

CAFO Permits & Nutrient TMDLs

2018 ACWA Nutrients Permitting Workshop
Gulfport, Mississippi
November 6, 2018

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Presentation Outline

- Virginia AFO/CAFO Permit History
- Farm Specific Discharge Characteristics
- Permit and Fact Sheet Language
- Stormwater and Water Quality Monitoring

Acronyms

Virginia

- AFO = Animal Feeding Operation
 - Definition same as federal
- CAFO = Concentrated Animal Feeding Operation
 - Definition same as federal
- VPA = Virginia Pollution Abatement
 - Virginia's non-point source permitting program
 - Virginia statute provides broad authority to require permits for pollutant management activities with the potential to discharge
- VPDES = Virginia Pollutant Discharge Elimination System

History of Virginia AFO/CAFO Permits

- 1970's → “No Discharge” Certificates
issues with shellfish waters and livestock
- 1980's → VPA Individual Permits for Livestock (liquid)
- 1990's → VPA General Permits for Livestock (liquid)
- 2000 → VPA General Permits for Poultry
All NMPs for VPA GPs must be approved by
Virginia Department of Conservation and Recreation
- 2003 → Federal CAFO Rule revised – “potential to discharge”
- 2003 → Virginia Law – DEQ authority to require VPDES permits
“to extent necessary” to comply with federal law
- 2004 → VPDES Regulations for CAFOs, General Permit

History of Virginia AFO/CAFO Permits

- 2005 → US 2nd Circuit Court of Appeals decision in *Waterkeeper et al. vs. EPA* – “discharge or propose to discharge”
- 2008 → Federal CAFO Rule revised to reflect 2nd Circuit
- 2010 → Virginia revised VPDES regulation to reflect federal
- 2010 → VPA End-User Regulations for Poultry Waste Transfer
- 7/2010 → EPA inspections of 3 Accomack County poultry farms
- 9/2010 & 3/2011 → EPA Administrative Orders to subject farms
- 10/2010 & 4/2011 → Farm owners submit registration statements for coverage under VPDES CAFO General Permit

History of Virginia AFO/CAFO Permits

- 3/2011 → US 5th Circuit Court of Appeals decision in *National Pork Producers vs. EPA* - “discharge” ~~or propose to discharge~~
- 2012 → Federal CAFO Rule revised to reflect 5th Circuit
- 2012 → EPA closes administrative orders for subject farms
Obligations to apply for VPDES permit coverage were met
- 2013 → Virginia revised VPDES regulation to reflect federal
- 2013 → US District Court for the Northern District of West Virginia decision in *Alt vs. EPA* – exempt agricultural stormwater
- 2014 → VPA End-User Regulations for Livestock Waste Transfer

History of Virginia AFO/CAFO Permits

- 2013-2015: DEQ continues coordination with EPA regarding VPDES CAFO permitting process and individual permit language
- 2015: DEQ issues the first VPDES CAFO permits to two swine facilities managing liquid waste – voluntary (+ 6 more in 2016)
 - Facilities managing stormwater using secondary containment systems
 - Facilities requested VPDES coverage
- **2015: Owners of subject poultry farms submit applications for VPDES individual permits**

Farm Specific Background

Discharge Characteristics - 2010 Administrative Orders

- Poultry Farm #1: Due to poultry manure on the ground and on the concrete pads of 2 houses, as well as dust from the fans on vegetation in a ditch, EPA found that the facility “is designed, constructed, operated, and maintained in a manner such that a discharge will occur to Bullbegger Creek via a series of ditches, and is therefore proposing to discharge.”
- Poultry Farm #2: Due to poultry manure, dust, and feathers on the ground, as well as dust from the fans near the ditch, EPA found that the facility “is designed, constructed, operated, and maintained in a manner that has proposed to discharge pollutants from man-made ditches to the unnamed tributary to Assawoman Creek during rain events generating runoff.”
- Poultry Farm #3: Due to poultry manure included in dust and feathers on the ground, EPA found that the facility “discharged pollutants through man-made ditches to the unnamed tributary to Pitts Creek during rain events generating runoff without having obtained a VPDES permit in violation of the [Clean Water] Act and its implementing regulations.”

Individual Permit Language

Allowable Discharges

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the Permittee is authorized to discharge:

- a. manure, litter or process wastewater, from the facility's production area to surface waters of the state, in the case of an overflow caused by a storm event greater than a 25-year, 24-hour storm;
- b. storm water which may come into contact with manure, litter or process wastewater from areas of the CAFO that are not subject to the effluent standards referred to in Part I A.1.a, above. The discharge points shall be monitored as specified in Part I B.1.a.; and
- c. agricultural storm water, from the land application area(s).

In accordance with the assumptions and requirements of applicable TMDLs, the discharge of manure, litter or process wastewater from the facility is prohibited, except as provided above in Part I.A.1.a,b, and c. All authorized discharges must be in compliance with all other terms of this permit and the facility's nutrient management plan.

Fact Sheet Language

Effluent Limitations/Monitoring Rationale

This facility is operated to be in compliance with the permit requirements for discharges from the production area and the land application areas. Discharge points are monitored and addressed through the use of BMPs as described in the permit application, permit and permit factsheet. The BMPs are designed to minimize discrete discharges from the facility and have a defined inspection schedule. Maintenance and operation of the BMPs will be addressed in the Farm Operating Manual and evaluated during DEQ inspections. The permit requirements are consistent with the applicable TMDLs. All authorized discharges must be in compliance with all other terms of the permit and the facility's NMP, which is enforceable through this permit.

Fact Sheet Language

305(b)/303(d) Listed Segments

This facility Outfall 001 discharges to an unnamed tributary to Bullbegger Creek via several hundred feet of agricultural ditch. This receiving stream segment is not on the 305(b)/303(d) list. Although the facility has not been assigned a WLA from the TMDL, TMDLs have been approved that include the receiving stream and the Chesapeake Bay:

- Total Maximum Daily Loads of Fecal Coliform for the Restricted Shellfish Harvesting/Growing Areas of the Pocomoke River in the Lower Pocomoke River Basin and Pocomoke Sound Basin in Somerset and Worcester Counties, Maryland and Accomack County, Virginia; Fecal coliform; EPA approval 4/20/2009, SWCB approval 11/14/2009
- Chesapeake Bay TMDL: EPA approved 12/29/2010 : nitrogen, phosphorus, and TSS

The permit contains a TMDL reopener clause which will allow it to be modified, in compliance with Section 303(d)(4) of the Act if any WLAs, additional limits or conditions are imposed on the facility that are not consistent with the current permit requirements.

Fact Sheet Language

TMDL Review

Is a TMDL IN PROGRESS for the receiving stream? No

Has a TMDL been APPROVED that includes the receiving stream?

Yes, see below

If yes, Include TMDL Name, Pollutant(s) and date of approval:

- Total Maximum Daily Loads of Fecal Coliform for the Restricted Shellfish Harvesting/Growing Areas of the Pocomoke River in the Lower Pocomoke River Basin and Pocomoke Sound Basin in Somerset and Worcester Counties, Maryland and Accomack County, Virginia; Fecal coliform; EPA approval 4/20/2009, SWCB approval 11/14/2009
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Is the facility assigned a WLA from the TMDL?

No

If Yes, what is the WLA? Only use EOS Loads for Chesapeake Bay TMDL WLAs

NA

See Comments

Individual Permit Language

Visual Monitoring

- Stormwater leaving the production area + BMP function
- Quarterly + 2 → 6 times per year
- Samples taken within first 30 minutes of runoff from measurable storm event (as practicable, but no later than 3 hours)
- No quantitative analyses
- Includes observation of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution.
- Any deficiencies in BMPs identified must be corrected

Individual Permit Language

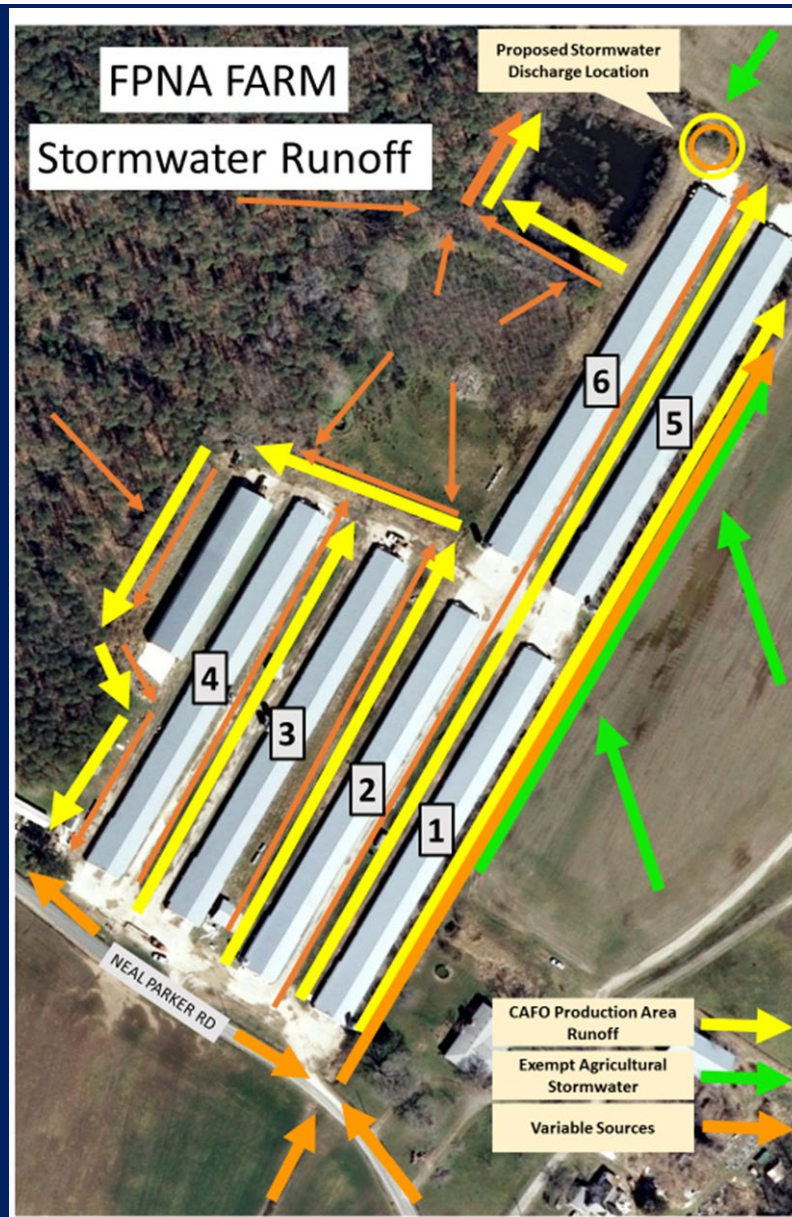
Visual Monitoring - Rationale

- BMPs at each site limit exposure of poultry waste to stormwater.
- Permits allow stormwater to leave site that has flowed through production area with properly maintained BMPs.
- Visual monitoring based on tiered requirements in DEQ industrial stormwater regulations
- Federal CAFO rule does not require any stormwater monitoring; EPA rejected requirement difficulty in designing a program capable of detecting, isolating, and quantifying pollutants from individual CAFO
- Intended to be a practical tool for operator to quickly identify sources of pollution and initiate corrective action.

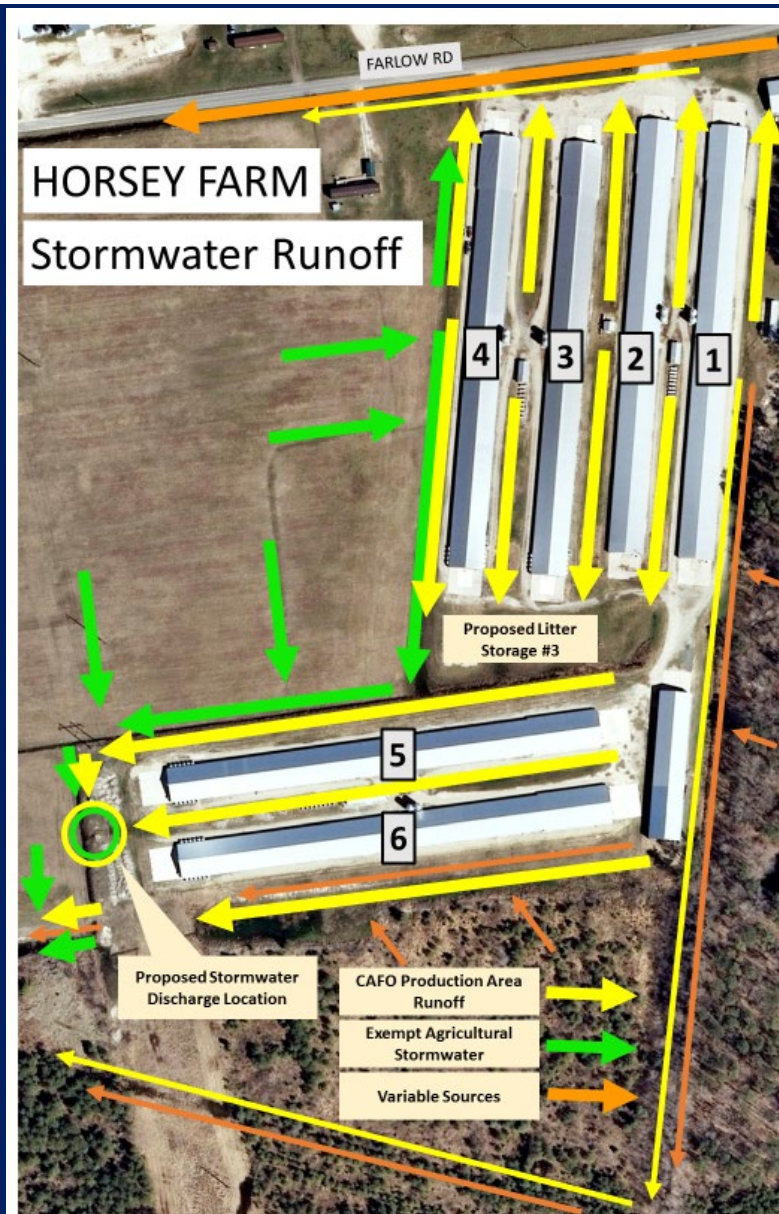
Individual Permit Language

Visual Monitoring – Rationale (cont'd)

- Although CAFOs are defined as a “point source”, stormwater patterns at each farm are more characteristic of non-point source pollutant sources
- Multiple sources of potential contaminants
- Some contributing runoff is exempt agricultural stormwater
- Areas where sources are more distinct provide poor sampling points (shallow depth, not channelized, etc.)
- VPDES Permit Regulation clearly contemplates requiring BMPs to control or abate the discharge of pollutants where numeric effluent limitations are infeasible or impractical







DEQ Water Quality Monitoring

Summer 2018 Special Study

- Water quality sample collection locations
 - 3 existing ambient stations downstream of the farms
- Parameters
 - Temperature, pH, dissolved oxygen, salinity, conductivity
 - Total phosphorus, total kjeldahl nitrogen
 - Nitrite, nitrate, ammonia, orthophosphate
 - Total suspended solids, turbidity, total volatile suspended solids, total fixed suspended solids
 - Fecal coliform, e. coli, enterococci

DEQ Water Quality Monitoring

Poultry Water Quality Study

- September 2018 - August 2019
- Water quality sample collection locations
 - Above and below the outfall location in the ditch system on the three VPDES poultry farms
 - Upstream and downstream location bracketing multiple poultry farms located on Rattrap Creek
- Analysis during dry periods (2) and after rainfall events (4)
 - Temperature, pH, dissolved oxygen
 - Total phosphorus, total kjeldahl nitrogen
 - Nitrite, nitrate, ammonia, orthophosphate
 - Total suspended solids, turbidity, total volatile suspended solids, total fixed suspended solids
 - e. coli

Questions?

Contact Information

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