



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION



Chesapeake Bay Program Office

Draft Scenario Results for PA

July 10, 2018

Scenario results subject to change

Agriculture

- PA as a whole needs to reduce:
 - 52.7 M lbs N from 2017
 - 2.03 M lbs P from 2017
- PA Agriculture has the theoretical potential to reduce:
 - 62.3 M lbs N from 2017
 - 2.51 M lbs P from 2017

Agricultural Recommendations

Agricultural Compliance

- Include development and implementation of
 - nitrogen-based “core” nutrient planning on 90% of applicable crop and hay lands receiving manure
 - N-based and P-based “core” nutrient planning on 90% of those crop and hay lands from CAO farms subject to “Act 38” nutrient planning requirements under PNMA
 - Ag E&S or conservation plans on 90% of crop and hay lands
- Include implementation of
 - proper runoff controls on 90% of feed/barnyard areas on permitted CAFO farms
 - proper runoff controls on 67% of feed/barnyard areas on non-permitted farms

Agricultural Recommendations

Performance of Practices for Improvement of Soil Health:

Residue Management

- Attainment of
 - 30% field residue or canopy cover on 67% of lands used for production of corn silage crops
 - 30% field residue or canopy cover on 67% of lands used for production of small grains and double-cropped lands.
 - 60% field residue or canopy cover on 67% of lands used for production of other crops

Agricultural Recommendations

Performance of Practices for Improvement of Soil Health: **Management and Use of Cover Crops**

- Planting and management of non-harvested
 - Cover crop on 33% of land used for production of silage crops that receive fall manure application
 - Cover crop on 50% of non-silage crop land that receives a fall manure application
 - Cover crop on 50% of crop land that does not receive a fall manure application

Agricultural Recommendations

Performance of Practices for Improvement of Soil Health: **Prescribed Grazing**

- 50% of land used for pasture follow prescribed grazing plans, including, where appropriate, sufficient fencing to exclude animals from streams

Agricultural Recommendations

Enhanced NM Planning – Lands Not Receiving Animal Manure

- Attainment of 20% of crop land not currently receiving animal manure managed
 - pursuant to a nitrogen-based and phosphorus-based nutrient management plan
 - with plans that both: (i) address both nitrogen and phosphorus; and (ii) implement enhanced nutrient management practices for rate, timing, and placement of land application of nutrients

Agricultural Recommendations

Enhanced Development and Operation of Manure Storage Facilities

- Attainment of
 - 90% of swine and poultry operations with sufficient on-farm manure storage capacity to prevent frequent land application of manure
 - 75% of other livestock operations with sufficient on-farm manure storage capacity to prevent frequent land application of manure

Agricultural Recommendations

Precision Feeding and Management Diet

- Attainment of dairy precision feeding on 33% of Pennsylvania dairy operations

Development of Integrated System for Elimination of Excess Manure

- Efforts to develop coordinated regional systems to facilitate elimination of excess manure through enhancement of manure transportation and manure treatment system

Agricultural Recommendations

Enhanced Development of Forested and Grassed Buffer

- Attainment of
 - an additional 25% of land adjacent to streams for establishment of forested buffers at least 35 feet in width
 - an additional 15% of land adjacent to streams for establishment of grassed buffers at least 35 feet in width
 - Localized targeting of buffer enhancement
 - Additional incentives for buffer participation by landowners
 - Additional technical and maintenance assistance

Agricultural Recommendations

Additional Recommendations

1. Discourage imposition of legal mandates on stakeholders and landowners
 - Establishment of rules that inhibit any attempt to accomplish water quality improvement objectives through local ordinance regulation
2. Financial and tax incentives for landowner participation in changing or preserving land use
 - Participating landowners be given adequate compensation for those portions of their lands that restricted in use as a result of implementation of a BMP practice performed pursuant to WIP-3, and that such portions be fully excluded from property and related taxes for the life of that BMP practice

Agricultural Recommendations

Additional Recommendations

3. Reporting and confidentiality

- Revision to state laws governing public access to information that would extend confidentiality to full exclusion from public access for any farm specific information reported by the agricultural industry and for any information reported in the course of any data reporting and collection initiatives established by the Commonwealth related to the performance of nutrient and sediment reduction activities

4. Increased technical assistance in design and implementation of agriculture BMPs

- Investments that will significantly increase number of available technical and oversight staff to assist farmers in effective BMP implementation and to streamline the permitting process

Agricultural Recommendations

Additional Recommendations

5. Advanced Soil Health Initiatives

- Facilitate advanced soil health management on farms and that the Bay Program office establish in Bay Model a creditable BMP for implementation of advanced soil health strategies or plans on farms

6. Innovative regulatory incentives for attainment of priority agricultural BMP implementation initiatives

- Consideration and implementation of this approach

Agricultural Recommendations

Additional Recommendations

7. Reevaluations of existing funding sources and their uses

- Extensive and comprehensive reevaluation of existing environmental funding sources and criteria for project funding, for the purpose of redirecting significant sums and uses of funding under existing point source and nonpoint source programs to uses consistent with agricultural environmental improvement measures identified and supported in Pennsylvania's Phase 3 WIP.

Agricultural Recommendations

Additional Recommendations

8. Enhanced Nutrient Management Planning for Biosolids

- Required management planning and implementation should be expanded to also include management of phosphorus.

9. Expanded Coordination of Joint MS4 and Nonpoint Source Nutrient Pollution Reduction Actions and Offsetting

- Efforts of MS4-regulated communities should develop strategies that will help meet their permit requirements through engagement of cooperative and integrated deployment of nutrient reduction practices on farms outside their borders

Agricultural Recommendations

Additional Recommendations

10. Coordinated Streambank Measures

- Increased efforts to evaluate the feasibility of state and local administrative programs for assessing and implementing where appropriate coordinated streambank restoration projects to compliment local forested and grassed buffer development, with employment engagement of necessary technical personnel in performance of that evaluation

11. Increased and Extensive Focus in Legacy Sediment Programs

- Stronger support and backing by Pennsylvania to work with necessary parties in ensuring that legacy sediment improvement strategies get due recognition and crediting the Chesapeake Bay Model.

➤ Reductions from Agricultural Scenarios

Scenario	N	P	Percent N Achieved/ Cumulative N Achieved	Percent P Achieved/ Cumulative P Achieved
Reductions Needed from 2017	52,700,000	2,030,000	NA	NA
Compliance	8,113,000	236,000	15%/15%	12% / 12%
Soil Health	7,689,000	327,300	15% / 30%	16% / 28%
Expanded NM	817,000	44,200	2% / 32%	2% / 30%
Manure Storage	7,058,000	303,900	13% / 45%	15% / 45%
Dairy Feed Management	610,000	61,200	1% / 46%	3% / 48%
Buffers	8,070,000	1,001,400	15% / 61%	49% / 97%
Manure Transport	957,000	181,500	2% / 63%	9% / 106%

Scenario	N	P	Percent N Achieved / Cumulative N Achieved	Percent P Achieved / Cumulative N Achieved
Reductions Possible from 2017	62,282,000	2,508,000	NA	NA
Compliance	8,113,000	236,000	13% / 13%	9% / 9%
Soil Health	7,689,000	327,300	12% / 25%	13% / 22%
Expanded NM	817,000	44,200	2% / 27%	2% / 24%
Manure Storage	7,058,000	303,900	11% / 38%	12% / 36%
Dairy Feed Management	610,000	61,200	1% / 39%	3% / 39%
Buffers	8,070,000	1,001,400	13% / 52%	40% / 79%
Manure Transport	957,000	181,500	1% / 53%	7% / 86%

▶ Aggregated Top Scenario Reductions

- PA as a whole needs to reduce:
 - 52.7 M lbs N from 2017
 - 2.03 M lbs P from 2017
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 - 62.3 M lbs N from 2017
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