pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
CONCENTRATED ANIMAL FEEDING OPERATIONS
ANNUAL REPORT INSTRUCTIONS

GENERAL INSTRUCTIONS

The Concentrated Animal Feeding Operation (CAFO) Annual Report is used by CAFOs to satisfy state (25 Pa. Code § 92a.42) and federal (40 CFR § 122.42(e)(4)) regulations for the completion and submission of an annual report. Completion of the CAFO Annual Report template (3800-PM-BCW0032f) is a requirement of PAG-12 NPDES General Permit coverage. The Report must be submitted to the regional office of the Department of Environmental Protection (DEP) that serves the area where the CAFO is located by December 31 for CAFOs with PAG-12 General Permit coverage. The Report may also be required for CAFOs with individual NPDES permits, with the same or different submission deadlines.

For existing permittees with PAG-12 coverage as of the effective date of the PAG-12 General Permit, the annual reporting period is October 1 – September 30, with the annual report due by December 31.

For new permittees with PAG-12 coverage after the effective date of the PAG-12 General Permit, the first annual report is due by December 31 following the first year of General Permit coverage. For example, if an applicant receives approval for PAG-12 coverage with an effective date of October 1, 2023, the first annual report would be due by December 31, 2024 (i.e., the first December 31 following one full year of coverage). The first annual report should cover activities occurring from the effective date of coverage until September 30th following one year of coverage. Thereafter, the annual reporting period is October 1 - September 30, with the annual report due by December 31.

At the top of the form, enter the reporting period.

GENERAL INFORMATION

Enter the following information:

- The name of the permittee (as listed on page 1 of the permit or approval of coverage);
- The permittee's full mailing address and city, state, and zip code;
- The NPDES Permit Number;
- The date the latest new or reissued NPDES permit or General Permit coverage approval was issued to the permittee ("Permit Approval Date");
- The date the permit coverage expires;
- The name of the Site (CAFO);
- The permittee's phone number (use the number for someone associated with the permittee who can answer questions DEP may have); and
- The municipality and county where the CAFO is located.

ANIMAL INFORMATION

List all animal types that were present at the operation (including satellite farms if such farms are part of the operation's Nutrient Management Plan (NMP)) for at least 45 days during the reporting period and supply the following information:

- **Animal Type**. List the animal type as identified in Pennsylvania State University's Agronomy Fact Sheet 54.

- **No. Open Confinement**. List the number of animals from each animal type that were not maintained under roof for the majority of the time they spent on the operation.

- **No. Under Roof Confinement**. List the number of animals from each animal type that were maintained under roof for the majority of the time they spent on the operation.

- **Total No. Animals**. This value should be the sum of the values for No. Open Confinement and No. Under Roof Confinement. If the animal population varied throughout the year, report the maximum number that were maintained on the operation for at least 45 days.

- **Weight (lbs)**. Use the standard or alternative weight that is used in the latest proposed or approved NMP.

- **Production Days**. Identify the number of days that animals were stabled or confined and fed or maintained on the operation for each animal type during the reporting period.

- **Animal Equivalent Units (AEUs)**. Calculate the number of AEUs for each animal type by first multiplying the Total No. Animals by the Weight (lbs), and dividing by 1,000. Then multiply this value by the Production Days, and divide by 365. Sum the AEUs for all animal types at the bottom of the table and report this value next to "Total". Report the permitted number of AEUs for the operation next to "Permitted Value" (this value should be identified on page 1 of the permit or General Permit coverage approval).

PRODUCTION AREA DISCHARGES

In the table provided, report the following information related to discharges from production areas (animal confinement areas, manure storage areas, raw materials storage areas, and waste containment areas) to surface waters (including storm sewers conveying stormwater to surface waters) during the reporting period:

- **Date(s) of Discharge**. For each discharge event, identify the date(s) the discharge occurred.

- **DEP Notification Date**. Report the date DEP was notified of the discharge incident. Permittees must notify DEP immediately of discharges causing or threatening to cause pollution to surface waters (no later than 4 hours following discovery).

- **Discharge the Result of Design Storm Event?** Report "Yes" or "No" to indicate whether the discharge resulted from a precipitation event that met or exceeded the design storm for the operation. The design storm for most operations is the 25-year/24-hour storm event, with the exception of new or expanded operations containing swine, poultry or veal, commencing operation on or after April 14, 2003, in which the 100-year/24-hour storm is the design storm event. To determine whether an actual precipitation event exceeded the design storm event you would need to have a rain gauge on-site or check the nearest weather station for the actual precipitation amount, and consult published government sources of long-term weather data for the design storm event in your area (e.g., NOAA National Weather Service Atlas 14 website).

  NOTE – A discharge caused by a design storm event is authorized under NPDES permits for CAFOs.

- **Duration of Discharge**. Report the duration of the discharge, in hours.

- **Estimated Volume of Discharge**. Estimate the volume of the discharge, in gallons.

For every reported discharge, explain the location(s) where the discharge occurred and the cause(s). Also, describe any corrective action(s) taken to prevent future discharges.

If no discharges occurred during the reporting period, this section may remain blank.

MANURE GENERATION AND USE

In the table provided, report the following:

- **Amount or Volume Generated**. The amount of solid manure (in dry tons) and the volume of liquid and semi-solid manure and agricultural process wastewater (in gallons) generated on the operation during the reporting period. If a waste type is not generated on the operation, the response may remain blank. If agricultural process wastewater is managed and stored with liquid and semi-solid manure, the field for agricultural process wastewater generated may remain blank.

For example, an operation consists of layers and swine. There is a commercial egg washing and packing operation on-site, and egg washwater is managed separately. The egg washwater volume generated during the reporting period would be reported separately for agricultural process wastewater generated.

- **Amount or Volume Used On-Site**. Report the amount of solid manure (in dry tons) and the volume of liquid and semi-solid manure and agricultural process wastewater (in gallons) used on the operation during the reporting period (i.e., applied on lands owned or under operational control of permittee), if applicable. Include all reductions in manure amounts or volumes through the use of manure digesters, incinerators, and other alternative utilization on-site.

- **Amount or Volume Exported from Site**. Report the amount of solid manure (in dry tons) and the volume of liquid and semi-solid manure and agricultural process wastewater (in gallons) exported from the site during the reporting period, if applicable.

NUTRIENT CONTENT OF MANURE

In the table provided, report the following:

- **Nitrogen Content**. Report the nitrogen content for the three waste types (liquid and semi-solid manure, agricultural process wastewater, and solid manure), as applicable. If agricultural process wastewater is handled with liquid and semi-solid manure and is part of the analysis for this manure, the response for agricultural process wastewater may remain blank. Report nitrogen content in terms of lbs/1,000 gallons for liquid/semi-solid manure and agricultural process wastewater, and in terms of lbs/ton for solid manure.

- **Nitrogen Form**. Identify the form of the nitrogen in the waste, based on the latest manure test. For example, Ammonia-N, Organic-N, Nitrates, etc.

- **Phosphorus Content**. Report the phosphorus content for the three waste types, as applicable. Report phosphorus content in terms of lbs/1,000 gallons for liquid/semi-solid manure and agricultural process wastewater, and in terms of lbs/ton for solid manure.

- **Phosphorus Form**. Identify the form of the phosphorus in the waste, based on the latest manure test. For example, Total P, P2O5, etc.

- **Latest Manure Test**. Report the date of the latest manure test that is the basis for the results in the table.

- **Testing Laboratory**. Indicate the name of the laboratory that completed the latest manure test.

LAND APPLICATION OF MANURE

- **Date of Latest NMP Approval**. List the date of approval for the latest new or updated NMP for the operation. Also, report the crop year(s) that are addressed by the latest approved NMP.

- **NMP Acres**. Enter the number of acres available for land application according to the latest approved NMP.

- **Actual Acres Used**. List the actual acres that are owned or are under the operational control of the permittee that were used during the reporting period for land application.

- **Certification Requirement**. Check the appropriate box if the latest approved NMP was developed by a person certified under the Department of Agriculture's Nutrient Management Specialist Certification requirements.

- **Table 1 Completed**. Check the appropriate box if manure and/or supplemental fertilizer was applied on fields owned or under the operational control of the permittee during the reporting period and Table 1 (Field Level Manure and Supplemental Fertilizer Land Application Summary) has been completed, as discussed further below.

- **Table 1 Not Completed**. Check the appropriate box if all manure was exported from the site during the reporting period, and there were no applications of manure and/or supplemental fertilizer on fields owned or under the operational control of the permittee during the reporting period. Table 1 does not need to be completed under these circumstances.

- **NMP Annual Review**. Check the appropriate box if the NMP was reviewed during the reporting period to ensure manure applications prescribed by the NMP are consistent with current practices and the nutrient management regulations at 25 Pa. Code § 83.293.

- **New, Amended or Updated NMP**. Select the appropriate box for "Yes" or "No" to specify whether a new or updated NMP was approved by the State Conservation Commission (SCC) or delegated county conservation district during the reporting period. If "Yes", attach a copy of the NMP and approval letter, unless this was done previously. The PAG-12 General Permit requires submission of new, amended or updated NMPs to DEP within 30 days of approval of the NMP by the SCC or delegated county conservation district.

LIQUID AND SEMI-SOLID MANURE STORAGE FACILITIES

In the table provided, report the following information for liquid and semi-solid manure storage facilities:

- **Manure Storage Type**. Report the type of manure storage facility. Report one of the following types unless the permittee can characterize the type in a more accurate manner using a different description:

  - Shallow Underbarn Concrete Pit;
  - Deep Underbarn Concrete Pit;
  - Circular Concrete Aboveground Storage;
  - Circular Concrete Inground Storage;
  - Circular Steel Aboveground Storage;
  - HDPE-Lined Impoundment; and
  - Earthen/Clay-Lined Impoundment.

- **Total Depth**. Report the total depth of the manure storage facility in feet. The total depth is the vertical distance between the bottom and top elevations of the facility, without an overflow.

- **Required Freeboard**. Report the freeboard required for the manure storage facility (i.e., "regulatory freeboard", see 25 Pa. Code § 91.36(a)(6)).

- **Volume Removed During Reporting Period (gal)**. Report the total volume of manure removed from the manure storage facility during the reporting period, in gallons, for land application or other uses, both on- and off-site.

- **Leak Detection Systems**. Check the appropriate box ("Yes" or "No") to indicate whether any weekly inspection during the reporting period revealed evidence of a pollutant discharge from leak detection systems installed below manure storage facilities. If there are no leak detection systems on-site, check the box for "N/A".

- **Subsurface Drains**. Check the appropriate box ("Yes" or "No") to indicate whether any weekly inspection during the reporting period revealed evidence of a pollutant discharge from subsurface drains. A subsurface drain is generally used to ensure that the seasonal high-water table does not infringe upon the liner of the manure storage facility. If there are no subsurface drains on-site, check the box for "N/A".

- **Repairs or Corrective Actions**. Check the appropriate box ("Yes" or "No") to indicate whether the permittee completed and repairs or other corrective actions for manure storage facilities during the reporting period.

  If the response to any of the previous three questions is "Yes", provide a description of the investigations, repairs, and corrective actions taken.

- **Leak Detection Samples**. Check the appropriate box if a sample of drainage was collected and analyzed from the leak detection system(s). If checked, attach a map showing the location(s) where sample(s) were collected and attach the analytical results.

- **Leak Detection Could Not Be Sampled**. Check the appropriate box if a sample of drainage could not be collected from leak detection system(s) because the system was dry during every weekly inspection.

- **Existing Earthen Manure Storage Facility Inspection Report**. Check the appropriate box if a completed Existing Earthen Manure Storage Facility Inspection Report (3800-FM-BCW0537) is attached to the annual report for each earthen manure storage facility at the CAFO. For CAFOs with PAG-12 coverage and earthen manure storage facilities, submission of this Inspection Report (one report per facility) as an attachment to the Annual Report is a requirement of PAG-12 coverage.

If there are no manure storage facilities on-site used for storing liquid or semi-solid manure or agricultural process wastewater, this section may remain blank.

WINTER MANURE MANAGEMENT

In the table provided, report the following information for liquid and semi-solid manure storage facilities:

- **Manure Storage Type**. List all liquid and semi-solid manure storage facilities in the same order as in the previous section.

- **Volume of Manure Expected During Winter Period (gal).** Calculate and report the volume of liquid or semi-solid manure that is expected to be collected by the manure storage facility during the winter period (December 15 – February 28) based on the number of animals that contribute manure to the facility and any other process discharges to the facility.

- **Freeboard Required as of December 15 to Implement NMP (ft)**. Calculate and report the freeboard necessary on December 15 in the manure storage facility, in feet, to implement the NMP based on the volume of manure that is expected to be collected in the facility during the winter period.

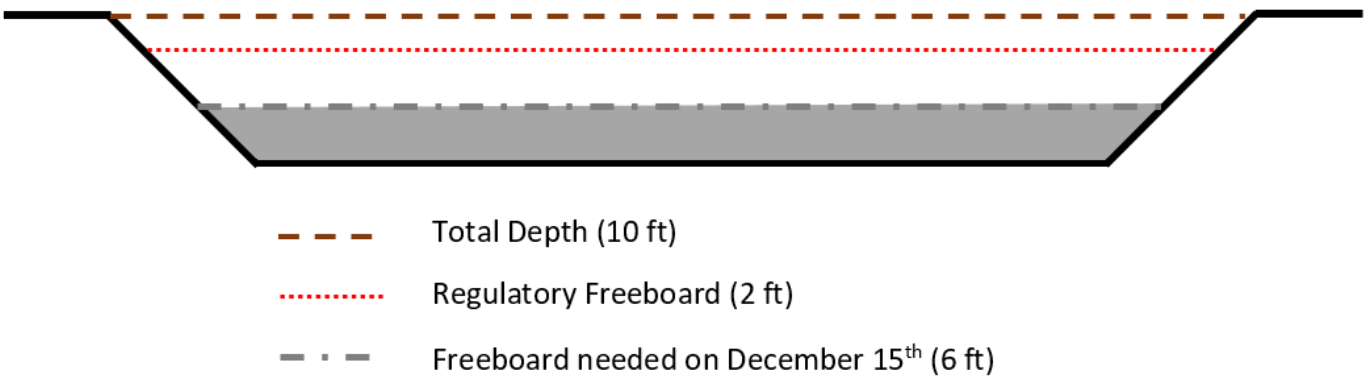
  Example – an operation has a 50-foot diameter circular concrete inground storage facility. The regulatory freeboard for this facility is 6 inches (0.5 ft). The volume of manure generated during the winter period that will be collected in the facility is estimated to be 100,000 gallons. The NMP does not prescribe land application of manure during the winter period (except for emergencies). In order to accommodate the estimated contribution of manure during winter, the freeboard level on December 15 would need to be 7.3 ft, which is determined as follows:

  $$(100{,}000 \text{ gallons} / 7.48 \text{ gallons/ft}^3) / [(\pi \times (25 \text{ ft})^2) + 0.5 \text{ ft regulatory freeboard}] = 7.3 \text{ ft total}$$

- **Actual Freeboard on December 15 (ft)**. Report the actual freeboard measured in the manure storage facility on December 15.

Figure 1 below shows an example that illustrates a manure storage facility's total depth, regulatory freeboard, and freeboard required as of December 15 to implement the NMP (not to scale). The example manure storage facility, an HDPE-lined impoundment, is located on a CAFO with greater than 1,000 AEUs; therefore the regulatory freeboard is 2 feet (represented by the red dashed line). The total depth is 10 feet (represented by the brown dashed line). The NMP calls for winter application of manure only in emergencies. The volume of manure that is expected to be generated between December 15th and February 28th correlates to 4 feet in the impoundment, below the regulatory freeboard. As a result, the freeboard on December 15th should be 6 feet (gray dashed line) in order to implement the NMP (i.e., 4 feet calculated for storage plus 2 feet regulatory freeboard). In this example the CAFO permittee would determine the actual freeboard in the impoundment on December 15th, and if the freeboard is at least 6 feet, the permittee is in compliance. It is noted that where a depth marker is placed on the interior embankment, the identification of the regulatory freeboard and winter freeboard levels must be adjusted for slope.

Figure 1: Example Manure Storage Freeboard Illustration



- **NMP Specification**. Check the appropriate box if the latest approved NMP provides for land application of manure during winter as a contingency. If this box is not checked it does not imply that land application of manure during winter cannot be done. The Chapter 83 Nutrient Management regulations provide the conditions under which winter manure application can be approved.

- **Current Winter Application Plans**. Check the appropriate box if you anticipate that you will need to land apply manure during the winter period. If this box is checked and the latest approved NMP does not provide for winter application, it is recommended that the NMP be updated and submitted to the SCC or delegated county conservation district as soon as possible. **Note that unless your permit requires otherwise, if you plan to land apply during winter you must notify DEP at least seven (7) days prior to the application, using DEP's Winter Period Application of Manure Notification form (3830-FM-BCW0532)**.

BEST MANAGEMENT PRACTICES (BMPs)

Identify all new and ongoing BMPs installed or implemented on lands owned or under the operational control of the permittee during the reporting period. If the BMP is a structural BMP (e.g., a new manure storage facility, manure compost facility, animal exclusion fencing, etc.), report the BMP in the year the BMP was installed or constructed only. For BMPs that continue annually (e.g., manure composting, etc.), report the BMPs every year. Complete the table provided as follows (attach additional sheets as necessary):

- **BMP Name**. Report the name of the BMP as presented in **Attachment A of these Instructions**. These names are consistent with the BMPs recognized for agriculture by the Chesapeake Bay Model. Where the name of a BMP is not identified in Attachment A, the permittee may use other BMP names in use by the Chesapeake Bay Model (see for example the source data for the Chesapeake Assessment Scenario Tool (CAST)). **If the BMP is not consistent with the description in Attachment A, do not report the BMP**. For clarification please contact DEP's Bureau of Clean Water at (717) 787-5017.

  NOTE – Attachment A does not include cover crop BMPs. Report cover crops in the subsequent table.

- **Date Installed or Implemented**. List the date the BMP was installed or implemented. For structural BMPs, list the date construction was completed. For annual BMPs, list the approximate date by which the BMP was established.

- **BMP Extent**. Refer to Attachment A and the BMP definitions to determine how to report the extent of a BMP. For most agricultural BMPs, the BMP extent is an amount in terms of acres. For example, if a barnyard runoff control BMP is implemented to treat a one-half acre barnyard, enter "0.5".

- **Units**. Report the units associated with the BMP Extent (e.g., acres). See **Attachment A**.

- **Cost-Share Entity?** Indicate whether the BMP was installed or implemented under a cost-sharing arrangement with a government entity. Enter "federal", "state", "county" or "none", as appropriate.

COVER CROPS PLANTED

If cover crops are planted on lands owned or under the operational control of the permittee, report the cover crops planted as follows:

- **Date Planted**. Rather than listing a calendar date, report either "Early", "Late" or "Standard".
- **Acres**. List the number of acres planted using the specified planting method, species/mixture type, and fertilizer type.
- **Planting Method**. Report whether the cover crop was planted using "Drilled" or "Aerial" methods.
- **Species/Mixture Type**. Identify the species used (e.g., Ryegrass, oats, legume, etc.).
- **Fertilizer Type**. Indicate whether manure or other fertilizer was used on the cover crop. Enter "Manure", "Biosolids", "Other Fertilizer" or "None".
- **Harvested**. Indicate whether the cover crop was harvested ("Yes" or "No").

OPERATION CHANGES

In the space provided (or separate attachment), describe any changes that occurred during the reporting period with respect to production, biosecurity, BMPs, Animal Heavy Use Areas (AHUAs), conservation practices (e.g., no-till), manure management or manure storage facilities. Attach additional sheets as necessary.

CERTIFICATION

All permittees must certify that the information contained in the Annual Report is true, accurate and complete.

The Annual Report must be signed as follows:

- For individually owned operations, the Annual Report must be signed by the owner of the operation.
- For a corporation, the Annual Report must be signed by a responsible corporate officer. For purposes of this section, a responsible corporate officer means a principal executive officer of at least the level of vice president or an authorized representative, if the representative is responsible for the overall operation of the site.
- For a partnership or sole proprietorship, the Annual Report must be signed by a general partner or the proprietor, respectively.
- For a municipality, state, federal or other public agency, the Annual Report must be signed by either a principal executive officer, ranking elected official or other authorized employee.

If signed by a person other than the above, the person must be a duly authorized representative of the permittee. A person is a duly authorized representative only if:

- The authorization is made in writing by a person described above and submitted to DEP.
- The authorization specifies either an individual or a position having responsibility for the operation of the regulated system, facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may be either a named individual or an identified position.

If there are co-permittees, each co-permittee must sign and date the Certification section of the Annual Report. Include additional pages with the Annual Report as necessary.

SUBMISSION

Annual Report:

For PAG-12 permittees, **one copy of the Annual Report must be submitted to the DEP office responsible for the county in which the CAFO is located** by December 31 each year. For a list of DEP regional office territories and addresses, please visit www.dep.pa.gov, and select "Regional Resources."

Annual NOI Installment Fee:

For PAG-12 permittees, **payment of the annual NOI installment fee of $500 must be submitted to DEP's Bureau of Clean Water** by December 31 each year at the address below:

PA Department of Environmental Protection
Bureau of Clean Water
Rachel Carson State Office Building
400 Market Street, PO Box 8466
Harrisburg, PA 17105-8466

For individual permittees, other due dates may apply to the submission of Annual Reports and annual fee payments. One copy of the Annual Report must be submitted to the DEP office responsible for the county in which the CAFO is located.

CAFOs within the territory of DEP's Southcentral Regional Office may transmit annual reports electronically to DEP by email using the following email address: RA-EPSCDEPFARMING@pa.gov.

TABLE 1

Where the permittee has applied manure (including agricultural process wastewater) or supplemental fertilizer (including biosolids) on land owned or under the operational control of the permittee during the reporting period, Table 1 must be completed and submitted with the annual report. A spreadsheet version of Table 1 is available on DEP's website, www.dep.pa.gov/CAFOs. Complete Table 1 as follows:

- **Date**. Report the date of the land application event.
- **Field ID No**. A unique designation for each field. This should be consistent with the operation's NMP and should generally remain consistent from year to year.
- **Acres**. The area, in acres, associated with each unique field.
- **Actual Crop(s) Planted**. The type(s) of crop(s) planted during the reporting year in the specified field (e.g., Corn for Grain, Soybeans, Alfalfa Hay, etc.).
- **Actual Crop Yield(s)**. Report the amount(s) of the yield for the crop(s) planted. If the crop has not been harvested as of the submission date of the Annual Report, "unavailable" may be reported.
- **Crop Yield Units**. List the units associated with the crop yield(s), e.g., bushels/acre.
- **Manure Type Applied**. Report the type of manure applied to the field: "Liquid/Semi-Solid Manure", "Agricultural Process Wastewater", or "Solid Manure", as applicable. If manure (or agricultural process wastewater) was not applied to the field, the response may remain blank.
- **Max Application Rate**. Report the maximum application rate from the latest approved NMP for the type of manure in the specified field.
- **Actual Application Rate**. Enter the actual application rate for the manure in the specified field.
- **Application Rate Units**. Report the units associated with the maximum and actual application rates (e.g., dry tons/acre, gallons/acre, etc.).

- **Supplemental Fertilizer Applied (lbs/acre)**. Identify the rate of supplemental Total Nitrogen (TN) and Total Phosphorus (TP) applied to the field during the reporting period, in lbs/acre. Supplemental fertilizer includes liquid or solid chemical products and other materials including but not limited to biosolids and food processing residual wastes.

ATTACHMENT A

AGRICULTURAL BMP NAMES AND DESCRIPTIONS

BMP Name	BMP Description
Animal Waste Management System	Any structure designed for collection, transfer and storage of manures and associated wastes generated from the confined portion of animal operations and complies with NRCS Standard 313 (Waste Storage Facility) or NRCS Standard 359 (Waste Treatment Lagoon) practice standards. Enter units of number of animals served by the system.
Barnyard Runoff Control	Includes the installation of practices to control runoff from barnyard areas. This includes practices such as roof runoff control, diversion of clean water from entering the barnyard and control of runoff from barnyard areas. Enter units of acres treated. This practice correlates to NRCS Standard 558 (Roof Runoff Structure).
Dairy Precision Feeding and/or Forage Management	Dairy Precision Feeding reduces the quantity of phosphorus and nitrogen fed to livestock by formulating diets within 110% of Nutritional Research Council recommended level in order to minimize the excretion of nutrients without negatively affecting milk production. Enter units of number of animals subject to feeding or forage management. This practice correlates to NRCS Standard 592 (Feed Management).
Forest Buffer	Forest buffers are linear wooded areas that help filter nutrients, sediments and other pollutants from runoff as well as remove nutrients from groundwater. The recommended buffer width is 100 feet, with a 35 feet minimum width required. Enter units of acres. This practice correlates to NRCS Standard 391 (Riparian Forest Buffer).
Forest Buffer-Narrow	Forest buffers are linear wooded areas that help filter nutrients, sediments and other pollutants from runoff as well as remove nutrients from groundwater. Narrow buffer width is between 10 and 35 feet. Enter units of acres. This practice correlates to NRCS Standard 391 (Riparian Forest Buffer).
Forest Buffer-Narrow with Exclusion Fencing	Converts streamside pasture to forest and prevents livestock from entering the stream. Narrow buffer width is between 10 and 35 feet. Enter units of acres excluded by the fence. This practice correlates to NRCS Standard 391 (Riparian Forest Buffer).
Forest Buffer-Streamside with Exclusion Fencing	Converts streamside pasture to forest and prevents livestock from entering the stream. The recommended buffer width is 100 feet, with a 35 feet minimum width required. Enter units of acres excluded by the fence. This practice correlates to NRCS Standard 391 (Riparian Forest Buffer).
Grass Buffer	Grass buffers are linear strips of grass or other non-woody vegetation maintained to help filter nutrients, sediment and other pollutants from runoff. The recommended buffer width for buffers is 100 feet, with a 35 feet minimum width required. Vegetated open channels are modeled identically to grass buffers. Enter units of acres. This practice correlates to NRCS Standards 386 (Field Border), 390 (Riparian Herbaceous Cover), 393 (Filter Strip), 412 (Grassed Waterway) and 741 (Grass Buffer Strip).
Grass Buffer - Narrow	Grass buffers are linear strips of grass or other non-woody vegetation maintained to help filter nutrients, sediment and other pollutants from runoff. Narrow buffer width is between 10 and 35 feet. Enter units of acres. This practice correlates to NRCS Standards 386 (Field Border), 390 (Riparian Herbaceous Cover), 393 (Filter Strip), 412 (Grassed Waterway) and 741 (Grass Buffer Strip).
Grass Buffer-Narrow with Exclusion Fencing	Converts streamside pasture to open space and prevents livestock from entering the stream. Narrow buffer width is between 10 and 35 feet. Enter units of acres excluded by the fence. This practice correlates to NRCS Standards 386 (Field Border), 390 (Riparian Herbaceous Cover), 393 (Filter Strip), 412 (Grassed Waterway) and 741 (Grass Buffer Strip).
Grass Buffer-Streamside with Exclusion Fencing	Converts streamside pasture to open space and prevents livestock from entering the stream. The recommended buffer width is 100 feet, with a 35 feet minimum width required. Enter units of acres excluded by the fence. This practice correlates to NRCS Standards 386 (Field Border), 390 (Riparian Herbaceous Cover), 393 (Filter Strip), 412 (Grassed Waterway) and 741 (Grass Buffer Strip).
Lagoon Covers	Permeable and impermeable covers of lagoons to prevent volatilization of ammonia. A cover can be, and is, applied to various species including swine and dairy. Enter units of number of animals served by the lagoon.
Land Retirement to Ag Open Space	Converts land area to hay without nutrients. Agricultural land retirement takes marginal and highly erosive cropland out of production by planting permanent vegetative cover such as shrubs, grasses, and/or trees. Enter units of acres. This practice correlates to NRCS Standards 327 (Conservation Cover) and 342 (Critical Area Planting).
Land Retirement to Pasture	Converts land area to pasture. Agricultural land retirement takes marginal and highly erosive cropland out of production by planting permanent vegetative cover such as shrubs, grasses, and/or trees. Agricultural agencies have a program to assist farmers in land retirement procedures. Enter units of acres. This practice correlates to NRCS Standards 327 (Conservation Cover) and 342 (Critical Area Planting).
Manure Composting	Manure is composted using mechanical ventilation or natural aeration. Report units of dry tons and location where the manure is generated as "county from" and the location where the product is applied as "county to". This practice correlates to NRCS Standard 317 (Composting Facility).
Manure Incorporation	Manure is incorporated into the soil within 3 days of application. The level of soil disturbance may be low or high. Enter units of acres.
Manure Injection	Manure is incorporated into the soil immediately. Enter units of acres.

BMP Name	BMP Description
Manure Transport	Transport of excess manure in or out of a county. Manure may be of any type—poultry, dairy, or any of the animal categories. Transport should only be reported for county to county transport. Movement within the same county should not be included. Enter either the dry tons of manure transported.
Manure Treatment	The use of unique or innovative mechanical, chemical or biological technologies that change the characteristics of manure and agricultural waste. This practice correlates to NRCS Standard 629 (Waste Treatment).
Mortality Composters	A physical structure and process for disposing of any type of dead animals. Composted material is land applied using nutrient management plan recommendations. Enter units of the percent of dead animals composted, This practice correlates to NRCS Standard 316 (Animal Mortality Facility).
Nutrient Management N Placement	Nitrogen rate placement practice requires that the core nitrogen nutrient management BMP be implemented. Includes any of the following: injection of inorganic N, incorporation, or setbacks. Enter units of acres.
Nutrient Management N Rate	Nitrogen rate adjustment practice requires that the core nitrogen nutrient management BMP be implemented. Includes any of the following: split applications, variable rate N application, or reduced rate from core NM BMP. Enter units of acres.
Nutrient Management N Timing	Nitrogen rate timing practice requires that the core nitrogen nutrient management BMP be implemented. Includes split application. Enter units of acres.
Nutrient Management P Placement	Phosphorus rate placement practice requires that the core phosphorus nutrient management BMP be implemented. Includes any of the following: incorporation, setbacks, or use of P Index for application rate. Enter units of acres.
Nutrient Management P Rate	Phosphorus rate adjustment practice requires that the core phosphorus nutrient management BMP be implemented. Includes any of the following: split applications, variable rate P application, or reduced rate from core NM BMP. P-based manure application must be equivalent to crop P removal. Enter units of acres.
Nutrient Management P Timing	Phosphorus rate timing practice requires that the core phosphorus nutrient management BMP be implemented. Includes either split application or application in lower P-loss risk season. Enter units of acres.
Off Stream Watering Without Fencing	This BMP requires the use of alternative drinking water sources such as permanent or portable livestock water troughs placed away from the stream corridor. Implementing off-stream shade for livestock is encouraged where applicable. The source of water supplied to the facilities can be from any source including pipelines, spring developments, water wells, and ponds. In-stream watering facilities such as stream crossings or access points are not considered in this definition. The modeled benefits of alternative watering facilities can be applied to pasture acres in association with or without improved pasture management systems such as rotational grazing. Enter units of acres. This practice correlates to NRCS Standards 574 (Spring Development), 614 (Watering Facility) and 642 (Water Well).
Poultry Litter Amendments (alum, for example)	Surface application of alum, an acidifier, to poultry litter to acidify poultry litter and maintain ammonia in the non-volatile ionized form (ammonium). Enter units of percent, number of animals or number of animal units. This practice correlates to NRCS Standard 591 (Amendments for the Treatment of Agricultural Waste).
Precision Intensive Rotational/Prescribed Grazing	This practice utilizes a range of pasture management and grazing techniques to improve the quality and quantity of the forages grown on pastures and reduce the impact of animal travel lanes, animal concentration areas or other degraded areas. PG can be applied to pastures intersected by streams or upland pastures outside of the degraded stream corridor (35 feet width from top of bank). The modeled benefits of prescribed grazing practices can be applied to pasture acres in association with or without alternative watering facilities. They can also be applied in conjunction with or without stream access control. Pastures under the PG systems are defined as having a vegetative cover of 60% or greater. Enter units of acres. This practice correlates to NRCS Standard 528 (Prescribed Grazing).
Tillage Management-Conservation	Conservation tillage requires: (a) a minimum 30% residue coverage at the time of planting, and (b) a non-inversion tillage method. Enter units of acres.
Tillage Management-Continuous High Residue	Continuous, High Residue, Minimum Soil Disturbance Tillage (HRTill) Management eliminates soil disturbance by plows and implements intended to invert residue. A minimum of 60% crop residue cover must remain on the soil surface as measured after planting. The practice involves all crops in a multi-crop, multi-year rotation and the crop residue cover requirement (including living and dead material) is to be met immediately after planting of each crop. Enter units of acres.
Tillage Management-Low Residue	Low residue tillage management requires 15 – 29% cover, strip till or no-till, and less than 40% soil disturbance. Enter units of acres.
Wetland Restoration - Floodplain	Re-establish wetlands in a floodplain by manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former wetland. Changes acres from existing land use to the wetland land use. Enter unit of total acres. This practice correlates to NRCS Standard 657 (Wetland Restoration).

BMP Name	BMP Description
Wetland Restoration - Headwater	Re-establish wetlands in a headwater area by manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former wetland. Changes acres from existing land use to the wetland land use. Enter unit of total acres. This practice correlates to NRCS Standard 657 (Wetland Restoration).