Regulating down on the farm in PA

Doug Goodlander
PA Dept. of Environmental Protection
2016 NPS Annual Meeting

Tom Wolf, Governor   Patrick McDonnell, Acting Secretary
We will cover

- Erosion and sedimentation control
- Manure and Nutrient management requirements
- Dead animal disposal

All farms have requirements, requirements based on farm scale/size/cope

Riparian requirements are nested in topic specific regulations

For manure mgmt. planning, the scale/size/cope of farm:
- Dictates the level of detail in the plan
- Dictates who can write the plan
- Dictates if the plan needs to be submitted for approval
Soil Loss Controls for All Farms

- Requires farms to have a **written soil erosion plan**
  - Addressing plowed and tilled fields
  - **Objective**: hold soil in place
  - **Ag E&S plan** or a conservation plan allowed

- Erosion control plan requirements include:
  - Limit soil loss to a maximum of “T” over the rotation
  - Maintain 25% cover within 100’ of stream or implement additional soil loss protection practices
Regulating Animal Operations in PA

- **All Animal Operations (AOs)**
  All operations generating/utilizing manure
  * Regulated by PA DEP

- **Concentrated Animal Operations (CAOs)**
  High animal density farms
  farms > 2,000 lbs/acre animal density
  * Regulated by PA SCC

- **Concentrated Animal Feeding Operations (CAFOs)**
  Based on animal numbers and/or animal density
  Farms > 1,000 AEUs, CAOs > 300 AEUs, EPA head #’s
  * Regulated by PA DEP (for US EPA)
Animal Operations in PA

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AOs (20,000+)

CAOs (962+)

CAFOs (386+)
Pa’s Clean Streams Law

- Requires animal operations to have a **manure mgmt plan**
  - Protect surface & ground waters while obtaining optimum crop yields
  - Must be a **written** plan (including farm map), kept on site
  - Can be written by farmer or other non-certified individual
  - Planning standard includes:
    - Manure and fertilizer application rates,
    - Manure application setbacks,
    - Winter manure application restrictions,
    - Pasture management
    - Barnyard runoff control,
    - Manure storage and stacking criteria,
3 options for developing manure application rates:

1. Use manure application charts *(easy, but most restrictive)*
   - No certified specialist required
   - Based on crop type and manure type
   - N based if < 200 ppm P; or P based if > 200 ppm P or no soil test

2. Use Nutrient Balance Sheet worksheet *(harder but more flexible)*
   - No certified specialist required
   - N based if < 200 ppm P; or P based if > 200 ppm P or no soil test

3. Use the PA Phosphorus-Index *(most complex but most flexible)*
   - Will need to use an authorized planner
   - N or P based dependent on the results of the P-index
   - May allow for N based application on soils with > 200 ppm P
Year-round manure application setbacks

- Setbacks established for:
  Streams, lakes, ponds,
  existing open sinkholes,
  drinking water sources

- Setbacks ranging from 100 to 35 foot depending on conservation measures taken
**Winter Spreading Restrictions**

- **“Winter”** is anytime any one of the following are true:
  - The date is on or between Dec. 15 to Feb. 28, or
  - The ground is frozen 4 inches or more, or
  - The ground is snow covered

- **Maximum application rate** for the winter include:
  - 5,000 gallons per acre of liquid manure
  - 20 tons per acre dry non-poultry manure
  - 2 tons per acre dry poultry manure

- **At least 25% cover** at application time
  - Not silage without cover crop
  - Not soybean stubble without a cover crop

- **Winter application disallowed on slopes** >= 15%
Pasture Management

- Pastures addressed in plan
- Pastures are properly stocked grazed areas
  - Areas with 3” growth at all times or farms with NRCS grazing plans
- If overgrazed, then the field would be considered a barnyard (ACA) requiring addition protections including animal exclusion from the stream
Barnyard (ACA) Management

- ACAs must be addressed in plan
  - Barnyards, exercise lots, other denuded animal concentration areas

- ACAs need to be designed and managed to protect water quality by:
  - Diverting upslope water
  - Directing polluted runoff into storage or treatment strip or system
  - Disallowing animal access to streams except properly constructed crossings
  - Keeping watering areas, feed areas, etc. away from streams
Manure Storage Requirements

• Verify that existing storages do not leak or overflow

• As of 2000, all new liquid and semi-solid manure storages must be:
  – Designed by a Pa registered Professional Engineer
  – Construction must be signed off by engineer as meeting NRCS specifications and certification kept on site

• Certain size storages need a DEP permit:
  – > 2.5 million gallons
  – > 1.0 million gallons and in a special protection or impaired watershed
• In-field stacking of manure on unimproved areas is allowed with restrictions

• These unimproved stacking areas must meet the following:
  – Covering the stack if it will be there more than 120 days
  – 150’ setback from streams,
  – 100’ from a water well or open sinkhole,
  – Placing the stack on less than 8% slopes
Dead Animal Disposal

– Required to be disposed of within 48 hrs.

– Use the following methods to dispose:
  • Composting
  • Rending
  • Burial
  • Incineration
All animal operations (AOs)

- Agricultural E&S plan
- Manure Management Plan (MMP)
- Manure Storage Requirements
- Dead Animal Disposal

<table>
<thead>
<tr>
<th>Strong Elements</th>
<th>Weak Elements</th>
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<tbody>
<tr>
<td>Required for all so easy to id</td>
<td>No submission/registration</td>
</tr>
<tr>
<td>Easy to develop/follow plans</td>
<td>No review</td>
</tr>
<tr>
<td>Addresses fields, pasture, barnyards, and storage</td>
<td>No follow-up inspections</td>
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<tr>
<td>Plans cheap to develop</td>
<td>No list of regulated community</td>
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Concentrated Animal Operations Requirements

- **All Animal Operations (AOs)**
  All operations generating/utilizing manure
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High density animal operations are considered **CAOs**
(Greater than 2,000 lbs/acre, or 2 AEUs per acre)

Examples:

- 100 cows on 200 acres (**130,000 lbs/200 acres = 650 lbs per acre**)  
  Not High density therefore **not** a regulated CAO

- 100 cows on 60 acres (**130,000 lbs/60 acres = 2,167 lbs per acre**)  
  This is a high density **operation**, therefore it **is** a CAO

*Available acres* = cropland, hay land, pasture (NOT barnyards, wooded pasture)
What are CAO operations required to have?

- **A written Nutrient Management Plan (NMP)**
  - Developed by certified planners
  - Submitted, reviewed and approved by conservation district
  - Public comment opportunity available for these plans
  - Phosphorus-Index assessment of every field
  - Annual inspection performed by program staff
Additional NMA Requirements

- **Manure storage setback requirements**
  - From water bodies, wells and property lines

- **Fall application restrictions**
  - Required 25% cover or incorporation within 5 days

- **Winter application restrictions**
  - Only allowed on program approved fields

- **Exported manure documentation**
  - Signed agreements required
  - Manure management plans required on importing sites
Higher density animal farms (CAOs)

- All Farm requirements except MMP replaced with NMP
- Manure storage setbacks
- Exported manure documentation
- Odor Plan (OP) required for new animal housing or manure storage

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<tr>
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<td>Annual inspections</td>
<td>Conservation District public approval</td>
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<tr>
<td>Certified planners/reviewers</td>
<td>Complicated plans</td>
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<tr>
<td>Submission/review of every plan</td>
<td>Expensive</td>
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<tr>
<td>Higher general public acceptance</td>
<td>Not easily identified</td>
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Larger animal farms (CAFOs)

- All farms requirements except the MMP is replaced with a NMP
- DEP CAFO Permit (Federal Permit administered by PA DEP)
- Additional restrictions on stacking, setbacks, & winter spreading
- OP for Construction of new animal housing or manure storage

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<tr>
<td>State inspections annually</td>
<td>Very complicated and expensive</td>
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<td>Regulated community is a manageable size</td>
<td>Complicating additional requirements</td>
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<td>Most easily identifiable</td>
<td>Continually changing requirements</td>
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<td>Farms accepting regulations</td>
<td>NPDES permit does not fit ag work</td>
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Regulating agricultural operations is key to addressing our ag impaired watersheds.

Need to be able to identify the regulated community.

Need resources to oversee those regulated.

Need qualified individuals involved.

Need reporting to track compliance and progress.
  - Submission of plans and annual reports.

Need to have frequent site visits to regulated sites.
Take-home messages

- Need to have **definitive requirements** that are not difficult to address, afford, and believe in
  - Addressing all problem areas on the farm

- Need to recognize the **lack of precision** in addressing these issues on the farm

- Need to attempt to maintain **consistent requirements** for an extended period of time

- Need a **partnership** with defined roles

- Need to be ready to **deal with the concerned public** as much as the farm community
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Reference websites:
• Animal Operations at: www.dep.pa.gov  Keywords “Manure Management”
• CAOs at: http://extension.psu.edu/plants/nutrient-management
• CAFOs at: www.dep.pa.gov  Keyword “CAFO”