

Agricultural Inspections
July 1, 2016 through June 30, 2017

This is a summary of the results of the implementation of agricultural inspections across Pennsylvania’s portion of the Chesapeake Bay Watershed. The goal is to inspect all farms in the Chesapeake Bay Watershed in ten years; this equates to an inspection rate of 10% per year. According to 2012 Ag Census data, there are 33,610 Ag Census defined farms in the Bay Watershed. Recognizing the various definitions of the term “farm,” we believe a more accurate means of determining the proportion of farms inspected in the watershed is to use acreage associated with agriculture land use. According to USGS land use-land cover data, there are approximately 3,093,000 acres in agriculture in Pennsylvania’s Chesapeake Bay Watershed¹. These acres were determined using high-resolution imagery. Therefore, a 10% inspection rate of the farm acres across the Chesapeake Bay Watershed portion of the state would equate to inspecting approximately 309,300 acres of agricultural land annually.

The Chesapeake Bay Agricultural Inspection Program Standard Operating Procedure was revised in June 2017 to include items addressing lessons learned during the initial implementation of the inspection program as well as taking into account the comments EPA provided to DEP on the initial version of the inspection program. The Inspection Report was also revised and a more detailed form to account for Best Management Practice (BMP) implementation has been developed. The BMP form is a voluntary reporting tool; however, much like the Penn State Farm Inventory Survey, the more information that can be provided, the better we will be able to show progress toward meeting the Total Maximum Daily Load (TMDL) and Chesapeake Bay goals.

It is important to note that there are multiple state-run programs outside of the Chesapeake Bay Agriculture Inspection Program that institute annual, biennial, or five-year inspections of agricultural operations within Pennsylvania. In addition to the NPDES Concentrated Animal Feeding Operation (CAFO) permitting program, there are other state programs, including the Act 38 Nutrient Management Program, Resource Enhancement and Protection (REAP) tax credit program and Farmland Preservation. All three state programs contain some level of required inspection and verification.

Table 1. Farms and agriculture acres inspected from July 1, 2016 – June 30, 2017 as compared with total farms and acres in agriculture land use within Pennsylvania’s portion of the Chesapeake Bay Watershed.

2012 USDA Ag Census Farms in PA CB watershed	33,610
2013 Ag Land Use Acres in PA CB watershed	3,093,000
Total Farms Inspected	2,823
Total Acres Inspected (12.7%)	393,426
Farms Inspected under the Act 38 Program	743
Total Farm Acres Inspected under the Act 38 Program	147,762
Farms Inspected under the CB Ag Inspection Program	2,080
Total ag acres inspected under the CB Ag Inspection Program	245,664

PA Act 38 Nutrient Management Program

The PA Act 38 Nutrient Management Program is managed by the Pennsylvania State Conservation Commission (SCC) and Pennsylvania Department of Environmental Protection (DEP). Conservation Districts are delegated authority to review and approve Nutrient Management Plans; to perform site visits for new and amended Nutrient Management Plans; investigate complaints; and to perform annual status reviews (inspections) of all Act 38 regulated agricultural operations. Where there is no delegation, the SCC takes on those tasks.

All agricultural operations that are permitted as Concentrated Animal Feeding Operations (CAFOs) under the federal NPDES permit are required to have and implement an Act 38 Nutrient Management Plan (NMP). All Concentrated Animal Operations (CAOs) that meet the animal density threshold of 2.0 Animal Equivalent Units (AEUs) per acre are required to have and implement an Act 38 NMP. These NMPs are written by certified planners, reviewed by certified conservation district or SCC staff, and publicly approved/disapproved by the local conservation district Board of Directors. All farms with approved Act 38 NMPs are inspected by conservation district or SCC staff annually. This inspection includes identifying that current NMPs and Agriculture Erosion and Sediment Control (Ag E&S) plans exist but also that the plans are being implemented in accordance with the schedule of operations. A total of 743 annual status reviews were completed on farms for the Act 38 Nutrient Management Program; 80% of the farms were found to be in full compliance with implementing their plans and other program obligations.

In addition to the annual status review inspections, on-site farm visits are executed for all new and amended NMPs. NMPs are amended at least once every three years. This farm visit and plan review includes verifying the existence of a current Ag E&S Plan and that the NMP includes a schedule of operations for best management practice implementation complementary to the current Ag E&S Plan.

In addition to the annual on-site inspections, conservation districts also perform complaint investigations under the Nutrient Management and Chapter 91 Manure Management delegation agreement. Complaint processing and follow-up include both CAFO and non-CAFO agricultural operations. In FY2016, there were 143 complaints processed under the Nutrient Management delegation, of which 77 required compliance action and 16 were referred to the DEP regional office for follow-up.

Chesapeake Bay Agricultural Inspection Program

The inspections for this past Fiscal Year of July 1, 2016 – June 30, 2017 did not begin until September 1, 2016. This was due to a delayed roll-out of the inspection program and trainings having occurred throughout the summer of 2016.

The Chesapeake Bay Agricultural Inspection Program Standard Operating Procedure requires the submission of a summary report from the conservation districts and regional DEP offices indicating the number of farms known to be in compliance with the planning obligations prior to the initiation of this new inspection program. Conservation Districts and Regional Offices provided lists of farms that they had knowledge of meeting the plan requirements. One thing to note is that not all conservation districts and regional offices kept track of the farms that they had assisted throughout the years, and so it is important to remember that this known number is highly conservative. There are 550 farms known to meet the Chapter 102 and Chapter 91 planning requirements in addition to those that were inspected this past year through the Act 38 Nutrient Management and Chesapeake Bay Ag Inspection Programs. Using the average acres of farms inspected (140 acres), this number of farms translates to approximately 77,000 acres of farmland known to be meeting the planning requirements under Chapter 102 and Chapter 91 at the time this inspection program was initiated.

In addition to the 743 site visits and annual inspections completed under the Act 38 Nutrient Management Program, 1,572 small farm inspections were completed by conservation districts and 508 small farm inspections were completed by DEP regional office staff under the Chesapeake Bay Agricultural Inspection Program. The total acres inspected were 245,664.

During the reporting time-period of September 1, 2016 through June 30, 2017, there were 20 referrals for plan violations to Central Office Bureau of Clean Water (BCW) for follow-up. In addition, there were 3 referrals for water quality related violations to the respective Regional Office for follow-up. Of those 20 plan violation referrals, 14 Notices of Violations (NOVs) have been mailed to the landowner or landowner/operator with an indication to the farmer that they must act in a requested timeframe to address the lack of plan documentation. DEP BCW staff received plans and closed 5 open cases.

Moving into the next fiscal year, farmers referred to DEP as potential violators will continue to receive NOV's and progressive enforcement steps will be initiated for those that do not provide the requested plans within the time frame identified in the NOV.

More detailed information regarding the number and relative percent of farms where the plans were required, the operation has a written plan, and if the written plan meets the regulatory requirements is provided below since the start of inspections (September 1, 2016 – June 30, 2017).

Table 2. Chesapeake Bay Ag Inspection Program Manure Management Plan (MMP) Summary

Output	Number	Percent
Manure Management Plan is required, as per Chapter 91.36(b)	1,692 out of 2,080	81% of farms that were inspected are required to have and implement Manure Management Plans
Operation has written Manure Management Plan	1,188 out of 1,692	70% of farms that are required to have MMPs were found to have had written MMPs
Manure Management Plan meets the planning requirements (administrative completeness)	1,099 out of 1,692	65% of farms that are required to have MMPs were found to have MMPs that met the planning requirements in Chapter 91.36(b) and the Manure Management Manual upon initial inspection
Operations reporting to have received assistance with Manure Management Plan development	901 out of 1,188	76% of farms that were found to have had a written MMP reported to have received some level of assistance with plan development

Table 3. Chesapeake Bay Ag Inspection Program Agriculture Erosion and Sediment Control Plan (Ag E&S) Summary

Output	Number	Percentage
Ag E&S Plan is required, as per Chapter 102.4(a)	1,715 out of 2,080	82% of farms that were inspected are required to have and implement Ag E&S Plans
Operation has written Ag E&S Plan	1,168 out of 1,715	68% of farms that are required to have Ag E&S Plans were found to have had written Ag E&S Plans
Ag E&S Plan meets the planning requirements (administrative completeness)	1,072 out of 1,715	63% of farms that are required to have Ag E&S Plans were found to have Ag E&S Plans that met the planning requirements in Chapter 102.4(a) upon initial inspection
Operations reported to have received assistance with Ag E&S Plan development	755 out of 1,168	65% of farms that were found to have had a written Ag E&S Plan reported to have received some level of assistance with plan development

REAP Program Compliance Process

The REAP (Resource Enhancement and Protection) program was established in 2007 as an opportunity for farmers and landowners to offset costs associated with the implementation of conservation BMPs and the purchase of conservation equipment (like no-till planting equipment). It is a first-come, first-served program administered by the State Conservation Commission with an allocation of \$10 million in state tax credits for the fiscal year of July 1, 2016 – June 30, 2017. Eligible applicants can receive 50% or 75% (depending on the BMP) of out-of-pocket expenses in the form of PA tax credits.

An applicant's eligibility for the REAP program is determined by compliance with the PA Clean Streams Law: namely compliance with the Conservation/Ag E&S Plan, and Nutrient/Manure Management Plan obligations. REAP applicants must include a signature in their REAP application from a qualified individual - verifying that the applicant meets these eligibility requirements. Individuals that are qualified to verify a REAP applicant's compliance status include: Conservation District employees, NRCS employees, private sector ag technical service provider who have ACT 38 Nutrient Management Certification. Since 2007, REAP has approved over 3,250 applications from almost 2,350 farmers (farmers can apply more than once to the program). A farmer must have their Ag E&S and MMP compliance status verified each time they apply.

The typical verification process involves confirming that the farmer has the relevant erosion control and manure management plans (Plans) that are required by PA Law for all acres currently operated and that the Plans are "current and up-to-date". This means the farmer must be on-schedule for full implementation of the Plan; and any animal concentration area-related practice listed in the Plan must be fully implemented before an applicant is eligible for REAP credits

The person verifying a REAP applicant's ag compliance is expected to do a complete site visit of the operation to confirm the farmer's Plans are "current and up-to-date". Often, REAP applicants have completed NRCS/EQIP projects or have worked closely with their Conservation District on other projects on the farm. Since 2007, approximately 70% of REAP applicants had their compliance status verified by a public entity (District, NRCS). The rest have been verified by qualified private service providers. In FY2016, 230 farms were verified in the Chesapeake Bay Watershed.

These on-farm inspections by qualified specialists could be relevant to include in the total number of farms and farm acres inspected over the past year, but given the concern of double counting farms and farm acres, and in an effort to remain conservative in the reporting of inspected acres under this inspection initiative, the farms and farm acres assessed under the REAP program were not included in the inspections totals in this summary.

Conclusion

Inspections of agricultural operations have occurred through the NPDES CAFO permitting program as well as Act 38 for many years. There are also follow-up inspections due to complaints and pollution incidents that have been and continue to occur. The addition of the Chesapeake Bay Agriculture Inspection Program adds one more layer of on-farm inspections to help to identify farms that may be in need of further assistance and oversight. While the primary goal may be for compliance assessment and assistance on farms, the reason for the state regulations hinges on the conservation of natural resources, to include resources that are needed by the agricultural community – soil, nutrients, and water. By minimizing accelerated erosion and sedimentation, farms will retain their valuable soil resource on which to grow crops. By managing manure nutrients appropriately, manure is utilized in a manner that is basic to the agronomic needs of the crop. These efforts ensure a sustainable farm community. Just as farmers need healthy land and livestock, watermen need healthy water and fish; improvements made to local water quality will improve the Bay.

This kick off year for the expanded farm inspection program for the fiscal year July 2016 – June 2017 has been a strong success, inspecting over 390,000 acres and initiating follow up actions to ensure compliance with state and federal nutrient planning and erosion control obligations. The program is planned to continue as resources and partner participation permits.

Acknowledgements

This work hinges on the active participation of the conservation districts and the DEP regional offices that contribute to the Chesapeake Bay Agricultural Inspection Program and related inspection programs. Their efforts are much appreciated and the individuals working on these inspections are recognized for the professional and effective way they continue to carry out these activities.

Citations

¹ 2013 land use data provided by Chesapeake Bay Program Office staff, June 8, 2017.
<https://mpa.chesapeakebay.net/NutrientData.html>