



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

FOUR PENN CENTER – 1600 JOHN F. KENNEDY BLVD.
PHILADELPHIA, PENNSYLVANIA 19103-2852

Report Title: Animal Feeding Operation Assessment Report
Assessment Date(s): 05/31/2023
Regulatory Program(s): National Pollutant Discharge Elimination System (NPDES)
Type of Activity: Animal Feeding Operation
Site/Facility Name: Twi Willow Farm
Site/Facility Operator: Wilmer Nolt
Site/Facility Address: 166 Ulrich Road, Peach Bottom, PA 17563
Latitude/Longitude: 39.77666, -76.16559
County/Parish: Lancaster
General Permit #: N/A
Site Specific Permit #: N/A
NAICS Code: 112120, 112390
SIC Code: 0241, 0259
Unique Project #: 3E23WN82A

Farm Representative(s): Wilmer Nolt **Point of Contact** ☒
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Attachment A: Photograph Log

Attachment B: Animal Equivalent Unit (AEU) Worksheet

Attachment C: AFO On-Site Assessment Form Completed During On-Site Interview

I. Introduction

On May 31, 2023, an assessment team composed of staff from the U.S. Environmental Protection Agency (EPA) Region III (hereinafter, “EPA Assessment Team”) met with representatives of the Lancaster County Conservation District (“LCCD”) at Two Willow Farm (hereinafter, “the Farm”) in Peach Bottom, PA 17563. The assessment was one of several assessments of Animal Feeding Operations (“AFO”) in Lancaster County, PA to better understand sources of nutrient loadings to the Chesapeake Bay and its watershed. The Farm was not a permitted operation at the time of the assessment.

A. Assessment Opening Conference

The EPA Assessment Team arrived at the Farm at approximately 8:00 AM for the announced assessment. The EPA Assessment Team identified themselves to the farm representative. The EPA Assessment Team displayed their credentials, described the purpose of the assessment, and completed the AFO Assessment On-Site Form prior to walking the entire production area of the Farm. The EPA Assessment Team’s observations are listed later in this document. The EPA Assessment Team was composed of two groups: Peter Gold, Michael Greenwald and Joel Blanco-Gonzalez assessed the farm production area and spoke with the farm representative regarding farm practices, and Amy Bergdale, Kelly Krock and Connor Radtke conducted aqueous sampling in the Unnamed Tributary to Conowingo Creek.

Table 1: Assessment Attendee List

Name	Affiliation	Telephone	Email
EPA Region III			
Peter Gold	EPA Region III	(215) 814-5236	Gold.Peter@epa.gov
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State or County Representatives			
Greg Heigel	LCCD	(717) 299-5361	GregHeigel@lanasterconservation.org
Samantha Adams	LCCD	(717) 299-5361	SamanthaAdams@lanasterconservation.org
Farm Representatives			
Wilmer Nolt	Two Willow Farm	Not Provided	Not provided

B. Weather and Precipitation Conditions

During the assessment, weather was sunny. National Oceanic and Atmospheric Administration (NOAA) National Weather Service precipitation data for the date of the assessment and five days prior are provided in the Table 2 below:

Table 2. Precipitation Data

Station Name	Date	Precipitation Amount (inches) ¹
LANCASTER 5.8 WNW, PA US US1PALN0007	05/26/2023	0.00
LANCASTER 5.8 WNW, PA US US1PALN0007	05/27/2023	0.00
LANCASTER 5.8 WNW, PA US US1PALN0007	05/28/2022	0.00
LANCASTER 5.8 WNW, PA US US1PALN0007	05/29/2022	0.00
LANCASTER 5.8 WNW, PA US US1PALN0007	05/30/2022	0.00
LANCASTER 5.8 WNW, PA US US1PALN0007	05/31/2022	0.00

II. Site/Facility Activity

The Twi Willow Farm is a dairy and duck farm. At the time of the assessment the facility housed a total of 18,000 ducks housed equally in two duck houses (9,000 ducks each house). The facility had a total of 136 bovines including dairy cows (80), dry cows (10), heifers (40) and calves (6) (Note: these numbers were given to the EPA Assessment Team prior to the farm walk and differ slightly from the numbers reported during the walk through). Twi Willow Farm has six animal confinement areas for cows and ducks and one large steel circular above ground slurry pit (slurry pit) and some smaller temporary storage structures beneath some of the barns. The slurry pit is approximately 101' by 16' with a volume of 1,000,000 gallons and stores both the duck litter and cow manure. The heifer barn, which had approximately 32 heifers at the time of assessment (capacity 52), has a slatted floor and under barn storage that measures 8' x 12' x 100' with a volume of slightly over 70,000 gallons. Manure from this tank is pumped and land applied. The calf barn had about 12 calves (capacity 24), and manure from the confinement area stalls was scrapped and land applied. The calf barn had a roof that extended beyond the stalls that prevented manure, litter and bedding from being exposed to stormwater. The heifer barn had a similar roof structure. The dry cow barn housed 10 cows and was partially covered with access to a lot, field, and the stream. Wastes from this area was scraped, stacked and land applied. These were the only animals with access to the stream. The dairy barn had approximately 80 cows (capacity 90) at the time of assessment. The dairy barn had a reception pit of 10' x 15' x 8' (approximately 10,000 gallons). Wastes from the reception pit were scraped via an automated system to the reception pit. Wastes are then pumped from the reception pit to the slurry pit. The barns had gutters, and the EPA Assessment Team did not document rilling or erosional scarring around the barns.

¹ Source: NOAA National Climatic Data Center (<http://www.ncdc.noaa.gov/>).

The facility composts bovine mortalities, and a compost pile was observed in proximity to the dry cow barn. The area along the stream that the assessment team walked had a vegetative buffer greater than 30' along its banks. The fields were fenced around the buffer strips.

At the time of the assessment, Twi Willow Farm owned 300 acres of land of which 275 acres were crop and 25 acres were pasture. The farm grew corn, soybean and wheat. The farm representative stated soils were tested annually, though a soil test was not provided at the time of the assessment. The farm practices no-till farming and plants cover crops on approximately 70 acres of land annually. The farm neither imports nor exports manure; only manure produced by the farm is applied to farmlands.

The farm housed 18,000 ducks at the time of the assessment. There were 9,000 ducks in each of the two active houses on site. There were two additional poultry houses on site, of which one was used to compost ducks and the other was rented out for storage and did not house any animals. Both active houses were 300' in length and 38' in width. The farm representative stated that the grow out period was 36-38 days and that up to 10 flocks are cycled through the farm per year. The barns were cleaned out between flocks. Wet litter is stored underbarn and then sent into the slurry pit. Twi Willow Farm did not import or export manure; it only used the manure produced by the farm.

An Unnamed Tributary (UT) to Conowingo Creek runs in the rear of the property.

Samples were taken at different locations in the streams in proximity to the Farm. The sampling data will be collected in a different report and can be provided to the Farm on request.

Photographs were taken during the assessment by Michael Greenwald and are provided in Attachment A.

III. Observations

Potential Concentrated Animal Feeding Operation (CAFO)

Definitions Section 92a. issued under Pennsylvania's Clean Stream Law defines a concentrated Animal Feeding Operation (CAFO) as "A CAO (*Concentrated Animal Operation*) with greater than 300 AEUs, any agricultural operation with greater than 1,000 AEUs, or any operation defined as a large CAFO under 40 CFR 122.23(b)(4).

40 CFR 122.23(b)(4) states the definition of a large concentrated animal feeding operation ("Large CAFO") to be as follows, "An AFO is defined as a Large CAFO if it stables or confines as many as or more than the numbers of animals specified in any of the following categories (xii) 30,000 ducks (if the AFO uses other than liquid manure handling system); or (xiii) 5,000 ducks (if the AFO uses a liquid manure handling system)."

Pennsylvania Chapter Section 92a.29 "... Each CAFO shall have applied for an NPDES permit on the following schedule and shall have obtained a permit...."

Section 83.201 Pennsylvania Act 38 "AEU-Animal Equivalent Unit – One thousand pounds live weight of livestock or poultry animals, on an annualized basis, regardless of the actual number of individual animals comprising the unit."

Definitions Section 83.201 Pennsylvania Act 38 “AEU per acre – An animal equivalent unit per acre or cropland or acre of land suitable for application of animal manure.”

Definitions Section 83.201 “CAO – Concentrated animal operation – Agricultural operations with eight or more animal equivalent units where the animal density exceeds two AEUs per acre on an annualized basis.”

Observation #1:

At the time of assessment, the farm representative informed the EPA Assessment Team that the Farm had 300 acres of crop and pasture lands and that the Farm housed 136 dairy cows, dry cows, heifers and calves and 18,000 duck finishers. Using the AEU calculator (Attachment B), it appears the Farm has around 260 animal equivalent units (AEUs) and an AEU/acres of 0.9. The farm raises 18,000 ducks and uses a liquid manure handling, slurry pit. The Large CAFO threshold for ducks is 5,000 when using liquid manure handling. Photographs 10 and 11 shows the duck houses.

Nutrient Management Plans, Manure Management Plans and Agricultural Erosion and Sediment Control Plans

Page 1 of the Land Application of Manure, Manure Management Plan Guidance 361-0300-002 states “Every farm in Pennsylvania that land applies manure or agricultural process wastewater (generated on the farm or received from an importer), regardless of size is required to have and implement a written Manure Management Plan.”

Foreword of Soil Erosion and Sediment Control Manual for Agricultural Operations states “All agricultural operations in Pennsylvania are required to minimize accelerated erosion and sedimentation to the waters of this Commonwealth, as sediment is considered a pollutant of water. The specific requirements for erosion and sediment control are contained in Chapter 102 of the Department’s regulations. Agricultural operations that plow or till or have Animal Heavy Use Areas (AHUAs) must implement appropriate Best Management Practices (BMPs) to prevent accelerated erosion and sedimentation to waters of this Commonwealth. AHUAs are often referred to as Animal Concentration Areas (ACAs), particularly during manure and nutrient management planning. Those operations that plow or till 5,000 or more square feet, including no-till, or that have AHUAs that are 5,000 or more square feet in total, are required to have a written Agricultural Erosion and Sediment Control Plan (Ag E&S Plan)”

Observation #2:

Farming operations that land apply manure or agricultural process wastewater, whether they generate the manure or import it from another operation, must have a written Manure Management Plan (MMP) and farming operations that include an animal concentration area or pasture must have a written MMP. Farms that are a CAFO or CAO are required to have a Nutrient Management Plan (NMP) which is written by a certified specialist. At the time of the assessment, the farm representative was unable to provide the EPA Assessment Team

with a copy of the MMP or Ag E&S Plan. The facility provided the EPA Assessment Team with a partial NMP but at the time of the assessment the complete plan could not be provided.

Manure Storage Monthly Inspections

Paragraph 4 on page 17 of the Land Application of Manure, Manure Management Plan Guidance 361-0300-002 states, "In order to prevent discharges of manure from manure storage facilities, it is important to inspect these facilities on at least a monthly basis. The form below is used for these routine inspections."

Observation #3:

The EPA Assessment Team was unable to verify if the farm documented and conducted these monthly inspections. The form for the monthly inspections requires the preparer to identify the depth from surface of manure to freeboard. The EPA Assessment Team observed the slurry pit but was unable to determine if the slurry pit had a depth marker or freeboard marker (Photograph 8 and 9). The slurry pit is above ground and does not have a leak detection system.

IV. Records Review

The EPA Assessment Team was not able to access the farm's full Ag E&S Plan or the Manure Management Plan or Nutrient Management Plan at the time of the assessment.

V. Closing Conference

At the conclusion of the onsite assessment, the EPA Assessment Team met with the farm representative for a closing conference. The EPA Assessment Team shared preliminary observations with the farm representative. The EPA Assessment Team reiterated to the farm representative that all preliminary observations discussed were not compliance determinations. Any and all preliminary observations shared were subject to further review by EPA upon the additional review of records and documentation. Additional observations may be contained in this assessment report that were not identified at the time of the closing conference after EPA reviewed additional materials following the assessment.

The assessment concluded at approximately 10:30 AM (EDT).