



# Maryland Department of Agriculture

*Office of the Secretary*

**Larry Hogan**, Governor  
**Boyd K. Rutherford**, Lt. Governor  
**Joseph Bartenfelder**, Secretary  
**Julianne A. Oberg**, Deputy Secretary

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August 23, 2019

The Honorable Lawrence J. Hogan Jr.  
Governor  
100 State Circle  
Annapolis, MD 21401

The Honorable Adrienne A. Jones  
Speaker  
Maryland House of Delegates  
State House, H-101  
100 State Circle  
Annapolis, MD 21401

The Honorable Thomas V. Mike Miller, Jr.  
President  
Maryland Senate  
State House, H-107  
100 State Circle  
Annapolis, MD 21401

## **RE: Report Required by COMAR 15.20.08.11 E**

Dear Governor Hogan, Speaker Jones and President Miller:

COMAR 15.20.08.11 E states that “Beginning December 1, 2016, and each year thereafter, until the Phosphorus Management Tool is fully implemented, the committee shall provide a report to the governor and the General Assembly.” The report shall include:

- A summary of the data collected from farms related to the operational changes created by implementing the Phosphorus Management Tool
- The status of certain programs related to or supporting the transition to the Phosphorus Management Tool
- Resource needs considered critical for the effective transition to the Phosphorus Management Tool
- Policy recommendations to enhance the implementation of the Phosphorus Management Tool

I have included the 2018 annual report. I hope you find the information contained in this report useful. Should you have any questions, please do not hesitate to reach out to Cassie Shirk, Director of Legislation and Governmental Affairs, at [cassie.shirk@maryland.gov](mailto:cassie.shirk@maryland.gov) or 410-841-5886.

Sincerely,

A handwritten signature in cursive script that reads "Joseph Bartenfelder". The signature is written in black ink and is positioned below the word "Sincerely,".

Joseph Bartenfelder  
Secretary, Department of Agriculture



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# 2018 Progress Report

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## Phosphorus Management Tool Transition Advisory Committee

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A Report to  
Governor Larry Hogan and the members of the  
Maryland General Assembly

**December 1, 2018**



Larry Hogan  
*Governor*

Boyd K. Rutherford  
*Lt. Governor*

Joseph Bartenfelder  
*Secretary*

Julianne A. Oberg  
*Deputy Secretary*

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# 2018 Progress Report

## Phosphorus Management Tool Transition Advisory Committee

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## THE PHOSPHORUS MANAGEMENT TOOL TRANSITION ADVISORY COMMITTEE

Established by regulation, the Phosphorus Management Tool (PMT) Transition Advisory Committee, chaired by the Maryland Secretary of Agriculture, includes members appointed by stakeholder groups and members appointed by the secretary. The committee was established in 2015 and will continue to meet until the Phosphorus Management Tool is fully implemented. Meeting dates will be established at the discretion of the secretary. The committee meets at least annually at a time determined by the department.

The purpose of the committee shall be to:

- Evaluate information relevant to the implementation of the Phosphorus Management Tool including:
  - ✓ The quantity and location of excess manure within the state
  - ✓ The status and activity of manure transportation activities in geographic areas with excess animal manures
  - ✓ The viability of markets for animal manures as a crop fertilizer, fuel stock for energy generation, and other alternative uses
  - ✓ The status and capacity of alternative use technology using animal manures
  - ✓ Other information the department and the advisory committee deem appropriate
- Recommend to the secretary strategies to facilitate the effective implementation of the Phosphorus Management Tool
- Recommend to the secretary potential changes to the implementation schedule for the Phosphorus Management Tool, as provided for in this chapter
- Identify resources necessary for the effective transition to the Phosphorus Management Tool

The committee met with the deputy secretary on November 20, 2018, to review its responsibilities and receive updates on the Phosphorus Management Tool. Committee members were updated by the department, and partner agencies, and heard valuable input from committee members. This report provides a summary of the 2018 meeting and explores the recommendations of the committee.

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## 2018 ADVISORY COMMITTEE MEMBERS

Joseph Bartenfelder  
Maryland Secretary of Agriculture

Thomas Middleton  
Maryland Senate Representative

Stephen Lafferty  
Maryland House of Delegates Representative

Chris Clark  
Maryland Energy Administration

Charles Wright  
Maryland Farm Bureau

Kevin Anderson  
Maryland Grain Producers

Virgil Shockley  
DelMarVa Poultry Industry

Allen Stiles  
Maryland Dairy Industry Association

Ray Ellis  
Manure Hauling Industry- Poultry

Vacant  
Alternative Technology

Nancy Hausroth  
Maryland Municipal League

Ben Grumbles/Lee Currey (alt.)  
Maryland Department of the Environment

Jason Gillespie  
Maryland Environmental Service

Mark Hoffman  
Chesapeake Bay Commission

Craig Beyrouthy/Patricia Steinhilber (alt.)  
University of Maryland AGNR

Alison Prost  
Chesapeake Bay Foundation

Paul Spies  
Chester River Association

Shelly Baird  
Nanticoke River Alliance

John Uzupis  
Synagro (Biosolids Industry)

Phil Snader  
Manure Application - Dairy, Food Waste

Vacant  
Alternative Technology

Vacant  
Maryland Association of Counties

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## INTRODUCTION

This report to the governor and the members of the General Assembly is in accordance with COMAR 15.20.08.11(E) which states that “Beginning December 1, 2016, and each year thereafter, until the Phosphorus Management Tool is fully implemented, the committee shall provide a report to the governor and the General Assembly.” The report shall include:

- A summary of the data collected from farms related to the operational changes created by implementing the Phosphorus Management Tool
- The status of certain programs related to or supporting the transition to the Phosphorus Management Tool
- Resource needs considered critical for the effective transition to the Phosphorus Management Tool
- Policy recommendations to enhance the implementation of the Phosphorus Management Tool

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## EXECUTIVE SUMMARY

### **The Phosphorus Management Tool**

The Phosphorus Management Tool (PMT) is an updated risk assessment tool that reflects more than 10 years of research conducted by University of Maryland scientists in collaboration with regional and national experts. It uses the best available science to identify the potential risk of phosphorus loss from farm fields and prevent the additional buildup of phosphorus in soils that are already saturated. It replaces the Phosphorus Site Index (PSI)—which is currently still in use by most Maryland farmers. Soils with high phosphorus levels are typically found on fields that have used manure or poultry litter as a crop nutrient over an extended period of time.

Use of the Phosphorus Management Tool only applies to farm fields with high soil phosphorus levels identified by a Fertility Index Value (FIV) of 150 or greater. If a farm field scores less than 150 FIV, the farmer may apply phosphorus to the land based on the farm's nutrient management plan and current University of Maryland recommendations.

### **The Maryland Agriculture Phosphorus Initiative 2015**

The Maryland Department of Agriculture's original Phosphorus Management Tool regulations were published in the *Maryland Register* in January 2013, and were subsequently submitted and withdrawn three times. On January 21, 2015, Governor Larry Hogan signed an executive order moving the regulations forward. The 2015 PMT Regulatory Proposal, titled the *Agriculture Phosphorus Initiative*, provides a balanced approach to protecting water quality while promoting Maryland agriculture. The *Agriculture Phosphorus Initiative* includes four enhancements:

- Ensure adequate time for farmers to fully understand and plan for new requirements
- Assure agricultural producers that critical elements are available for implementation
- Enact an immediate ban on additional phosphorus applications to fields with the greatest risk for phosphorus runoff as indicated by a phosphorus Fertility Index Value of 500 or greater
- Collect comprehensive information on soil phosphorus conditions statewide

### **Tier Group Designation**

Utilizing soil phosphorus Fertility Index Value (FIV) data, farm operations that have one or more fields with average soil phosphorus levels greater than 150 FIV were assigned to one of three tier groups that determine when the farmer must transition to the Phosphorus Management Tool. The department considers all of the data collected during this process “nutrient management plan content” and, therefore, protected information under the law. A detailed chart showing the tier groups and the transition schedule is included in this report.

### **Manure Transport Program**

One of the key considerations of the *Maryland Phosphorus Agriculture Initiative* is the relocation of poultry litter and other types of livestock manure from areas with high soil phosphorus levels to other farms or alternative use facilities that can use the resource safely. The department's Manure Transport Program, established in 1999, provides financial assistance



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to help farmers transport poultry litter, and other types of manure, to other farms or facilities where these resources can be used in accordance with an approved nutrient management plan or for alternative uses. Poultry companies voluntarily provide matching funds to transport poultry litter generated by their growers. Many poultry farms are considered “no-land operations.” These operations do not have cropland to utilize the poultry litter. As a result, a large percentage of poultry litter is transported to other farms or alternative use facilities.

Dairy manure is typically utilized on other areas of the farm where it was generated, in accordance with a nutrient management plan. However, many dairy farms use the Manure Transport Program to relocate dairy manure to other farms to avoid building soil phosphorous levels to a point where they would be excessive. Areas eligible to receive the manure must be located at least one mile from the generating source.

Farms impacted by the Phosphorus Management Tool receive priority for available funds under the Manure Transport Program, which has experienced extraordinary growth over the years. A chart detailing quantities and funding for both poultry litter and dairy manure transported is included in this report.

### **Animal Waste Technology Fund**

The *Maryland Agriculture Phosphorus Initiative* included a provision to expand investments in new animal waste technology projects. Maryland’s Animal Waste Technology Fund is a grant program that provides seed funding to companies that demonstrate innovative technologies to manage or repurpose manure resources. These technologies generate energy from animal manure, reduce on-farm waste streams, improve management by changing the form or characteristics of the manure and repurpose manure by creating marketable fertilizer and other products and by-products. Details about current projects and projects under consideration are included in this report.

## SOILS DATA COLLECTION AND VERIFICATION

The department's Nutrient Management Program continues to make soils P data collection a priority. Farms with missing soils data are targeted for implementation reviews. In some instances, the nutrient management specialist determines that the farm has both a current nutrient management plan and current soils data. In cases where the farm does not have a nutrient management plan or current soil sample data, the farm operator is given 90 days to comply with these requirements. The department also monitors PMT implementation through routine on-farm inspections, which were conducted on approximately 14% of regulated farm operations in Fiscal Year 2018.

Soils Data as of 1/15/19									
1/15/2019				Soil Test P FIV <150		Soil Test P FIV 150 - 499		Soil Test P FIV >500 (High)	
County	Total AIR Acres Reported 2014	Total Acres submitted	% of County Reported	Acres	% of Acres	Acres	% of Acres	Acres	% of Acres
<b>Western Maryland</b>									
Allegany	12,321.60	10,930.80	88.71%	10,371.30	94.88%	533.50	4.88%	26.00	0.24%
Carroll	94,462.98	77,807.47	82.37%	72,667.64	93.39%	4,967.93	6.38%	171.90	0.22%
Frederick	127,363.87	106,535.71	83.65%	94,685.73	88.88%	11,748.62	11.03%	101.36	0.10%
Garrett	39,478.24	34,934.87	88.49%	33,928.44	97.12%	981.43	2.81%	25.00	0.07%
Washington	80,805.27	65,285.95	80.79%	60,611.45	92.84%	4,656.85	7.13%	17.65	0.03%
<b>Regional Total</b>	<b>354,431.96</b>	<b>295,494.80</b>	<b>83.37%</b>	<b>272,264.56</b>	<b>92.14%</b>	<b>22,888.33</b>	<b>7.75%</b>	<b>341.91</b>	<b>0.12%</b>
<b>Central Maryland</b>									
Baltimore	38,004.15	37,454.71	98.55%	35,467.03	94.69%	1,927.06	5.15%	60.62	0.16%
Harford	49,862.63	42,365.91	84.97%	38,653.98	91.24%	3,579.56	8.45%	132.37	0.31%
Howard	14,635.39	15,345.63	104.85%	14,078.43	91.74%	1,251.90	8.16%	15.30	0.10%
Montgomery	49,377.83	29,326.98	59.39%	28,291.59	96.47%	924.79	3.15%	110.60	0.38%
<b>Regional Total</b>	<b>151,880.00</b>	<b>124,493.23</b>	<b>81.97%</b>	<b>116,491.03</b>	<b>93.57%</b>	<b>7,683.31</b>	<b>6.17%</b>	<b>318.89</b>	<b>0.26%</b>
<b>Southern Maryland</b>									
Anne Arundel	15,557.15	13,087.77	84.13%	9,516.31	72.71%	3,504.96	26.78%	66.50	0.51%
Prince Georges	12,069.75	11,662.14	96.62%	9,329.55	80.00%	2,298.59	19.71%	34.00	0.29%
Calvert	11,685.82	10,189.76	87.20%	6,749.27	66.24%	3,429.19	33.65%	11.30	0.11%
Charles	22,075.21	20,434.50	92.57%	16,253.90	79.54%	4,147.80	20.30%	32.80	0.16%
Saint Mary's	35,326.72	28,966.62	82.00%	21,712.80	74.96%	7,148.04	24.68%	105.78	0.37%
<b>Regional Total</b>	<b>96,714.65</b>	<b>84,340.79</b>	<b>87.21%</b>	<b>63,561.83</b>	<b>75.36%</b>	<b>20,528.58</b>	<b>24.34%</b>	<b>250.38</b>	<b>0.30%</b>
<b>Upper Eastern Shore</b>									
Cecil	51,726.39	59,906.59	115.81%	55,955.86	93.41%	3,816.97	6.37%	133.76	0.22%
Kent	95,083.11	92,972.65	97.78%	85,356.01	91.81%	7,274.52	7.82%	342.12	0.37%
Queen Annes	125,814.99	113,314.85	90.06%	98,720.11	87.12%	14,475.32	12.77%	119.42	0.11%
<b>Regional Total</b>	<b>272,624.49</b>	<b>266,194.09</b>	<b>97.64%</b>	<b>240,031.98</b>	<b>90.17%</b>	<b>25,566.81</b>	<b>9.60%</b>	<b>595.30</b>	<b>0.22%</b>
<b>Mid Eastern Shore</b>									
				Soil Test P FIV <150		Soil Test P FIV 150 - 499		Soil Test P FIV >500 (High)	
Talbot	69,783.22	67,810.66	97.17%	60,697.40	89.51%	7,054.86	10.40%	58.40	0.09%
Caroline	92,039.41	90,242.53	98.05%	58,510.27	64.84%	31,451.16	34.85%	281.10	0.31%
Dorchester	84,686.73	51,364.50	60.65%	38,036.64	74.05%	13,079.54	25.46%	248.32	0.48%
<b>Regional Total</b>	<b>246,509.36</b>	<b>209,417.69</b>	<b>84.95%</b>	<b>157,244.31</b>	<b>75.09%</b>	<b>51,585.56</b>	<b>24.63%</b>	<b>587.82</b>	<b>0.28%</b>
<b>Lower Eastern Shore</b>									
Somerset	32,598.90	27,035.71	82.93%	5,894.57	21.80%	17,422.84	64.44%	3,718.30	13.75%
Wicomico	53,223.80	46,209.11	86.82%	15,473.65	33.49%	24,794.72	53.66%	5,940.74	12.86%
Worcester	69,947.75	67,482.73	96.48%	20,867.79	30.92%	40,595.72	60.16%	6,019.22	8.92%
<b>Regional Total</b>	<b>155,770.45</b>	<b>140,727.55</b>	<b>90.34%</b>	<b>42,236.01</b>	<b>30.01%</b>	<b>82,813.28</b>	<b>58.85%</b>	<b>15,678.26</b>	<b>11.14%</b>
<b>MD State Total</b>	<b>1,277,930.91</b>	<b>1,120,668.15</b>	<b>87.69%</b>	<b>891,830</b>	<b>79.58%</b>	<b>211,066</b>	<b>18.83%</b>	<b>17,772.56</b>	<b>1.59%</b>

## TIER GROUPS

Tier groups were established based on soil data information at the beginning of the process to estimate the PMT's impact on available resources, primarily the Manure Transport Program. Tier groups dictate when a farm transitions to the PMT. Tier groups do not affect management. The department recognizes that the established tier groups do not include all affected farms, but believes that enough data was received to provide adequate guidance.

Tier Group Data as of 1/17/17									
County	Tier Group A (150 - 300)			Tier Group B (300 - 450)			Tier Group C (Greater Than 450)		
	Number of Operations	Number of Fields	Acres	Number of Operations	Number of Fields	Acres	Number of Operations	Number of Fields	Acres
<b>Western Maryland</b>									
Allegany	11	37	247.00	4	10	106.00	1	4	5.00
Carroll	75	322	3248.80	6	18	157.40	3	3	88.00
Frederick	147	527	7746.00	13	51	563.00	1	2	18.00
Garrett	10	39	264.00	0	0	0.00	1	1	25.00
Washington	89	273	3196.70	12	33	364.70	4	7	75.50
<b>Regional Total</b>	<b>332</b>	<b>1,198</b>	<b>14,702.50</b>	<b>35</b>	<b>112</b>	<b>1,191.10</b>	<b>10</b>	<b>17</b>	<b>211.50</b>
<b>Central Maryland</b>									
Baltimore	36	133	1159.70	1	8	78.00	0	0	0.00
Harford	38	153	1579.10	7	35	270.00	2	3	27.00
Howard	17	67	895.80	2	5	108.00	0	0	0.00
Montgomery	24	99	696.00	4	8	59.10	2	11	173.00
<b>Regional Total</b>	<b>115</b>	<b>452</b>	<b>4,330.60</b>	<b>14</b>	<b>56</b>	<b>515.10</b>	<b>4</b>	<b>14</b>	<b>200.00</b>
<b>Southern Maryland</b>									
Anne Arundel	62	354	2778.60	6	63	233.40	1	15	73.30
Prince George's	34	110	1210.00	7	18	49.00	1	2	11.00
Calvert	41	227	1839.00	4	13	53.00	0	0	0.00
Charles	48	194	2782.00	4	9	53.00	1	1	5.00
Saint Mary's	91	456	5568.00	9	30	634.70	0	0	0.00
<b>Regional Total</b>	<b>276</b>	<b>1,341</b>	<b>14,177.60</b>	<b>30</b>	<b>133</b>	<b>1,023.10</b>	<b>3</b>	<b>18</b>	<b>89.30</b>
<b>Upper Eastern Shore</b>									
Cecil	69	277	2487.00	10	30	315.00	0	0	0.00
Kent	49	306	6325.00	5	12	67.00	2	19	739.00
Queen Anne's	83	362	7041.20	7	23	497.60	3	11	59.10
<b>Regional Total</b>	<b>201</b>	<b>945</b>	<b>15,853.20</b>	<b>22</b>	<b>65</b>	<b>879.60</b>	<b>5</b>	<b>30</b>	<b>798.10</b>
<b>Mid-Eastern Shore</b>									
Talbot	44	200	3725.20	5	29	559.40	0	0	0.00
Caroline	171	1368	26388.65	30	242	3391.90	4	5	64.00
Dorchester	76	1172	14883.70	15	126	2384.00	2	17	52.00
<b>Regional Total</b>	<b>291</b>	<b>2,740</b>	<b>44,997.55</b>	<b>50</b>	<b>397</b>	<b>6,335.30</b>	<b>6</b>	<b>22</b>	<b>116.00</b>
<b>Lower Eastern Shore</b>									
Somerset	23	363	7017.00	25	135	10833.40	7	110	1498.90
Wicomico	49	690	10209.00	40	674	9806.00	44	409	5995.30
Worcester	26	491	11417.60	36	1243	23687.50	17	114	1984.60
<b>Regional Total</b>	<b>98</b>	<b>1,544</b>	<b>28,643.60</b>	<b>101</b>	<b>2,052</b>	<b>44,326.90</b>	<b>68</b>	<b>633</b>	<b>9,478.80</b>
<b>MD State Total</b>	<b>1,313</b>	<b>8,220</b>	<b>122,705.05</b>	<b>252</b>	<b>2,815</b>	<b>54,271.10</b>	<b>96</b>	<b>734</b>	<b>10,893.70</b>
<b>Total All 3 Tier Groups</b>	<b>1,661</b>	<b>11,769</b>	<b>187,869.85</b>						

## MANURE TRANSPORT PROGRAM

At the November 2018 PMT Committee meeting, Norman Astle, Program Manager for the Maryland Agricultural Water Quality Cost-Share (MACS) Program provided an update on the Manure Transport Program, which provides grants to farmers to move manure. Although acreage with a soil phosphorus Fertility Index Value (FIV) greater than 500 has been banned from receiving poultry litter since July 2015, and Tier Group C (FIV 450 and above), transitioned to the PMT in 2018, it is still unclear how many acres will be banned from using poultry litter as a crop nutrient once the PMT is fully implemented. Therefore, it is difficult to estimate exactly how much additional litter will need to be transported from the Lower Shore to areas that can use the resource safely. Advisory Committee members asked if more funding will be needed for manure transport in upcoming years as additional farmers transition to the PMT. To date, the Manure Transport Program has had adequate funding to assist farmers who have already transitioned to the Phosphorus Management Tool. As the final tier groups transition to the Phosphorus Management Tool, the committee will continue to examine the need for increased funding for the Manure Transport Program grants.

- During FY 2018, the Manure Transport Program moved 249,421 tons of manure. Of the total, poultry litter accounted for 61,463 tons while non-poultry manure accounted for 187,958 tons.
- The program pays 87.5% of the cost of transporting dairy manure. The farmer pays the rest. Last year, the dairy portion cost the state about \$429,000.
- The total cost of transporting poultry litter in FY 2018 was \$1,045,878. Of that amount, the state paid \$592,002 and poultry companies paid \$453,876.
- Since the Program began, poultry companies have contributed \$6.5 million, while the state has contributed \$9.7 million to the Manure Transport Program.
- Every eligible farmer who has requested help transporting manure has received it.

**Manure Transport Program Statistics (Fiscal Year 2018)**

	Dairy and other Manures	Poultry Litter		TOTAL
		Land-Applied	Alternative Use	
Number of Contracts	68	28	211	307
Tons Transported	187,958 tons	9,504 tons	51,959 tons	249,421 tons
State Funds	\$ 428,908	\$ 114,320	\$ 477,682	\$ 1,020,910
Poultry Co. Funds	N/A	\$ 31,533	\$ 422,343	\$453,876
		<b>Total Spent</b>		<b>\$1,474,786</b>

**Manure Transport Program Statistics (Fiscal Year 2017 for Comparison)**

	Dairy and other Manures	Poultry Litter		TOTAL
		Land-Applied	Alternative Use	
Number of Contracts	68	29	256	353
Tons Transported	171,289 tons	9,106 tons	61,546 tons	241,941 tons
State Funds	\$ 422,074	\$ 95,053	\$ 657,562	\$ 1,174,690
Poultry Co. Funds	N/A	\$ 32,554	\$ 420,483	\$ 453,037
		<b>Total Spent</b>		<b>\$1,627,728</b>

## ANIMAL WASTE TECHNOLOGY GRANTS

Alisha Mulkey, Program Manager, Program Planning and Development, reported that the Fiscal Year 2019 Animal Waste Technology Fund’s Request for proposals was issued in July 2018. Grant awards of up to \$3.5 million for qualifying projects are available.

Past projects have included two in-vessel composting operations, an aerated static pile composting system, a fluidized bed combustion system, anaerobic digestion of dairy manure, and a regional and farm scale anaerobic digester with nutrient capture system.

The Maryland Energy Administration has up to \$6 million available for Fiscal Year 2019 waste to energy projects, either on-farm pilot scale projects or regional projects.

Current Animal Waste Technology Projects				
Current Projects	Animal Type/Location	State Funding	Technology	Status
Biomass Heating Solutions, Inc. (BHSL) Annapolis, MD	Poultry Double Trouble Farm Dorchester County	\$970,000	Fluidized bed combustion (Thermochemical)	Project complete/interim final reported issued
Green Mountain Technologies, Inc. (GMT) Bainbridge Island, WA	Horse Days End Farm Howard County	\$150,790	In vessel composter/ turnkey	Project completed/ final report issued
Green Mountain Technologies, Inc. Bainbridge Island, WA	Dairy Cattle Glamour View Farm Frederick County	\$237,520	In vessel composter/ turnkey	Project completed/ final report issued
Planet Found Energy Development (PFED) Berlin, MD	Poultry Millennium Farms Worcester County	\$676,144 (MDA) \$900,232 (MEA)	Anaerobic digestion with nutrient separating system	Operational since June 2017 at lesser capacity
CleanBay Renewables	Poultry Litter Somerset County	\$1,400,000	Thermophilic Anaerobic Digester with Nutrient Capture System	Secured most permits
Veteran Compost	Livestock Anne Arundel County	\$350,302	Aerated Static Pile Composting	Under construction

Projects Approved 2018				
2016 Projects	Animal Type/Location	State Funding	Technology	Status
Planet Found Energy Development (PFED) Berlin, MD	Poultry Millennium Farms Worcester County	\$222,000	Nutrient recovery and bagging system	Securing permits and equipment procurement
Kilby Farms, LLC	Dairy Kilby Farms Cecil County	\$1,850,412 (MDA) \$115,500 (MEA)	Anaerobic digestion	Site planning underway

## LOOKING AHEAD TO IMPLEMENTATION

Phosphorus Management Tool Overview of How It Works - Risk 7 Year Transition Summary							
	Crop Year						
	2016	2017	2018	2019	2020	2021	2022
Tier C - Avg. FIV P 450 and above	PSI/PMT	PSI/PMT	TM1	TM1	TM2	TM2	PMT
Tier B - Avg. FIV P 300-450	PSI/PMT	PSI/PMT	PSI	TM1	TM2	TM2	PMT
Tier A - Avg. FIV P 150-300	PSI/PMT	PSI/PMT	PSI	PSI	TM1	TM2	PMT
PSI = Phosphorus Site Index							
TM1 = Transition Management Phase 1							
TM2 = Transition Management Phase 2							
PMT = Phosphorus Management Tool							

\*\* Could add time if services are not adequate

Phosphorus Management Tool Overview of How It Works - Management			
PMT Risk Category	Transition Management Phase 1	Transition Management Phase 2	PMT
Low	N-Based ( <i>Not to Exceed 3 Year Crop Removal</i> )	3 Year Crop Removal	3 Year Crop Removal
Medium	3 Year Crop Removal P	2 Year Crop Removal	1 Year Crop Removal
High	1 Year Crop Removal P	50% of 1 Year Crop Removal	No Additional P Allowed

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## RECOMMENDATION FROM THE COMMITTEE

### Highlights of the 2018 Meeting

#### **Jason Lambertson, *Planet Found Energy Development***

Planet Found Energy Development (PFED) has received grant funding through the Animal Waste Technology Fund and continues to seek additional funds for expansion. Jason Lambertson, farm owner and business partner, presented an overview of his operation which is located in Worcester County. Mr. Lambertson explained the inner working of an anaerobic digester and nutrient separation system, and discussed the various products that are produced. The company's next move is to secure a feasibility study to determine if the operation can continue to operate efficiently at a much larger scale.

#### **Dr. Patricia Steinhilber, *University of Maryland***

Dr. Steinhilber gave a report on NuManPro 5.0, the most advanced software available to complete nutrient management plans. Properties linked to soils data are being updated by the USDA's Natural Resources Conservation Service (NRCS). The software also includes provisions for the Phosphorus Management Tool. Currently, the software is being beta tested by a limited number of University of Maryland and Maryland Department of Agriculture staff.

#### **Virgil Shockley, *Delmarva Poultry Industry***

Committee member Virgil Shockley, representing the Delmarva Poultry Industry (DPI) and poultry growers, requested time on the agenda prior to the meeting to discuss the concerns of farmers from the Lower Shore. Mr. Shockley explained the depressed economic conditions within agriculture specific to the Lower Shore, and stated that it will cost farmers too much money to purchase commercial fertilizer, in lieu of litter. He said that many farmers will go out of business as a result. Mr. Shockley shared concerns about the amount of time it takes for phosphorous levels to drop even a small amount, the ability of commercial fertilizer companies to meet demand for commercial fertilizer as a replacement for litter, and the current state of the poultry industry, which he describes as struggling.

Just before the meeting, DPI sent a letter to the committee that discussed how the poultry industry was affected by PMT. The letter stated that DPI would seek a one-year delay in implementing the PMT.

Mr. Shockley presented the following motion which was seconded by Colby Ferguson, representing Maryland Farm Bureau.

The motion by Virgil Shockley, taken from the letter, states:

"Before January 1, 2020, the department, in consultation with the Phosphorus Management Tool Transition Advisory Committee, shall conduct an evaluation of the existing markets for animal manures, participation in and additional capacity of the Manure Transport Program, the capacity of existing infrastructure for manure transportation, handling and land application, the

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availability of public and private sector resources, and the status and capacity of alternative uses to utilize animal manures. The evaluation shall be comprehensive in scope, considering all available, relevant information to address current major animal agriculture sectors in the state with the objective of advancing implementation of the next level of management to the maximum extent practicable.”

During discussions, the group agreed that an evaluation would be needed before the committee could send a request to Secretary Bartenfelder requesting a one-year delay. The motion was passed unanimously and the Maryland Department of Agriculture was charged with engaging a third party to complete the evaluation. When the evaluation is completed, the committee will meet to discuss the results. The follow-up meeting will be held within 30 days of the completion of the evaluation.

**Nazeeh Freij, *Maryland Department of Environment***

Mr. Freij spoke about biosolids in Maryland, the permitting process for sewage sludge, the number of acres that have received permits in comparison to neighboring states, and the role of biosolids as multiple organic sources compete for land application on available Maryland farmland. Concern had previously been expressed that land application of biosolids is in direct competition with land application of poultry litter.



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## SUMMARY

The department continued to make soils data collection a priority throughout 2018. To provide confirmation that farmers with high phosphorus fields (FIV 500 or greater) are complying with the ban on applying additional P, the Nutrient Management Program targeted a random number of these farms for implementation reviews. The findings show that farmers are complying with the law. The department is looking toward the next soils data collection period scheduled for 2021 and is working on solutions to problems encountered during the first collection period.

The year marked the first transition of a tier group to the PMT. Although Tier Group C represents the smallest group to transition to the PMT, it nevertheless provides insight into the impact that the PMT will have on farms with fields that are high in phosphorus. The department has been charged with securing an economic analysis to determine if adequate support is available for farmers as they transition to PMT. The committee will continue to monitor the Manure Transport Program as the movement of litter from areas with high soil phosphorus levels to other approved areas is critical to the success of implementing the PMT.

In closing, 2018 was a difficult year for farmers and the agricultural industry as a whole; not only in Maryland, but nationwide as producers struggled with extreme weather, persistent low prices and ongoing trade concerns. Nevertheless, Maryland farmers have never backed down from a challenge and are nationally recognized as both leaders and pioneers in adapting innovative new technologies to conserve and protect our valuable soil and water resources.



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