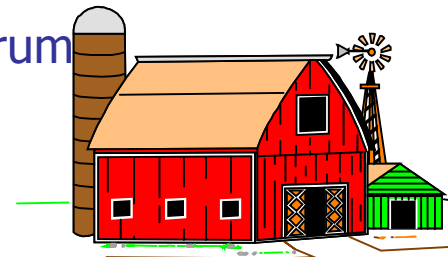


Pennsylvania Horse Farms & Water Quality Regulations



Mike Brubaker - PA State Conservation Commission
Frank Schneider – PA Dept. of Environmental Protection

~ American Horse Council's Fall Equine Issues Forum
Harrisburg, PA
November 7, 2009



Animal Operations in PA

❖ All Animal Operations (AOs)

All operations generating/utilizing manure

* Regulated by PA DEP

❖ Concentrated Animal Operations (CAOs)

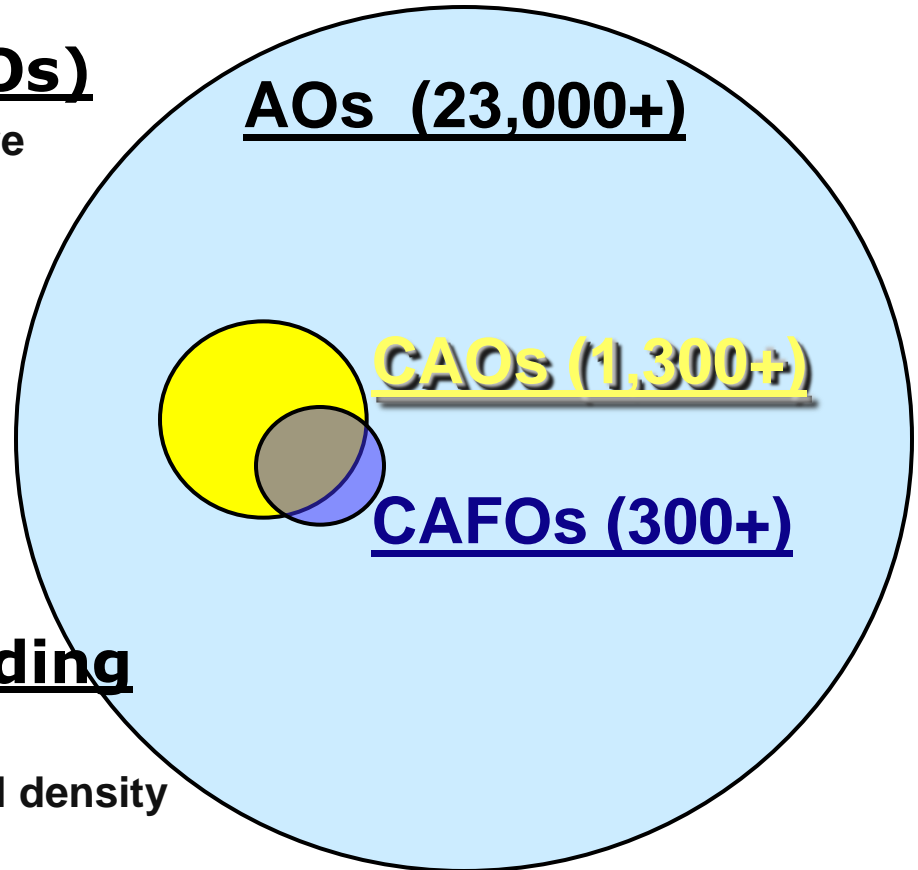
Based on animal density

* Regulated by PA SCC

❖ Concentrated Animal Feeding Operations (CAFOs)

Based on animal numbers and/or animal density

* Regulated by PA DEP for US EPA



Animal Operations in PA

❖ All Animal Operations (AOs)

All operations generating/utilizing manure

* Regulated by PA DEP

AOs (23,000+)

❖ Concentrated Animal Operations (CAOs)

Based on animal density

* Regulated by PA SCC

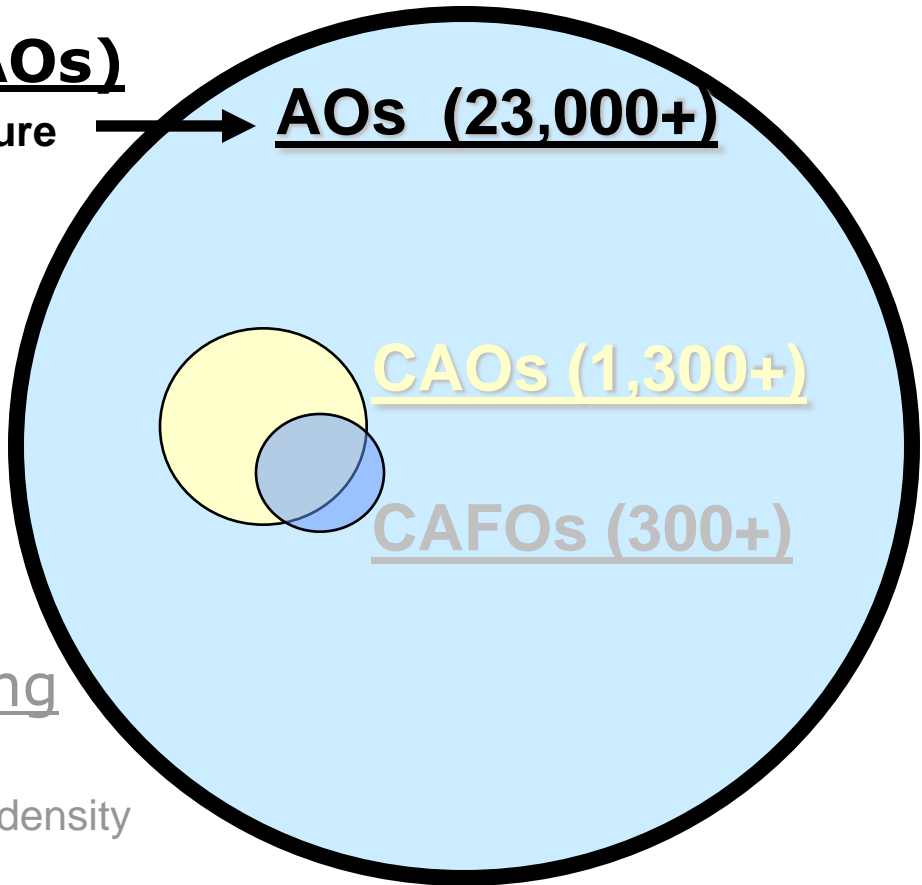
CAOs (1,300+)

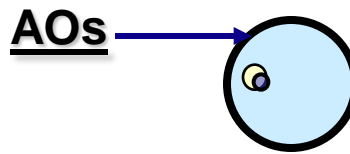
❖ Concentrated Animal Feeding Operations (CAFOs)

Based on animal numbers and/or animal density

* Regulated by PA DEP for US EPA

CAFOs (300+)



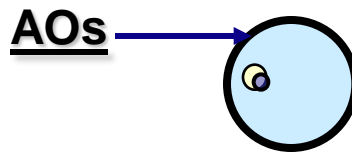


Pa's Clean Streams Law

- ❖ Regulates **all** farms doing plowing & tilling, OR producing or using manure
 - * This includes horse farms

- ❖ Requires all farms to have a **“PLAN”**
 - * How you will protect Surface & Ground Waters
 - * Implementation: Where you are at in meeting baseline requirements?
 - * Must be a written plan (including farm map)

- ❖ Enforcement: traditionally complaint driven
 - * **This is changing! More emphasis on smaller farms**
 - * Especially horse farms, and cattle farms next to streams

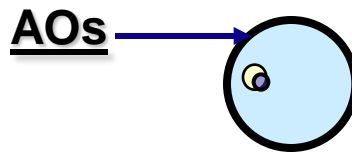


Pa's Clean Streams Law

❖ DEP required "PLANS"

Manure Management Plan (MMP)-Chapter 91 (1977)

- ★ Addresses *manure* application, manure storage, and exercise areas
- ★ Different from an NMP
- ★ No formal review or approval required



Pa's Clean Streams Law

❖ DEP required "PLANS"

Ag Erosion & Sediment Plan (Ag E&S Plan)-Ch 102 (1972)

- ★ Chapter 102 requires erosion control plans to prevent accelerated erosion from earth disturbance areas
- ★ For farms, an Ag E&S Plan is required for all plowing and tilling
 - Cropland, bare pastures, grazing is considered harvesting
- ★ Chapter 102 update (in review process) will likely include all pastures and animal concentration areas
- ★ ***A Conservation Plan typically meets this requirement***
- ★ NRCS Grazing Plan can meet this requirement for pastures
- ★ DEP Action Packet is a temporary option



"Action Packet for Agriculture"

- ❖ The "Action Packet" was developed to assist in organizing and documenting your actions in protecting water quality.
- ❖ Assessment of your needs in addressing water quality issues
- ❖ Consideration of Best Management Practices (BMP's) that assist with area's of concern
- ❖ Sample Farm Plan & Sample Farm Map
- ❖ Lists resources & records your decisions (your plan)

Animal Operations in PA

❖ All Animal Operations (AOs)

All operations generating/utilizing manure

* Regulated by PA DEP

❖ Concentrated Animal Operations (CAOs)

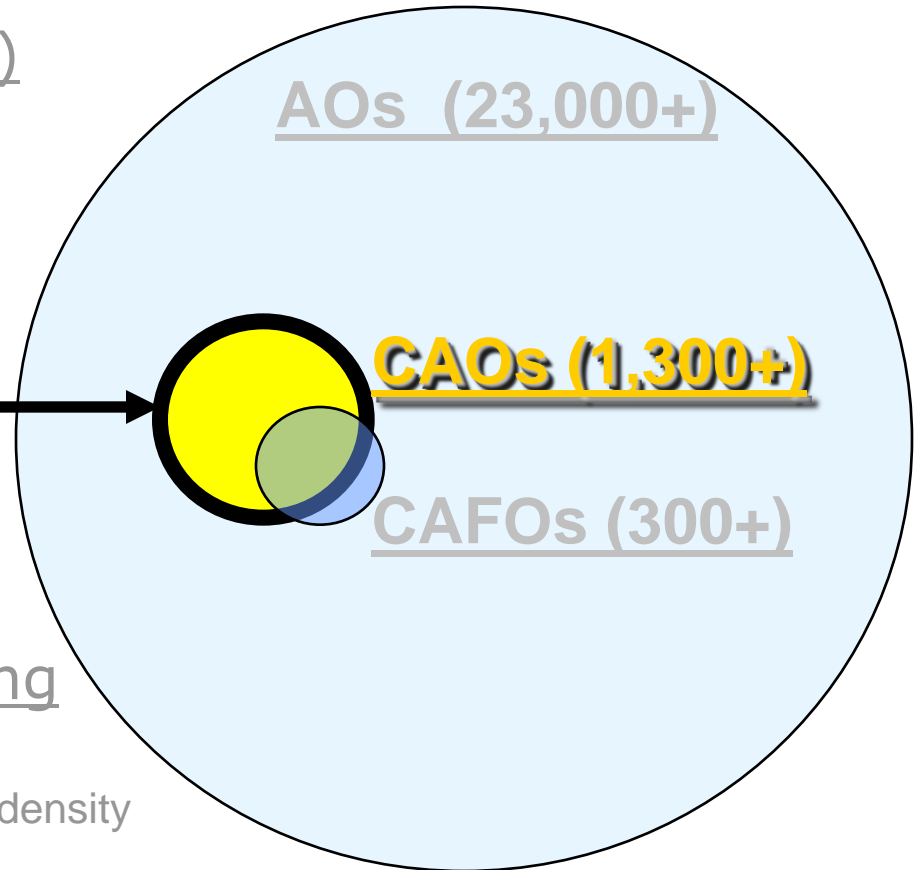
Based on animal density

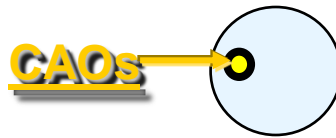
* Regulated by PA SCC

❖ Concentrated Animal Feeding Operations (CAFOs)

Based on animal numbers and/or animal density

* Regulated by PA DEP for US EPA





Act 38 Regulatory Requirements

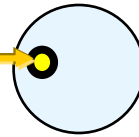
❖ Who is regulated?

1. Concentrated Animal Operations (**CAOs**)
 - ★ High density livestock operations
 - ★ **> 2,000 lbs animal live weight per available* acre**
 - > 2 AEU /acre
 - **On an annualized basis**
 - ★ Excludes any operation < 8 AEUs
2. Volunteers (VAOs) *where NMP is requirement of program participation*
3. Farms enforced by DEP under Clean Streams Law (*Compliance Plans*)

❖ Examples:assuming 1,000 lbs. / horse

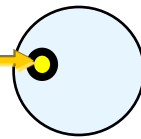
1. 9 horses, on 10 acres = .9 AEUs/acre = VAO
2. 10 horses, on 4 acres = 2.5 AEUs/acre = CAO
3. 4 horses, on 1 acre (*because of < 8 AEUs exemption*) = VAO

*Available acres = cropland, hay land, pasture (NOT ACAs, wooded pasture, buildings area)



Act 38 Regulatory Requirements

- ❖ Pastures vs. Animal Concentration Areas (ACAs):
 - * Pasture: A livestock area managed for forage production
 - ★ *Stocking rate does not exceed crop nutrient removal*
 - * ACA (*animal concentration areas*): A livestock area that will not maintain a growing crop, or where nutrients are applied in excess of crop needs.
 - ★ Examples: exercise lots, sacrifice lots, stress lots; loafing areas, barnyards...)
 - ★ Brown areas

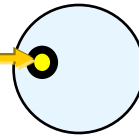


Act 38 Regulatory Requirements

❖ Pastures vs. ACA requirements:

- * Pasture:an area managed for forage production
 1. Stocking rate must not exceed crop nutrient removal
 2. Nutrients applied must not exceed crop nutrient removal

- * ACA (animal concentration areas): ...areas where animals congregate (exercise lots, sacrifice lots, loafing areas, barnyards...)
 1. Adjust stocking rate to meet “pasture” definition, **or**
 2. Implement BMPs to protect water quality
 - Collect and land-apply manure
 - Implement BMPs to cut off clean water before reaching ACA
 - Implement BMPs to collect & treat runoff coming off of ACA
 - Restrict livestock access to streams



Act 38 Regulatory Requirements

❖ What are CAO operations required to have?

* Nutrient Management Plan (NMP)

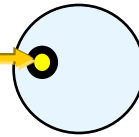
- Addresses **all** nutrients, not just manure
- More in depth than DEP's MMP
- Developed by certified planners
- Reviewed and approved by conservation district

★ Signed Agreements with manure importers

★ Nutrient Balance Sheets for importing farms

****Horse CAOs had until 10/1/08 to comply****

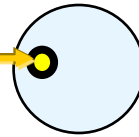
* Ag E&S Plan *or* **Conservation Plan** *(same as for AOs)*



Act 38 Regulatory Requirements

Ag Erosion & Sediment Plan (Ag E&S Plan)-Ch 102

- * Required for all plowing and tilling
 - ★ Cropland, bare pastures, (*all pastures and ACAs may be coming*)
- * Same requirement for CAOs as for AOs, except:
 - ★ Conservation District verifies the Ag E&S Plan is current
 - ★ Required for NMP approval
- * ***A Conservation Plan typically meets this requirement***
- * NRCS Grazing Plan can meet this requirement for pastures
- * DEP Action Packet is an interim option



Act 38 Regulatory Requirements

❖ Act-38 NMPs must address 3 Nutrients:

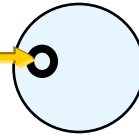
* Nitrogen (N), Phosphorus (P) and Potassium (K)

★ N and P are the only regulated nutrients

- N addressed through annual crop removal
- P addressed through P Index analysis

★ K application is not regulated

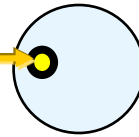
- K info required for agronomic planning purposes only



Act 38 Regulatory Requirements

❖ Year-round manure application setbacks:

- * 100' setback (*or 35' setback with buffer*) from;
 - ★ perennial and intermittent streams
 - ★ lakes and ponds
 - ★ existing open sinkholes
- * **NOTE:** 35' setback only applies if a permanent vegetated buffer exists or is established adjacent to protected area
 - ★ Including pasture and haylands
- * 100' setback from active private and public drinking water wells/springs
 - ★ No 35' setback/buffer option

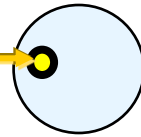


Act 38 Regulatory Requirements

❖ Manure application restrictions:

- ❖ Fall manure application must have >25% cover (crop residue or living plants).
 - ★ If not, cover crop must be planted, or manure must be incorporated within 5 days using low-disturbance techniques/equipment
 - This is **not** a significant issue with horse farms

- ❖ Winter manure application must have >25% cover ***at time of spreading***, and method ***must be described in the NMP***
 - ★ Definition of winter:
 - December 15 – February 28, or
 - Soil frozen at least 4 inches, or
 - Snow covered ground
 - ★ Additional winter application setbacks apply



Act 38 Regulatory Requirements

❖ Manure stacking restrictions:

- * Permanent stacking (*usually beside barn*)
 - ★ must be managed so that runoff does not pollute streams or groundwater
 - ★ **BIG CONCERN FOR HORSE FARMS**

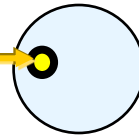
- * Temporary in-field stacking ... *Not typically a concern for horse farms*
 - ★ Maximum of 120 days without covering
 - ★ Cone or windrow shaped piles
 - ★ Not within 150' of streams, lakes, ponds, wells, sinkholes
 - ★ Not on excessively drained soils, or high water table
 - ★ Not on slopes > 8%
 - ★ Not in water concentration areas
 - ★ Stacking area rotated annually (unless an improved area)



Act 38 Regulatory Requirements

❖ Odor Management Regulations

- * Requires Odor Management Plan (OMP) for CAOs building new barns or manure storages
- * OM plan *generally* assesses size, scope, type of farm, and proximity of neighbors
- * Need for additional BMPs based on assessment
- * **Became effective 2/27/09**
- * Odor Mgmt. BMPs can be used by VAOs to address neighbor complaints



Act 38 Regulatory Provisions

❖ Revisions to funding (cost-share) programs:

* PDIP

- ★ Cost share for having a NMP written
- ★ Cost share for revising an existing NMP to meet new regulations
- ★ Cost share for soil and manure analysis (lab tests)
- ★ **Priority given to VAOs ...*as of 7/1/09***

* Grant Program

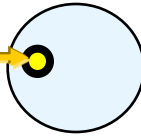
- ★ Cost share to implement NMP (*currently no funding*)

* Plan Maintenance Program (updates, amendments)

- ★ Allows for annual payments to keep plans current (*currently no funding*)

* Alternative technology construction projects supported

- ★ Multi-operational projects allowed (*currently no funding*)



Act 38 Summary

1. New Act-38 regulations went into effect 10/1/06
- 2. Horse CAOs needed to submit an NMP by 10/1/08**
 - * Need to contact conservation district
 - * Hire a plan (NMP) writer
 - * Get soil tests
 - * Line up manure importers willing to sign an agreement
 - * Get a Conservation Plan
 - * Submit the NMP to the conservation district
3. An approved NMP can make you eligible for \$ assistance to implement the NMP
- 4. For CAOs, it's the law!**

Animal Operations in PA

❖ All Animal Operations (AOs)

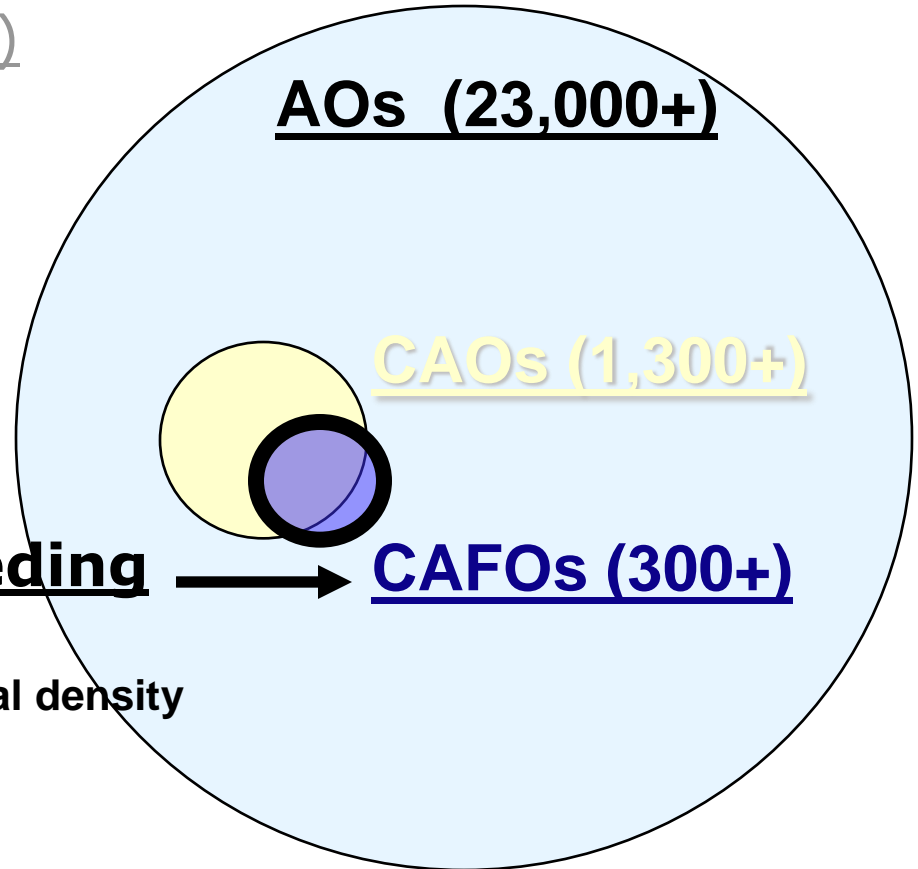
All operations generating/utilizing manure
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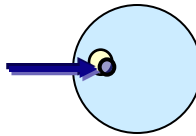
❖ Concentrated Animal Operations (CAOs)

Based on animal density
* Regulated by PA SCC

❖ Concentrated Animal Feeding Operations (CAFOs)

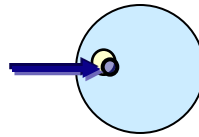
Based on animal numbers and/or animal density
* Regulated by PA DEP for US EPA





EPA's CAFO Program in PA

- ❖ **Federal program** delegated to PA-DEP to administer
- ❖ Regulates **larger** animal operations (CAFOs)
 - * CAFO = *Concentrated Animal Feeding Operation*
 - * > 300 Animal units **and** a CAO (*Concentrated Animal Op.*) (~300 horses)
 - * **OR** Meet EPA animal threshold numbers
 - ★ 500 horses
 - ★ 700 mature dairy cows
 - ★ 1,000 beef cattle
 - ★ 2,500 market swine
 - ★ 82,000 layers, dry manure
 - ★ 125,000 broilers, dry manure



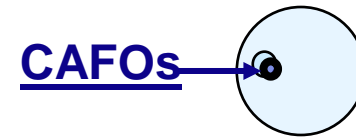
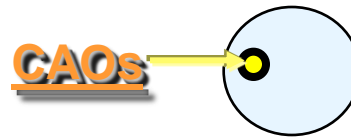
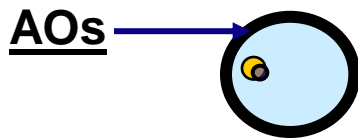
EPA's CAFO Program in PA

- ❖ Requires **operation permit** (NPDES) from DEP
 - * Individual /or/ general

- ❖ Generally, same NMP and Ag E&S regulations as CAOs:
 - * Application rates, setbacks, fall/winter restrictions,
 - * Exported manure requirements.....

- ❖ Generally, same Odor Management regulations as for CAOs:
 - ❖ for new barns and storages

- ❖ **But, additional restrictions** on CAFOs relating to:
 - * Setbacks required on more than just flowing streams, etc
 - * 14 day in-field stacking limitation (*unless covered, or on an improved area*)



In conclusion...

❖ All animal farms (AOs)

- * Manure Management Plan, Ag E&S Plan
 - ★ Application, storage and barnyard
 - ★ No formal plan approvals required

❖ CAOs (High density animal farms)

- * Nutrient Management Plan, Ag E&S Plan
 - ★ Plan approval required
 - ★ Manure application setback restrictions
 - ★ Exported manure requirements

❖ CAFOs (Large animal farms)

- * Nutrient Management Plan, Ag E&S Plan, DEP Permit
 - ★ Same plan requirements as CAOs
 - ★ Additional setback requirements



Is that all I need to worry about?

Not at all! *Neighbor relations is key to longevity
for all farms, not just CAOs and CAFOs:*

❖ **Flies & Odors** *(even if your farm is not a CAO or CAFO)*

- * Clean up after your horses
- * Keep manure dry (change bedding, keep stall & manure dry)
- * Compost your manure
- * Keep a buffer between you & your neighbors
- * Cover the manure pile
- * Fly control products (strips, traps)
- * Plant trees or shrubs to screen neighbor's line of site
- * Remove manure piles frequently



The wrap up

❖ **Horse operations need to be good neighbors**

* **Address water quality**

- Nutrient or manure mgmt plan
 - ✓ Storage, application and barnyards
- Conservation plan or Ag Erosion & Sedimentation Plan
- Approved plans or permits where necessary

* **Odor management** is important and is required on some farms

* **Address flies and other vectors**

- Housekeeping and general water mgmt is key

❖ **You need to make sure you are a good neighbor...
for your own good and for the good of your industry**



Acronym Key:

- ❖ **AU = Animal Unit**
- ❖ **AEU = Animal Equivalent Unit**
- ❖ **NMP = Nutrient Management Plan**
- ❖ **MMP = Manure Management Plan**
- ❖ **OMP = Odor Management Plan**
- ❖ **Ag E&S = Ag Erosion and Sedimentation Plan**
- ❖ **AO = Animal Operation**
- ❖ **CAO = Concentrated Animal Operation**
- ❖ **VAO = Volunteer Animal Operation**
- ❖ **CAFO = Concentrated Animal Feeding Operation**
- ❖ **BMP = Best Management Practice**
- ❖ **ACA = Animal Concentration Area**
- ❖ **DEP = Pennsylvania Dept. of Environmental Protection**
- ❖ **SCC = Pennsylvania State Conservation Commission**



Contact Information

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- ❖ Email: mibrubaker@state.pa.us
- ❖ <http://panutrientmgmt.cas.edu>

The End



**Any
Questions or
Comments?**