Agricultural WIP Progress

WIP Regional Workshops

Fall 2016

Jason Keppler

Watershed Implementation Program
### Agricultural BMPs

#### Nutrient Management
- Nutrient Management
- Precision Agriculture
- Enhanced Nutrient Management

#### Conservation Tillage

#### Cover Crops

#### Pasture Grazing BMPs
- Pasture Fencing
- Precision or Intensive Rotational Grazing
- Horse Pasture Management
- Water Control Structures

#### Other Agricultural BMPS
- Forest and Grass Buffers
- Wetland Restoration
- Land Retirement
- Tree Planting
- Carbon Sequestration/Alternative Crops
- Conservation Plans/SCWQP
- Non-Urban Stream Restoration
- Manure Transport
- Animal Waste Management Systems
- Mortality Composters
- Poultry & Swine Phytase
- Dairy Precision Feed and/or Forage Management
- Ammonia Emissions Reductions
- Barnyard Runoff Controls

#### Interim (tracked, but no credit received)
- Manure Technologies and Incorporation
- Poultry HUAs
- Cropland Irrigation Management
- Ag Stormwater/Nursery Capture and Reuse
- P-Sorbing Materials
### Agriculture WIPII Plan Goals

<table>
<thead>
<tr>
<th>BMP</th>
<th>Unit</th>
<th>2013 Milestones</th>
<th>2017 Goal</th>
<th>2025 Goal</th>
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<tbody>
<tr>
<td>10' Fertilizer Setback</td>
<td>Acres</td>
<td>5,280</td>
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<td>5,280</td>
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<td>Alternative Crops</td>
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<td>Barnyard Runoff Control</td>
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<td>CAFO Manure Application Setback</td>
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<td>Conservation Tillage</td>
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<td>Cover Crop</td>
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<td>Dairy Manure Incorporation</td>
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<td>Forest Buffers</td>
<td>Acres</td>
<td>335</td>
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<td>Grass Buffers; Vegetated Open Channel - Agriculture</td>
<td>Acres</td>
<td>538</td>
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<td>Heavy Use Poultry Area Concrete Pads</td>
<td>Operations</td>
<td>19</td>
<td>81</td>
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<td>Horse Pasture Management</td>
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<td>8,536</td>
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<td>Land Retirement to pasture (HEL)</td>
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<td>BMP</td>
<td>Unit</td>
<td>2013 Milestones</td>
<td>2017 Goal</td>
<td>2025 Goal</td>
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<tr>
<td>Manure Transport - Out of Watershed</td>
<td>Tons</td>
<td>37,000</td>
<td>51,000</td>
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<td>Mortality Composters</td>
<td>Operations</td>
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<td>87</td>
<td>145</td>
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<td>Non Urban Stream Restoration</td>
<td>Linear Feet</td>
<td>6,919</td>
<td>29,061</td>
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<td>Nutrient Management - Cropland</td>
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<td>685,000</td>
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<td>Acres</td>
<td>75,000</td>
<td>11,207</td>
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<td>Nutrient Management - Nursery</td>
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<td>1,836</td>
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<td>Off Stream Watering Without Fencing</td>
<td>Acres</td>
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<td>Poultry Litter Incorporation</td>
<td>Acres</td>
<td>23,876</td>
<td>100,283</td>
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<td>Poultry Litter Treatment</td>
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<td>64</td>
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<td>450</td>
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<td>Precision Intensive Rotational Grazing</td>
<td>Acres</td>
<td>398</td>
<td>1,671</td>
<td>2,785</td>
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<td>Prescribed Grazing</td>
<td>Acres</td>
<td>2,614</td>
<td>10,982</td>
<td>18,304</td>
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<td>Shallow Wildlife Wetland Habitat Management</td>
<td>Acres</td>
<td>35</td>
<td>150</td>
<td>250</td>
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<td>Shoreline Erosion Control</td>
<td>Linear Feet</td>
<td>3,649</td>
<td>15,326</td>
<td>25,543</td>
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<td>Soil Conservation and Water Quality Plans</td>
<td>Acres</td>
<td>826,000</td>
<td>1,026,413</td>
<td>1,145,326</td>
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<td>Sorbing Materials in Ag Ditches</td>
<td>Acres</td>
<td>737</td>
<td>3,097</td>
<td>5,162</td>
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<td>Stream Access Control with Fencing</td>
<td>Acres</td>
<td>5,050</td>
<td>20,956</td>
<td>35,355</td>
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<td>Tree Planting; Vegetative Environmental Buffers - Poultry</td>
<td>Acres</td>
<td>118</td>
<td>500</td>
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<td>Water Control Structures</td>
<td>Acres</td>
<td>2,453</td>
<td>10,289</td>
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<td>Wetland Restoration</td>
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<td>502</td>
<td>2,110</td>
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<tr>
<td>Phytase</td>
<td>%</td>
<td>24%</td>
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<td>Poultry Waste Structures</td>
<td>Operations</td>
<td>7</td>
<td>31</td>
<td>52</td>
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<tr>
<td>Livestock Waste Structures</td>
<td>Operations</td>
<td>20</td>
<td>87</td>
<td>145</td>
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</tbody>
</table>
Agriculture Phosphorus Load Reduction by BMP
Maryland 2013 Progress

- AWMS 22.4%
- PoultryPhytase 21.3%
- ConserveTill 10.8%
- ConPlan 9.4%
- GrassBuffers 8.1%
- NutMan 6.4%
- DecisionAg 5.4%
- ForestBuffers 4.1%
- LandRetire 2.2%
- Other 7.8%
- EnhancedNM 2.0%
2015 Progress Results – Nitrogen (lbs)

- 28,343,308
- 19,764,135
- 19,948,776
- 18,744,454
- 18,918,808
- 17,151,221
- 18,843,848
- 18,037,781
- 16,366,845
- 17,018,303

Δ 1.7 million lbs
2015 Progress Results – Phosphorus (lbs)

- 1985 Progress: 2,087,403 lbs
- 2009 Progress: 1,612,749 lbs
- 2010 Progress: 1,640,146 lbs
- 2011 Progress: 1,532,621 lbs
- 2012 Progress: 1,605,034 lbs
- 2013 Progress: 1,560,797 lbs
- 2014 Progress: 1,459,794 lbs
- 2015 Progress: 1,397,920 lbs
- 2015 Milestone: 1,623,662 lbs
- 2017 Target: 1,511,456 lbs

Δ (226K lbs)
2014-2015 Programmatic Milestones

• On track for most Programmatic Milestones
  – Phosphorus Management Tool Regulation
  – Investment in Manure Management Technology*
  – Certainty Program
  – Manure Matching Service (Manure Transport)*
  – Nutrient Trading Regulations
  – Renewed AFO general permit

* Made possible by the Trust Fund, itself a programmatic action
BMP Verification

• As required by the Chesapeake Bay Program, all states and sectors will become subject to BMP verification for FY2017 reporting – coincides with Phase 6 Bay Model rollout

• 100% of BMPs will have to be verified to receive initial “credit” and ~10% of BMPs will have to be re-verified to receive continued “credit”
Duration of Credit for Cumulative BMPs

• **10 years:**
  – Barnyard Runoff Controls
  – Soil Conservation & Water Quality Plans
  – Grass Buffers
  – Land Retirement
  – Pasture Management
  – Streamside Fencing
  – Shoreline Restoration
  – Water Control Structure

• **15 years:**
  – Animal Waste Management
  – Mortality Composters
  – Wetland Restoration
  – Riparian Forest Buffers

• RIs will be credited at **one-half** the duration of comparable BMP
BMP Verification Task Force

• MDA proposed developing a 5-member Verification Task Force:
  – Ensures compliance with Maryland’s QAPP
  – Prevents additional workloads for the SCDs, and
  – Provides objective third-party review of BMP

• Team members will have assigned regions

• Verification will be conducted at the parcel level, rather than BMP type, to more effectively conduct site assessments

• All verification findings will be reported in MDA’s Conservation Tracker database
22,923 BMPs with almost half expiring by the end of CY2016
8,856 SCWQPs with 9,728 parcels
Questions

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Phase III WIP Strategy

• Targets Spring 2017
• Local Ag WIP Meetings Fall 2017
• Build Upon Phase II
• Re-evaluate opportunities
• Incorporate new BMPs
• BMP Verification
• Nutrient Trading