



# IOWA **Pork** **Producer** *Headlines*

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## **NPDES Permit Inspections**

On Sept. 11, officials with the Iowa Department of Natural Resources (DNR) and Region 7 of the Environmental Protection Agency (EPA) signed a work plan agreement outlining procedures regarding National Pollutant Discharge Elimination System (NPDES) permit inspections under the Clean Water Act (CWA) for Iowa animal feeding operations. This work plan went into effect immediately. While this work plan will result in increased inspection and oversight of Iowa farms, the Iowa Pork Producers Association (IPPA) believes these inspections also will continue to demonstrate the commitment of Iowa pork producers to effectively manage manure nutrients and maintain water quality, as well as highlight positive environmental results of modern production facilities.

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## Background

In 2007, the Iowa Citizens for Community Improvement, Sierra Club and Environmental Integrity Project filed a petition with EPA claiming that the Iowa DNR's implementation of the federal NPDES permit program for concentrated animal feeding operations (CAFOs) in Iowa didn't comply with the Clean Water Act and that EPA should take over the program from the DNR. In July of 2012, EPA issued a preliminary report noting five remaining areas (out of 46 initially alleged by the groups) that EPA believes DNR must correct:

- The Iowa DNR is not issuing NPDES permits to CAFOs when appropriate.
- The Iowa DNR has not conducted comprehensive inspections to determine whether unpermitted CAFOs need NPDES permits.
- In a number of cases reviewed, the Iowa DNR failed to act, or did not follow its enforcement response policy when addressing Clean Water Act/NPDES permit violations.
- The Iowa DNR is not assessing adequate penalties against CAFOs.
- Land application setbacks in Iowa law for manure from NPDES permitted operations are not equivalent to federal requirements and are not included in the Iowa DNR-approved nutrient management plans.

While IPPA and other farm organizations, as well as the DNR, responded critically to EPA's report, this work plan was developed with EPA to address these five areas in an effort to move the petition process forward and to hopefully return attention and state resources to protecting and improving water quality.

"Our state is blessed with many natural resources and we want to continue our efforts to protect our land and water for future generations," said DNR Director Chuck Gipp. "As we gathered suggestions for this work plan, we visited with many Iowans affected by the NPDES program, including farmers, landowners, municipalities, the EPA and other stakeholders to discuss how we can work together to achieve a shared goal. This work plan agreement clarifies program implementation and is a reflection of Iowans working together on a commonsense solution that will encourage best practices and promote open communication between affected Iowans and the DNR."

The primary focus of the work plan and accompanying documents is a five-year evaluation plan of all livestock farms with more than 300 animal units (750 finishing hogs or sows) to determine if these operations discharge manure to waters of the U.S.

"Working with states to safeguard Midwestern waters is among EPA's highest priorities," said Karl Brooks, EPA regional administrator. "This agreement, developed after extensive public and industry input, commits the Iowa DNR to making needed and achievable improvements to the system that keeps CAFOs compliant with the CWA. Iowans who operate a world-class livestock sector will continue to thrive in a first-rate permitting and inspection program."

IPPA, along with other organizations, have questioned the use of resources to issue NPDES permits for confinement operations since Iowa law already prohibits these operations from discharging.

## EPA/DNR Work Plan Summary

Although evaluations of CAFOs to determine if discharges are occurring are the primary focus of the work plan, the work plan also requires the Iowa DNR to:

- Recommend the Iowa Environmental Protection Commission (EPC) incorporate, by reference, federal regulations necessary to fully implement the NPDES permitting program for confinement CAFOs that discharge to waters of the U.S. Iowa law prohibits these regulations from being more strict than federal regulations.
- Recommend the EPC incorporate, by reference, federal regulations that fully implement the NPDES permitting program with respect to land application setback and separation distances for open feedlot CAFOs.
- Revise construction permit applications for open feedlot CAFOs to include predictive modeling associated with alternative technologies and to require additional information needed to determine whether the CAFO discharges.
- Revise its nutrient management plan template for open feedlot CAFOs to include manure application setback requirements.
- Establish a baseline inventory of all known large CAFOs and medium CAFOs in Iowa and provide this number to EPA Region 7 as well as provide a written plan to systematically locate and identify any unknown large CAFOs and medium-sized AFOs that may be subject to inspection.
- Utilize the \$700,000 increase in fiscal year funding to hire approximately seven additional full-time staff to conduct the evaluations and inspections.
- Develop a training curriculum for all staff conducting NPDES evaluations and inspections.
- Notify those operations determined to need an NPDES permit within 60 days after completion of its evaluation and require the operation to submit application for an

NPDES permit to the DNR within 90 days from date of notification, or longer if additional time is necessary, or immediately put in place interim measures that eliminate the discharge, followed by permanent measure to eliminate the discharge.

- Complete draft permits within 180 days of application with final permits issued expeditiously following public comment.
- Recommend controls when necessary. The work plan notes that unpermitted discharges are subject to enforcement at any time but the DNR recognizes that in some cases, depending on the nature and severity of the discharge, it may be appropriate to require a CAFO to implement interim controls while the CAFO's permit application and permit are under development.
- Carry out enforcement against CAFOs with illegal discharges to waters of the U.S. or NPDES permit violations in accord with its Enforcement Management System (EMS) manual. The DNR will document the basis for enforcement response decisions.
- Assess the actual or reasonably estimated economic benefit, including both delayed and avoided cost of compliance when seeking administrative penalties.
- Develop checklists necessary to ensure consistent and appropriate enforcement responses by enforcement staff and complete any required staff training on its revised EMS and penalty calculations.
- Provide progress reports on implementation of the work plan. Progress reports will be posted on the DNR's web site.
- Submit an annual report by August 1 of each year that summarizes all relevant results associated with the DNR's implementation of the work plan.

Other details below offer specific responsibilities as summarized from the work plan. The full work plan, including standard operating procedures and other documents, can be accessed at [www.epa.gov/region7/water](http://www.epa.gov/region7/water).

## Evaluation Standard Operating Procedures

The DNR is to conduct the evaluations in the following order of priority:

1. Operations that, since August of 2008, have had manure spills, significant releases of manure, or legally sufficient complaints involving discharges of manure to waters of the U.S.
2. Open feedlots that are large CAFOs (1,000 or more animal units) and medium-sized open feedlots (300 to 999 animal units), including combination operations with those number of animal units in both open feedlot and confinement structures.
3. Confinement feeding operations that are large CAFOs
4. Medium-sized confinement feeding operations.

Under the evaluation procedures in the work plan, the DNR must first conduct desktop assessments and then on-site inspections at all large CAFOs (1,000 animal units which is 2,500 or more finishing hogs or sows or 10,000 or more nursery pigs weighing less than 55 pounds). See pages 6 and 7 for more information.

For medium-sized confinement operations (750 to 2,499 finishing hogs or sows or 3,000 to 9,999 pigs weighing less than 55 pounds), the DNR is to first conduct desktop assessments. On-site inspections of medium-sized confinement operations are required regardless of the results of the desktop assessment if the operation (including manure storage and feed and mortality handling areas):

1. Discharged manure to a water of the U.S. within the last five years.
2. Had a significant release of manure within the last five years and the release was a substantial threat to a water of the U.S.
3. Uses uncovered manure storage and is within ¼ mile from and draining toward a water of the U.S. For combined open feedlot and confinement operations, on-site inspections are required regardless of the results of the desktop assessment if the open feedlot portion of the operation has a capacity of more than 300 animal units and is within ¼ mile from and draining toward a water of the U.S.

For all other medium-sized confinement operations, if the DNR determines from the desktop assessment that the operation is not discharging, the producer will be notified and there will be no on-site inspection. Otherwise, an on-site inspection will be conducted.

## Desktop assessment process

A desktop assessment will consist of a review of all relevant, currently available information about the operation to assess site-specific risk factors relevant to determining the likelihood of a discharge to a water of the U.S.

First, the DNR is to gather available information including:

- Aerial and satellite imagery that is readily available to the public on the internet
- The DNR's animal feeding operation siting atlas
- The DNR's file on the operation, including permits, facility reports, citizen complaints, prior inspection reports, manure management plan, etc.
- The DNR's field office compliance files and computer database
- The DNR's online animal feeding operation database
- Manure management plan

Then, the DNR is to document the baseline conditions at the operation by reviewing:

- The map or image
- The type of operation (confinement, open lot or combined)
- The number of livestock buildings or pens
- The number of manure storage facilities, including the type
- Geographical and topographical features including, surface waters, potential conduits or flow paths to surface waters, neighboring or adjacent facilities, and any other relevant information
- Any known discharges to a water of the U.S. within the past five years, and information about measures taken to permanently remedy the conditions that resulted in the discharge
- Any known releases, including information about the pollutant concentration and volume of the release and whether the release posed a threat of discharging pollutants to a water of the U.S.
- Any complaint investigations
- Whether an on-site inspection by the Iowa DNR at the facility after Nov. 1, 2011, enables it to determine the facility does not discharge to a water of the U.S. The inspection must have been functionally equivalent to the on-site inspections to be conducted using the open feedlot and confinement facility inspection SOPs, including having written documentation of findings.

With this information, the DNR is to assess and document key information and risk factors relevant to the likelihood that the operation discharges. Factors the DNR is to consider include:

- Animal types and numbers
- Manure storage system used (covered vs. uncovered)
- Systems and practices for managing feed, silage, compost and mortalities
- Distance to a water of the U.S.
- Topography, including slope, presence of runoff flow paths, ditches, culverts or other conduits and drainage features that would convey manure to a water of the U.S.; land cover and other notable features in runoff areas
- Proximity of tile line intake structures to production area if visible
- Compliance and spill/release history, including any steps taken to permanently remedy the cause of the discharge

Based on this review, the DNR will then determine whether the operation will be inspected on-site. If not, the operation will be notified that it is not discharging based on the desktop assessment and no further action is needed.

Because of the importance of the desktop assessment, particularly for medium-sized confinement operations,

producers and/or their consultants should review the information about their operations in the online DNR animal feeding operations database, other DNR files and other information DNR will review to make sure it is up-to-date and correct. The database is at <https://programs.iowadnr.gov/animalfeedingoperations/> If any of this information is not correct, the DNR should be notified before the desktop assessment is conducted.

## On-site inspections

In an effort to be more efficient, the DNR will conduct the NPDES on-site inspection at the same time as routine manure management plan or lagoon or earthen basin inspections when possible. So, although confinement operations (other than those in the first category or combination confinement and open feedlot operations) are the lowest priority for assessments, all confinement operations should be prepared for an NPDES inspection. To prepare for an inspection, producers should:

1. When contacted by the DNR to schedule the inspection (the DNR is required by the work plan to contact producers one to three working days before the inspection):
  - a. Ask for a copy of the desktop assessment and review the assessment before the on-site inspection.
  - b. Discuss with the DNR whether an on-site inspection has occurred at the site since Nov. 1, 2011. Under the work plan, an NPDES on-site inspection is not necessary if there has been a DNR on-site inspection after Nov. 1, 2011, and the DNR determines facility does not discharge to water of the U.S. The work plan requires that the inspection be functionally equivalent to NPDES on-site inspections, including having written documentation of DNR's findings.
  - c. Inform the DNR of all biosecurity policies so that the DNR can follow those policies as they are required to do by law.
  - d. Let their engineer or consultant know of the scheduled inspection.
2. Have the manure management plan and other records up to date and available at the time of inspection.
3. To ensure compliance with Iowa's no discharge standards, review all production areas such as manure storage, mortality composting, feed storage (including bin pads and other feed handling areas) and areas around and downhill from buildings and manure storage areas.

## On-site Inspection Process:

### Pre-inspection:

- Facility owners will be contacted by the DNR at least one to three days prior to an inspection, at which point all biosecurity protocols should be communicated.
- Inspectors will conduct a facility drive-by to document topography, drainage, neighboring property, waters of the U.S. and/or any special areas of interest.
- Inspectors will ask about facility capacity, maximum number of head confined at one time over the last 12 months, number of pens and clarify all contact information during a pre-inspection meeting

### During the on-site inspection, inspectors will:

- Tour the facility including number of pens, manure control and storage structures, clean water diversions and any application equipment including pumps and irrigation units.
- Inspect manure control structures for integrity of berms, areas of erosion concern and freeboard, checking that structures are being maintained, dewatered and functioning as designed.
- Determine if runoff from processed wastewater, including feed storage areas and stockpiles are contained.
- View areas downhill of operation to ascertain if there are any uncontrolled discharges to the surface of the ground, wells, sinkholes or waters of the state.
- See that any basin has properly marked liquid staff level measuring gauge.
- Ask the owner/manager about removal of settable solids, pen scraping, stockpiles and dewatering schedule.
- Observe any on-site or off-site stockpiles of manure to determine if runoff discharges to a water of the U.S.
- View chemical storage area.
- Inspect feed storage and mortality handling areas.
- Record and document conditions and facilities with photographs.
- Document and sample any observed discharges.
- Describe any samples taken from monitoring wells or groundwater lowering devices.
- Take GPS coordinates at driveway, if needed.
- Review records and Nutrient Management Plans.



## Post inspection, inspectors will:

- Review preliminary findings and discuss any violations or potential violation discovered.
- Ask for additional information not covered during the inspection.
- Discuss any requirements and recommendations based on the inspection.
- Explain the timeline for receiving a written report and copies of any samples taken.
- Answer any additional questions from the producer.

## Final Overview:

- All Iowa animal feeding operations housing more than 300 animal units will be subject to potential on-farm NPDES permit evaluations and/or inspections.
- Desktop assessments, using publically available mapping data, will be conducted to alleviate the need for inspections on some farms with fewer than 1,000 animal units.
- NPDES inspections will be conducted in conjunction with existing manure management plan and basin inspections when applicable.
- IPPA maintains that stand-alone Iowa swine confinements will not require an NPDES permit as it is already against Iowa law for them to discharge.
- Any observed discharge should be reported and corrected as soon as possible
- IPPA remains confident these additional inspections will continue to show strides Iowa pork producers have made to manage manure nutrients and maintain water quality.
- Inspectors are required to abide by biosecurity guidelines as outlined by individual farms.
- Producers should receive immediate notification, if they do not need an NPDES permit, during the inspection exit interview. This will be followed by formal notification from the DNR.
- The work plan does not impact or alter the DNR inspector's duty to identify and report other violations.

For more information, contact the Iowa Pork Producers Association at (800)372-7675 or [tbettin@iowapork.org](mailto:tbettin@iowapork.org).

The full work plan including standard operating procedures and other documents, can be accessed at [www.epa.gov/region7/water](http://www.epa.gov/region7/water)

# Animal unit capacity requirements and calculations for confinement operations

By Eldon McAfee, IPPA legal counsel

Animal capacity is the essential starting point to determine applicable Iowa Department of Natural Resources regulations for Iowa livestock operations. Because of this basic importance for livestock regulation, all producers should periodically review the requirements to ensure compliance. This topic has periodically over the years been covered in Iowa Pork Congress Environmental Regulations Updates, as well as in a section in the *Environmental Regulations Handbook* on IPPA's web site. The purpose of this article is to review DNR rules and provide additional, more detailed information for producers to conduct a review of their operations.

Animal capacity is defined in DNR rules as "the maximum number of animals which the owner or operator will confine in an animal feeding operation at any one time. In a confinement feeding operation, the animal capacity of all confinement buildings will be included in the determination of the animal capacity of the operation, unless the building has been abandoned in accordance with the definition of

'abandoned animal feeding operation structure.'"

Beginning with legislation adopted in 2002, Iowa law requires animal unit capacity to be used to determine DNR construction requirements (and whether a manure management plan is needed). Animal unit capacity also is used to determine separation distances from residences, etc., for confinement operations first constructed after March 1, 2003.

Animal unit capacity is defined in DNR rules as "a measurement used to determine the maximum number of animal units that may be maintained as part of an animal feeding operation at

To determine the animal unit capacity in a confinement operation, the animal capacity is multiplied by the appropriate animal unit factor - as shown below.

A couple of more general points to note about animal units for swine operations before getting into specific details. First, once a pig weighs more than 55 pounds, that pig, market hog, sow, etc., gets the same animal unit factor of .4. This is a critical point when calculating animal unit capacity for farrowing operations and finishing operations, particularly wean-to-finish sites that double stock weaned pigs. Second, pigs weighing less than 15 pounds are not counted

Species	Animal Unit Factor
Slaughter and feeder cattle	1.0
Immature Dairy Cattle	1.0
Mature Dairy Cattle	1.4
Swine over 55 pounds	0.4
Swine between 15 and 55 pounds	0.1
Sheep or lambs	0.1
Turkeys over 112 ounces	0.018
Turkeys less than 112 ounces	0.0085
Chickens over 48 ounces	0.01
Chickens less than 48 ounces	0.0025

## Swine Nurseries and Finishers

The animal unit capacity for a 1,000-head capacity swine nursery would be 100 animal units ( $1000 \times 0.1 = 100$ ).

The animal unit capacity for a 1,000-head capacity swine finisher would be 400 animal units ( $1000 \times 0.4 = 400$ ). If pigs do not weigh more than 55 pounds while on site, the .1 factor may be used. Likewise, if pigs weigh more than 55 pounds while on site, the 0.4 factor must be used. In other words, if all pigs on site weigh more than 55 pounds, the animal unit capacity requirements in DNR rules must be met using the .4 factor.

Thus, nurseries where pigs are removed before they weigh 55 pounds may use the 0.1 factor, but if they are not removed until they weigh more than 55 pounds, the 0.4 factor must be used. In a wean-to-finish operation where pigs are brought to the site as weaned pigs and fed to market weight, the 0.4 factor must be used once the pigs weigh more than 55 pounds.

Some producers stock a site with additional weaned pigs and then move some pigs to another site for finishing, leaving the remaining pigs on-site until market. Often called double stocking, the animal unit capacity of the site is the highest animal unit number. To use the .1 animal unit factor, the pigs that are moved to another site must be moved before they weigh 55 pounds.

For example, a 1,200 head wean-to-finish site is double stocked with 2,400 head of weaned pigs with 1,200 head moved off-site before they reach 55 pounds. The animal unit capacity during the nursery phase is 240 ( $2,400 \times 0.1 = 240$ ). The animal

unit capacity during the finishing phase is 480 ( $1,200 \times 0.4 = 480$ ). The animal unit capacity of the site is the greater of the two or 480.

The practical and more detailed question is: Must the double-stocked pigs be moved before any of the pigs reach 55 pounds? Or is it before the average weight of the pigs at the site is 55 pounds? Actually, the correct calculation is neither. The calculation is based on the number of pigs above 55 pounds and the number of pigs weighing 55 pounds or less. As noted above, other than for purposes of the 55-pound limit, for purposes of animal unit capacity the actual weight of the pigs is irrelevant.

For example, if a 2,400-head capacity wean-to-finish site (960 animal unit capacity) is double stocked with 4,800 weaned pigs, no more than 1,600 of the pigs can weigh more than 55 pounds before the double-stocked half of the pigs is moved to another site. The calculation is:

1,600 head weighing more than 55 pounds x .4 animal unit factor =	640 animal units
3,200 head weighing 55 pounds or less x .1 animal unit factor =	320 animal units
4,800 head total	
960 animal units total	

As this example for double stocked wean-to-finish sites shows, to determine the number of head that can weigh more than 55 pounds before reaching the animal unit capacity, multiply the total number of head at the site while it is double stocked by a factor of .333. Doing a similar calculation for sites triple stocked with weaned pigs, the factor is .111. Producers also must account for additional manure in their manure management plans from additional stocking of weaned pigs.

The safest approach to comply with animal unit capacity requirements is to remove all overstock pigs before any of them weigh more than 55 pounds. However, that is not what the law requires. As the example shows, the law allows some of the pigs to weigh more than 55 pounds if some of the pigs weigh 55 pounds or less. These detailed calculations of animal unit capacity, although not the simplest approach, allow a producer to both comply with the law and better manage pig flow and meet production goals.

## Swine Farrowing Operations

All pigs weighing more than 55 pounds, including sows, use the 0.4 factor. For example, a sow farrowing operation with 1,200 sows has an animal unit capacity of 480 ( $1,200 \times 0.4 = 480$ ). In addition, pigs weighing less than 15 pounds do not have an animal unit factor and are not included in the calculation. If pigs are kept on the farrowing site after they weigh more than 15 pounds, they would then have to be included in animal unit capacity calculations.

Although animal unit capacity requirements have been in place in Iowa DNR rules since 2002, the practical application of those requirements often leads to questions. Hopefully, this article helps with some of those questions. Producers needing additional information should consult an advisor or contact the Iowa Pork Producers Association.



Iowa Pork Producers Association  
 P.O. Box 71009  
 Clive, IA 50325-0009

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IPPA continues to offer aluminum biosecurity signage and tags to hang on barn doors during manure pump-out and agitation. Contact the Iowa Pork Producers Association at (515) 225-7675 or [tbettin@iowapork.org](mailto:tbettin@iowapork.org) to request signs or tags. Producers can print their own tags under the producer resources section at [www.iowapork.org](http://www.iowapork.org).



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All *Headlines* inquiries should be directed to the editor at:

Iowa Pork Producers Association  
 1636 N.W. 114th Street  
 Clive, Iowa 50325-7071  
 Ph: (515) 225-7675  
 Fax: (515) 225-0563  
[www.iowapork.org](http://www.iowapork.org)  
 E-mail: [info@iowapork.org](mailto:info@iowapork.org)

**Mission Statement**

The Iowa Pork Producers Association is an industry inclusive organization whose mission is to provide a unified voice to promote and educate for a sustainable, socially responsible, profitable and globally competitive pork industry.

