



March 9, 2016

Subject: Calf Hutch Lots

Livestock operations, including Concentrated Animal Feeding Operations (CAFOs) permitted under a WPDES permit, will often raise their calves by grouping calf hutches together in areas referred to as calf hutch lots. Up until a few years ago, calf hutch lots were not considered a significant source of pollution on production areas. The expectation was that these lots would be managed as dry manure with no runoff based on the small amount of manure produced by calves and the use of straw bedding that would soak up much, if not all, of the urine and precipitation from these areas. When the straw is saturated, additional bedding is placed on top of the soiled bedding, until the calf hutch lot is cleaned. Therefore, the Department did not typically include calf hutch lots in our review or consider them a water quality concern.

**Findings**

Over the past few years, EPA has conducted site visits to farms with manure and feed leachate runoff issues. Water quality samples from a few of those farms and their results are presented in the table below.

|                         | Ammonia<br>(mg/l) | Phosphorus*<br>(mg/l) | Fecal Coliform<br>(CFU/100 ml) | Enterococci*<br>(CFU/100 ml) |
|-------------------------|-------------------|-----------------------|--------------------------------|------------------------------|
| 700 calves on 15 acres  | 32.3              | 27                    | 4,800,000                      | ~840,000                     |
| 2000 calves on 20 acres | 53.3              | 45                    | 9,500,000                      | ~1,662,500                   |
| 20 calves on <1 acre    | 2.4               | 1.64                  | 11,200                         | ~1,960                       |

\*Water quality based limits for phosphorus is less than 0.075 mg/l for most streams and Enterococci is less than 33 CFU/100 ml for recreational purposes. Ammonia nitrogen is considered toxic to aquatic life when levels exceed 0.4 mg/l.

Based on these results and our increased level of review of these areas, it is clear that there are legitimate runoff concerns from calf hutch lots, a concern that the Department is taking seriously.

**Ground Water Concerns**

The location of calf hutches is very important to avoid groundwater impacts. Improperly located and constructed lots have a great potential for manure-related pollutants to leach into the soil and groundwater. Over time, this buildup of nutrients can leach several feet into the ground. When hutches are later moved, precipitation will further push these nutrients into the ground and eventually into ground water. In areas containing bedrock, cracks and larger fractures in the bedrock provide direct conduits for these pollutants to enter groundwater. Clay soils will slow manure related pollutants from leaching into the ground, but they also allow manure to runoff the area and into ditches and/or nearby surface water resources.

**Department Authority**

Calf hutch lots are animal confinement areas that are part of a CAFO's production area (see NR 243.03(54)). WPDES permits and ch. NR 243, Wis. Adm. Code, reflect federal restrictions that CAFOs cannot have production area discharges of pollutants to navigable waters unless all of the following requirements are met:

- The discharge is from an overflow of manure or process wastewater from a containment or storage structure and is caused by precipitation.
- The containment or storage structure is properly designed, constructed and maintained to contain all manure and process wastewater from the operation, including the runoff and the direct precipitation from a 25-year, 24-hour rainfall event for this county where the operation is located as specified in ch. NR 243.04.

- The production area is operated in accordance with the inspection, maintenance and record keeping requirements in s. NR 243.19.

This is referred to as the “no discharge” standard. Calf hutch lots require Department review and approval to verify compliance with the “no discharge” standard.

## **Moving Forward**

### **CURRENT AND PROPOSED WPDES PERMITTED FARMS**

WPDES permitted farms or permit applicants that plan to raise calves on calf hutch lots will be required to submit plans and specifications that comply with the “no discharge” standard and avoid impacts to other waters of the state (groundwater, wetlands) prior to construction and placement.

Existing calf hutch lots that were not approved by the Department will be required to be evaluated for compliance with the “no discharge” standard and impacts to other waters of the state. As Department staff conducts site visits, they will perform visual inspections of existing lots to determine if runoff is adequately contained or treated. If the Department staff cannot make a determination, then a formal evaluation will be required that is completed by a professional engineer or someone that has the appropriate NRCS job approval (NRCS, DATCP, or county personnel) and then be submitted to the Department for review.

An animal lot evaluation should include, at a minimum, the following information:

- Contours and/or elevations of the lot and surrounding area.
- Proximity of streams and wetlands to lot.
- Soils information (test pits or soil borings and soils analysis, depth to groundwater, depth to bedrock).
- Lot containment details (pad type (asphalt, gravel, concrete), runoff collection system description, etc.).
- Number and size of animals utilizing the lot.
- Solids collection and transfer systems.
- Runoff storage capacity to collect either the entire 25 year / 24 hour storm event or show that the WPDES “no discharge” requirement is met.
- Total waste storage capacity.
- Additional information may be necessary based on site specific conditions.

Calf hutch lots must, at a minimum, meet s. NR 243.15(2), NRCS Standards 561 – Heavy Use Area Protection and 635 – Vegetated Treatment Area. It may also need to meet NRCS Standards 632 – Waste Separation Facility and 634 – Waste Transfer. Interim measures are required immediately if discharges to waters of the state are imminent or actively occurring. Permanent measures shall be installed per timelines in the Schedules section of a CAFO WPDES permit.

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DEPARTMENT OF NATURAL RESOURCES



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