP Performance						
				Federal C/s	State C/s	NGO C/s	Private Funded	Previously C/s BMPs (Expired Contract)	BMP Detection	Meets USDA/ State Design Specs	Meets Federal/State O&M Specs	Functionally Equivalent (Non-spec)	Non-functional Equivalent (Non-spec)	Installation Date (M/Y)	Expiration Date (M/Y)
7.) Farm Inventory	Farm inventory by trained and certified NGO personnel.	Non-annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Eligible	Eligible	Eligible
8.) Farm Inventory	Farmer completes self-certified inventory survey and trained and certified federal, state and/or county personnel verify on-site.	Non-annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Eligible	Eligible	Eligible
9.) Farm Inventory	Farmer completes self-certified inventory survey and trained and certified NGO personnel verify on-site.	Non-annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Eligible	Eligible	Eligible
10.) Farm Inventory	Farmer completes in-office self-certified inventory with assistance of trained and certified federal, state and/or county agency personnel. No on-site verification.	Non-annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Possibly eligible
11.) Farm Inventory	Farmer completes in-office self-certified inventory with assistance of trained and certified NGO personnel. No on-site verification.	Non-annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span. Review of office/farm records.	Eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Possibly eligible

Agricultural BMP Verification Methods	Assessment Methods	Verification Expectations	Management Plans: Multi-Year Practices	Cost-Sharing Information					BMP Performance						
				Federal C/S	State C/S	NGO C/S	Private Funded	Previously C/S BMPs (Expired Contract)	BMP Detection	Meets USDA/ State Design Specs	Meets Federal/State O&M Specs	Functionally Equivalent (Non-spec)	Non-functional Equivalent (Non-spec)	Installation Date (M/Y)	Expiration Date (M/Y)
12.) Farm Inventory	Farmer with training and certification completes self-certified inventory survey.	Non-annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Possibly eligible
13.) Farm Inventory	Farmer without training and certification completes self-certified inventory survey.	Non-annual frequency of inventories for all or sufficient statistical percentage of operations during BMP life span.	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible		Possibly eligible	Possibly eligible	Possibly eligible
14.) Office Records	Review of existing office records by trained and certified federal, state and/or county agency personnel. No on-site verification.	Non-annual frequency of office records review and verification for all or sufficient statistical percentage of operations during BMP life span.	Possibly eligible	Eligible	Eligible	Possibly eligible	Possibly eligible	Eligible	Not Eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Possibly eligible
15.) Farm Records	Review of existing on-farm records by trained and certified federal, state and/or county agency personnel. No on-site verification.	Non-annual frequency of on-farm records review and verification for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Possibly eligible	Possibly eligible		Possibly eligible	Eligible	Eligible
16.) Farm Records	Review of existing on-farm records by trained and certified NGO personnel. No on-site verification.	Non-annual frequency of on-farm records review and verification for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Possibly eligible	Possibly eligible		Possibly eligible	Eligible	Eligible
17.) Transect Survey	Statistically designed and recognized transect survey completed by trained and certified federal, state and/or county personnel.	Non-annual frequency of statistical transect surveys for a sufficient statistical percentage of operations during BMP life span.	Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Eligible	Eligible	Eligible		Eligible	Possibly eligible	Possibly eligible

Agricultural BMP Verification Methods	Assessment Methods	Verification Expectations	Management Plans: Multi-Year Practices	Cost-Sharing Information					BMP Performance						
				Federal C/S	State C/S	NGO C/S	Private Funded	Previously C/S BMPs (Expired Contract)	BMP Detection	Meets USDA/ State Design Specs	Meets Federal/State O&M Specs	Functionally Equivalent (Non-spec)	Non-functional Equivalent (Non-spec)	Installation Date (M/Y)	Expiration Date (M/Y)
18.) Transect Survey	Statistically designed and recognized transect survey completed by trained and certified NGO personnel.	Non-annual frequency of statistical transect surveys for a sufficient statistical percentage of operations during BMP life span.	Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Eligible	Eligible	Eligible		Eligible	Possibly eligible	Possibly eligible
19.) CEAP Survey	CEAP statistical survey conducted in-person at field-level scale following NASS verification protocols.	Non-annual frequency of statistical CEAP surveys for a sufficient statistical percentage of operations during BMP life span may limit verification.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Possibly eligible	Eligible	Possibly eligible
20.) NASS Survey	NASS statistical survey conducted at farm-level scale following NASS verification protocols.	Non-annual frequency of statistical NASS surveys for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Possibly eligible	Eligible	Possibly eligible	Possibly eligible		Possibly eligible	Eligible	Possibly eligible
21.) NRI Point (NRCS) or some other statistically selected sites	Statistical survey conducted in-person at field-level with NASS trained and certified personnel.	Non-annual frequency of statistical NRI surveys for a sufficient statistical percentage of operations during BMP life span may limit verification.	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible	Eligible		Possibly eligible	Eligible	Eligible
22.) Remote Sensing	Statistically designed and recognized remote sensing surveys with supporting field-level scale ground-truthing verification.	Non-annual frequency of statistical remote sensing surveys implemented by trained and certified agency personnel, for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Possibly eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Not Eligible

Agricultural BMP Verification Methods	Assessment Methods	Verification Expectations	Management Plans: Multi-Year Practices	Cost-Sharing Information					BMP Performance						
				Federal C/S	State C/S	NGO C/S	Private Funded	Previously C/S BMPs (Expired Contract)	BMP Detection	Meets USDA/ State Design Specs	Meets Federal/State O&M Specs	Functionally Equivalent (Non-spec)	Non-functional Equivalent (Non-spec)	Installation Date (M/Y)	Expiration Date (M/Y)
23.) Remote Sensing	Statistically designed and recognized remote sensing surveys with supporting field-level scale ground-truthing verification.	Non-annual frequency of statistical remote sensing surveys implemented by trained and certified NGO personnel, for all or sufficient statistical percentage of operations during BMP life span.	Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Not Eligible	Possibly eligible	Not Eligible	Not Eligible		Not Eligible	Possibly eligible	Not Eligible