

Chapter 2

2. AFOs and CAFOs

2.1. Animal Feeding Operations (AFOs)

When Congress passed the CWA in 1972, it specifically included the term *concentrated animal feeding operation* in the definition of *point source*. CWA § 502(14). Before EPA defined the CWA term *concentrated animal feeding operations* in the 1976 CAFO regulations, the 1974 ELGs for the Feedlots Point Source Category, formerly 40 CFR part 412.11(b), defined a *feedlot* to mean “a concentrated, confined animal or poultry growing operation for meat, milk or egg production, or stabling, in pens or houses wherein the animals or poultry are fed at the place of confinement and crop or forage growth or production is not sustained in the area of confinement.” Similarly, the support documentation for the ELG [see, for example, EPA’s *Development Document for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operation*, EPA-821-R-03-001 (2002)] distinguished between animals grown in feedlots and those grown in non-feedlot situations. The development document defines feedlot using the following three conditions:

1. A high concentration of animals held in a small area for periods in conjunction with one of the following purposes:
 - a. Production of meat.
 - b. Production of milk.
 - c. Production of eggs.
 - d. Production of breeding stock.
 - e. Stabling of horses.
2. The transportation of feed to animals for consumption.
3. By virtue of the confinement of animals or poultry, the land or area will neither sustain vegetation nor be available for crop or forage.

In 1976 EPA revised its regulations in response to a court case holding that EPA could not exempt certain categories of point sources from NPDES permit requirements. *NRDC v. Train*, 396 F. Supp. 1393 (D.D.C. 1975), *aff'd NRDC v. Costle*, 586 F.2d 1369 (D.C. Cir. 1977). The revised regulations refer to *CAFOs* rather than *feedlots*. 41 FR 11458 (March 18, 1976). The 1976 rule defined which facilities were CAFOs, and therefore point sources under the CWA, and established permitting requirements for CAFOs. *Id.* EPA's 1976 definition of CAFO draws on the definition of a CAFO from the 1974 feedlot definition. Although the definition of the term CAFO was further revised in the 2003 CAFO regulations, the types of facilities covered by the definition are nearly identical to those in the original definition of a feedlot.

A facility must first meet the definition of an AFO before it can be considered a CAFO. AFOs are defined as, "operations where animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period and where vegetation is not sustained in the confinement area during the normal growing season." 40 CFR § 122.23(b)(1). EPA interprets *maintained* to mean that the animals are confined in the same area where waste is generated or concentrated. Areas where animals are maintained can include areas where animals are fed and areas where they are watered, cleaned, groomed, milked, or medicated. For an overview of the livestock industry, see [Chapter 4 of the Technical Development Document for the 2003 CAFO regulations](#).

Regulatory Citation

Animal feeding operation (AFO) means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:

Animals have been, are or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period.

AND

Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

40 CFR § 122.23(b)(1)

The first part of the regulatory definition of an AFO means that animals must be kept on the lot or facility for a minimum of 45 days in a 12-month period. If an animal is confined for any portion of a day, it is considered to be on the facility for a full day. For example, dairy cows that are brought in from pasture for less than an hour to be milked are counted as being confined (i.e., on the lot or facility) for the day. In addition, the same animals are not required to remain on the lot for 45 days or more for the operation to be defined as an AFO. Rather, the first part of the regulatory definition is met if some animals are fed or maintained on the lot or facility for 45 days out of any 12-month period. The 45 days do not have to be consecutive, and the 12-month period does not have to correspond to the calendar year. For example, June 1 to the following May 31 would constitute a 12-month period. Therefore, animal operations such as stockyards, fairgrounds, and auction houses where animals may not be fed, but are confined temporarily, may be AFOs.

The second part of the regulatory definition of an AFO distinguishes confinement areas from pasture or grazing land. That part of the definition relates to the portion of the facility where animals are confined and where natural forage or planted vegetation does not occur during the normal growing season. Confinement areas might have some vegetative growth along the edges while animals are present or during months when animals are kept elsewhere. If a facility maintains animals in an area without vegetation, such as dirt lots with incidental vegetative growth, the facility meets the second part of the AFO definition.

True pasture and rangeland operations are not considered AFOs because animals at those operations are generally maintained in areas that sustain crops or forage growth during the normal growing season. In some pasture-based operations, animals can freely wander in and out of areas for food or shelter; that is not considered confinement. In general, an area is a pasture if vegetation is maintained during the normal growing season. However, pasture and grazing-based operations can also have confinement areas (e.g., feedlots, barns, milking parlors, pens) that meet the definition of an AFO.

Incidental vegetation in a clear area of confinement would not exclude an operation from meeting the definition of an AFO. In the case of a winter feedlot, the second part of the AFO definition (i.e., no vegetation) is meant to be evaluated during the winter, when the animals are confined. Animals from a grazing operation can be confined during winter months in a confinement area that had vegetation during other parts of the year. If the animals are confined for more than 45 days but not year-round and vegetation emerges in the spring when animals are removed, the presence of vegetation does not prevent that feedlot from being defined as an AFO because the vegetation is growing when animals are not present. In that example, the feedlot will not sustain the vegetation that had emerged in spring once the animals are moved back into the feedlot. Therefore, the facility in the example meets the definition of an AFO.



Winter feeding of cattle. (Photo courtesy of USDA/NRCS)

2. AFOs and CAFOs

2.1. Animal Feeding Operations (AFOs)

2.2. Concentrated Animal Feeding Operations (CAFOs)

Is this animal production operation an AFO?

Example A: An operation confines its animals for 10-day intervals every month for 5 months. The animals are kept in an enclosure with slot floors.

Answer: The operation meets the AFO definition because it confines animals for a total of 50 days (i.e. more than 45 days) in a 12-month period, and the confinement area has slot floors and therefore sustains no vegetation.

Example B: An operation confines mature animals in pens of five each. It has 200 pens per building and five buildings. The animals are confined year-round.

Answer: The operation is an AFO because it confines animals for 45 days or more and does not sustain vegetation in the confinement area.

Example C: An operation raises beef cattle in a 5,000-acre pasture from April 1 through November 30 each year. From December 1 through March 3, the cattle are confined by a fence to a 10-acre area. The animals are not free to move between the temporary confinement area and the pasture area. The growing season for the area in which the operation is located is from May 1 through October 15. A site visit is made to the operation during January, and the 10-acre area where the animals are confined has vegetation on less than 5 percent of the ground; the other areas are barren soil or packed manure. The confinement area was completely covered by vegetation during a prior visit to the operation during August.

Answer: While the operation is pasture-based for most of the year, it meets the definition of an AFO. The animals are held in confinement for more than 45 days, and the vegetation has been denuded to the point that it is incidental while the animals are in confinement. The fact that the vegetation reestablishes itself some time after the animals have been released from confinement does not change the fact that the winter confinement results in the operation meeting the definition of an AFO.

Example D: A beef cattle operation maintains the herd on pastures from March 15 through November 15. From November 16 through March 14, the herd is moved to a fenced field where crops were grown during the spring and summer. During the winter, while the animals are confined to the field, the animals eat all the post-harvest residue and other vegetation that remained in the field after the crops were harvested. Additional feed is also brought to the field to sustain the herd throughout the winter.

Answer: The operation meets the AFO definition. The animals are confined and fed for more than 45 days in a 12-month period (November through March). Although the confinement area is used for crop production during times when the animals are grazing on pasture, the vegetation is not sustained during the period when the animals are confined there.

Example E: An operation raises beef cattle in a 10,000-acre pasture rangeland. In the winter, food is brought to various locations in the pasture rangeland to sustain the animals. The area immediately around the food supply is rendered barren of vegetation. However, the animals have full access to the pasture area.

Answer: The operation is not an AFO because the animals are free to move within the entire pasture, and the vegetation is sustained in pasture areas.

Is this animal production operation an AFO? (continued)

Example F: An operation raises beef cattle in a 2,000-acre pasture. In the winter, the animals congregate in a smaller area (e.g., 100 acres), and have access to a creek as their primary source of water. The area immediately around the creek is rendered barren of vegetation when the animals are present. The barren area constitutes approximately 10 percent of the 100-acre wintering area. The remainder of the 100 acres retains vegetative cover.

Answer: The operation is not an AFO because vegetation is sustained in the confinement area while the animals are present. While the practices at the operation do not result in it meeting the definition of an AFO, the practices are not protective of water quality. EPA would encourage such an operation to provide an alternative water source to keep the animals out of the creek to reduce potential water quality impacts.

Example G: An operation raises cattle on pasture; however, a number of the cattle are confined for birthing each spring. The confinement area is a dirt-floored pen that has only incidental vegetation along the edges and in some small areas in the pen. The animals are in the pen for 90 days each spring.

Answer: The operation meets the AFO definition. The animals are confined and fed for more than 45 days, and the vegetation in the confinement area is only incidental.

Example H: An operation raises cattle on pasture; however, as part of the rotational grazing program the cattle frequently are moved between smaller, fenced pasture areas. Cattle move between pastures in narrow laneways that are largely devoid of vegetation. The barren area constitutes less than 10 percent of the pasture areas, and the remainder of the acres retains vegetative cover year-round. The animals are not fed or watered in the laneways and are prevented from congregating in the laneways by gates and fencing.

Answer: The operation does not meet the AFO definition. The animals are not confined in the laneways that are devoid of vegetation.

2.2. Concentrated Animal Feeding Operations (CAFOs)

This section provides information to help identify which AFOs are CAFOs. An AFO is a CAFO if it meets the regulatory definition of a Large or Medium CAFO, 40 CFR parts 122.23 (b)(4) or (6), or has been designated as a CAFO, 40 CFR part 122.23(c), by the NPDES permitting authority or by EPA (see Section 2.2.8). Note that some authorized states have adopted regulatory definitions for CAFOs that are more inclusive and, therefore, broader in scope than EPA's regulations. Those facilities are subject to requirements under state law but not under federal law.

2.2.1. Types of Animal Operations Covered by CAFO Regulations

The CAFO regulations define a Large CAFO on the basis of the number of animals confined. Medium CAFOs are defined as meeting specific criteria in addition to the number of animals confined, and those criteria are discussed in Section 2.2.5. The animal types with specific

threshold numbers for the Large and Medium size categories identified in the regulations are cattle, dairy cows, veal calves, swine, chickens, turkeys, ducks, horses, and sheep. *Chapter 4 of the Technical Development Document for the 2003 CAFO rule* provides descriptions of those animal types and their associated operations. An AFO that meets the small or medium size thresholds can be designated as a CAFO by the permitting authority if certain criteria are met, including that the AFO is determined to be “a significant contributor of pollutants to waters of the United States.” 40 CFR § 122.23(c). For further discussion, see Section 2.2.8.

2.2.2. Animal Types Not Listed in CAFO Regulations

An operation confining any animal type (e.g., geese, emus, ostriches, bison, mink, alligators) not explicitly mentioned in the NPDES regulations and for which there are no ELGs is subject to NPDES permitting requirements for CAFOs if (1) it meets the definition of an AFO, and (2) if the permitting authority designates it as a CAFO. For a discussion of designation, see Section 2.2.8.

2.2.3. AFOs Defined as Large CAFOs

An AFO is a Large CAFO if it stables or confines equal to or more than the number of animals specified in Table 2-1 for 45 days or more in a 12-month period. The definition of a Large CAFO is based solely on the number of animals confined.

Table 2-1. Large CAFOs

| Number of animals | Type of animal |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 700 | Mature dairy cows, whether milked or dry |
| 1,000 | Veal calves |
| 1,000 | Cattle, other than mature dairy cows or veal calves (Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs.) |
| 2,500 | Swine, each weighing 55 pounds or more |
| 10,000 | Swine, each weighing less than 55 pounds |
| 500 | Horses |
| 10,000 | Sheep or lambs |
| 55,000 | Turkeys |
| 30,000 | Laying hens or broilers, if the AFO uses a liquid-manure handling system |
| 125,000 | Chickens (other than laying hens), if the AFO uses other than a liquid-manure handling system |
| 82,000 | Laying hens, if the AFO uses other than a liquid-manure handling system |
| 30,000 | Ducks, if the AFO uses other than a liquid-manure handling system |
| 5,000 | Ducks, if the AFO uses a liquid-manure handling system |

Source: 40 CFR § 122.23(b)(4)

2. AFOs and CAFOs

2.1. Animal Feeding Operations (AFOs)

2.2. Concentrated Animal Feeding Operations (CAFOs)

2.2.3. AFOs Defined as Large CAFOs

In determining whether the applicable Large CAFO threshold is satisfied, the number of animals actually maintained is considered, not the capacity of the operation.

Is this operation a Large CAFO?

Example A: An operation confines 2,800 mature swine (more than 55 pounds each) in six houses. The houses have concrete floors with conveyances to capture manure.

Answer: The operation meets the definition of an AFO; it confines animals for more than 45 days over a 12-month period and the confinement area does not sustain vegetation. The operation is a Large CAFO because it confines more than 2,500 mature swine, a number that exceeds the regulatory threshold for a Large CAFO.

Example B: A 1,000-head cow/calf operation evenly splits its calving between fall and spring. The animals are generally pastured with the exception of two 60-day periods when the cow/calf pairs are confined for weaning. Because the calving is split, only 500 cow/calves are confined in any one weaning session.

Answer: The operation meets the definition of an AFO because animals are confined for 45 days in a 12-month period. Because the operation does not confine 1,000 or more animals or cow/calf pairs for more than 45 days, the operation is not defined as a Large CAFO. The operation could be a Medium CAFO if it meets one of the two discharge criteria for the Medium CAFO category, or is designated as a CAFO by the permitting authority.

Example C: A background yard (raises feeder cattle from the time calves are weaned until they are on a finishing ration in the feedlot) has the capacity to hold 1,100 head of cattle. The facility operates year-round (animals are confined 365 days a year) and has never confined more than 800 head at any time.

Answer: The operation meets the definition of an AFO because animals are confined for 45 days in a 12-month period on a feedlot where vegetation is not sustained. Because the operation does not confine 1,000 or more animals at any one time, the operation is not defined as a Large CAFO. The operation could be a Medium CAFO if it meets one of the two discharge criteria for the Medium CAFO category, or is designated as a CAFO by the permitting authority.

2.2.4. Practices Constituting Poultry Operation Liquid-Manure Handling

The thresholds for chicken and duck AFOs in the CAFO definitions are based on the type of litter or manure handling system being used. The two systems are either a *liquid-manure handling system* or *other-than-a-liquid-manure handling system*. The animal number thresholds that determine whether the system is a CAFO for chicken or duck AFO using a liquid-manure handling system are lower than the thresholds for CAFOs that use other-than-liquid-manure handling systems.

2. AFOs and CAFOs

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2.2.4. Practices Constituting Poultry Operation Liquid-Manure Handling

An AFO is considered to have a liquid-manure handling system if it uses pits, lagoons, flush systems (usually combined with lagoons), or holding ponds, or has systems such as continuous overflow watering, where the water comes into contact with manure and litter. In addition, operations that stack or pile manure in areas exposed to precipitation are considered to have liquid-manure handling systems. That includes operations that remove litter from the confinement area and stockpile or store it uncovered in remote locations for even one day.

However, permitting authorities may authorize some limited period of temporary storage of litter of no more than 15 days that would not result in the facility meeting the definition of a liquid-manure handling system (e.g., where time is needed to allow for contract hauling arrangements and precipitation does not occur) (USEPA 2003, 3-6). If litter is stockpiled beyond that temporary period, the uncovered stockpile would constitute a liquid-manure handling system, and the lower CAFO thresholds for chickens and ducks would apply (see Tables 2-1 and 2-2).

Wet Lot and Dry Lot Duck Operations

Duck operations are considered to use a liquid-manure handling system if (1) the ducks are raised outside with swimming areas or ponds or with a stream running through an open lot, or (2) the ducks are raised in confinement buildings where fresh or recycled water is used to flush the manure to a lagoon, pond, or other storage structure. In addition, a duck operation that stacks manure or litter as described above for other dry poultry operations is considered to have a liquid-manure handling system.

Dry-lot duck operations include those that (1) use confinement buildings and handle manure and litter exclusively as dry material; (2) use a building with a mesh or slatted floor over a concrete pit from which manure is scraped into a solid manure storage structure; or (3) use dry bedding on a solid floor. Dry-lot duck operations are generally considered to be “operations that use other than a liquid-manure handling system.”

2.2.5. AFOs that Are Medium CAFOs

An AFO is a Medium CAFO if it meets both parts of a two-part definition. The first part addresses the number of animals confined, and the second part includes specific discharge criteria. In addition, a medium-sized AFO can be designated a CAFO by the permitting authority or EPA (see Section 2.2.8). Table 2-2 lists the animal number ranges associated with the Medium CAFO definition. If an AFO confines the number of animals listed in Table 2-2 for 45 days or more in a 12-month period, it meets the first part of the definition of a Medium CAFO.

An AFO meets the discharge criteria for the second part of the Medium CAFO definition if pollutants are discharged in one of the following ways:

- ▶ Into waters of the U.S. through a man-made ditch, flushing system, or other similar man-made device.

- ▶ Directly into waters of the U.S. that originate outside the facility and pass over, across, or through the facility or otherwise come into direct contact with the confined animals.

40 CFR § 122.23(b)(6).

Table 2-2. Medium CAFOs

| Number of animals | Type of animal |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 200–699 | Mature dairy cows, whether milked or dry |
| 300–999 | Veal calves |
| 300–999 | Cattle, other than mature dairy cows or veal calves (Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs.) |
| 750–2,499 | Swine, each weighing 55 pounds or more |
| 3,000–9,999 | Swine, each weighing less than 55 pounds |
| 150–499 | Horses |
| 3,000–9,999 | Sheep or lambs |
| 16,500–54,999 | Turkeys |
| 9,000–29,999 | Laying hens or broilers, if the AFO uses a liquid-manure handling system |
| 37,500–124,999 | Chickens (other than laying hens), if the AFO uses other than a liquid-manure handling system |
| 25,000–81,999 | Laying hens, if the AFO uses other than a liquid-manure handling system |
| 10,000–29,999 | Ducks, if the AFO uses other than a liquid-manure handling system |
| 1,500–4,999 | Ducks, if the AFO uses a liquid-manure handling system |

Source: 40 CFR § 122.23(b)(6)

The term *man-made device* means a conveyance constructed or caused by humans that transports wastes (manure, litter, or process wastewater) to waters of the U.S. (USEPA 1995, 8). Man-made devices include, for example, pipes, ditches, and channels. If human action was involved in creating the conveyance, it is man-made even if natural materials were used to form it. A man-made channel or ditch that was not created specifically to carry animal wastes but nonetheless does so is considered a man-made device. To be defined as a Medium CAFO, there must be an actual discharge of pollutants to waters of the U.S. However, it is not necessary for the man-made device to extend the entire distance to waters of the U.S. It is sufficient that the wastes being discharged flow through the man-made device. For example, a culvert could simply facilitate the flow of waste-water from one side of a road to another (and subsequently into a water of the U.S.) and is a man-made device for the purposes of this provision. Also, a flushing system is a man-made device that uses fresh or recycled water to move manure from the point of deposition or collection to another location.

2. AFOs and CAFOs

2.1. Animal Feeding Operations (AFOs)

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2.2.5. AFOs that Are Medium CAFOs

Definition of Production Area

Production area means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cow yards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, run-off ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions, which separate uncontaminated stormwater. Also included in the definition of production area is any egg-washing or egg-processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

40 CFR § 122.23(b)(8)

Tile drains in the production area are another example of a man-made device. Tile drains are underground pipes that collect subsurface water for transport away from the site. If tile drains discharge manure to waters of the U.S. from the production area of a medium-sized AFO, the facility meets discharge criterion for the Medium CAFO definition and is a Medium CAFO. An additional example would be the discharge to waters of the U.S. from a continuous-flow-through water trough system.

The Medium CAFO definition addresses discharges directly into a water of the U.S., which originate outside the facility and pass over, across, or through the facility or otherwise come into direct contact with the confined animals. The discharge criterion is met if animals in confinement at an AFO can come into direct contact with waters of the U.S. Thus, a stream running through the area where animals are confined indicates that there is a direct discharge of pollutants unless animals are prevented from any direct contact with waters of the U.S.

Is this operation a Medium CAFO?

Example A: Runoff from an earthen lot with 850 beef cattle, confined for 6 months a year, passes through a settling basin, riser pipe, concrete channel, junction box, and distribution manifold before flowing by gravity to an area where it infiltrates into the soil and does not reach waters of the U.S.

Answer: No. While the system described includes several man-made devices, the operation does not meet the definition of a Medium CAFO because the runoff does not enter waters of the U.S.

Example B: A 400-head beef cattle AFO, operated year-round, has a grassed waterway installed adjacent to the production area that transports contaminated runoff to an open field. There is no surface water in the area where the runoff is transported.

Answer: No. While a properly designed grassed waterway is a man-made device, the discharge does not reach a water of the U.S. If the discharge reached a water of the U.S., the facility would be a CAFO.

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2.2.5. AFOs that Are Medium CAFOs

2.2.6. Operations under Common Ownership

Under the CAFO regulations, two or more AFOs under common ownership are considered one operation if, among other things, they adjoin each other (including facilities that are separated only by a right-of-way or a public road) or if they use a common area or system for managing wastes. 40 CFR § 122.23(b)(2). For example, operations generally meet the criterion where manure, litter, or process wastewater are commingled (e.g., stored in the same pond, lagoon, or pile) or are applied to the same cropland.

In determining whether two or more AFOs are under common ownership, the number of managers is not important. Two AFOs could be managed by different people but have a common owner (e.g., the same family or business entity owns both). For facilities under common ownership that either adjoin each other or use a common area or system for waste disposal, the cumulative number of animals confined is used to determine if the combined operation is a Large CAFO and is used in conjunction with the discharge criteria in Section 2.2.5 to determine if the combined operation is a Medium CAFO.

Is this operation under Common Ownership?

Example: If a single farm has six chicken houses with a total of 125,000 birds, and the houses are managed by two people, is the farm considered a CAFO?

Answer: Yes. The chicken houses are part of a single operation and presumably use a common area or system for the disposal of wastes; therefore, the entire operation is a Large CAFO. The number of managers is not relevant.

2.2.7. Operations with Multiple Animal Types

Under the CAFO regulations, multiple types of animals are not counted together to determine the type and size of a CAFO. However, once an operation is defined as a CAFO on the basis of a single animal type, all the manure generated by all animals confined at the operation are subject to NPDES requirements. If wastestreams from multiple livestock species subject to different regulatory requirements are commingled at a CAFO, any NPDES permit for the facility must include the more stringent ELG requirements. 2003 CAFO Rule, 68 FR 7176, 7,195 (Feb. 12, 2003). See Appendix N, References for NPDES Permit Writers.

In situations where immature animals (e.g., heifers and swine weighing less than 55 lbs) are confined along with mature animals, the determination of whether the operation is defined as a CAFO depends on whether the mature or immature animals separately meet the applicable threshold. Operations that specialize in raising only immature animals (heifers, swine weighing less than 55 lbs, and veal calves) have specific thresholds under the regulations. However, once an AFO is defined as a CAFO, manure generated by all the animals in confinement would be addressed by the CAFO's NPDES permit if it is a permitted CAFO.

2. AFOs and CAFOs

2.1. Animal Feeding Operations (AFOs)

2.2. Concentrated Animal Feeding Operations (CAFOs)

2.2.7. Operations with Multiple Animal Types

Is this AFO a CAFO?

Example A: A dairy operation confines year-round 275 dry mature dairy cows, 500 lactating mature dairy cows, and 800 heifers.

Answer: The operation meets the definition of a Large CAFO because it confines more than 700 (in this case 775) mature dairy cows, milked or dry for more than 45 days. The 800 heifers alone would not meet the threshold for a Large CAFO. If the CAFO obtains permit coverage, the manure from all the animals confined, including the heifers, would be subject to the ELG and would need to be addressed in the CAFO's NMP.

Example B: A swine nursery operation has 15,000 piglets that range in weight from 40 to 60 pounds. The operation also has a farrowing house with 2,200 sows and approximately 13,000 piglets that are not weaned. The operation maintains that number of animals year-round.

Answer: The operation would meet the definition of a Large CAFO if it has at least 10,000 piglets that weigh under 55 pounds confined for more than 45 days. If the CAFO obtains permit coverage, the manure from all the animals confined would be subject to the ELG and would need to be addressed in the CAFO's NMP.

Example C: An operation confines for more than 45 days 250 beef cattle, 20 horses, and 22,000 chickens (does not use a liquid-manure handling system).

Answer: The operation does not meet the definition of a CAFO. The number of animals of any one animal type that are confined for 45 days in a 12-month period does not exceed the thresholds for a Large or Medium CAFO. Because sufficient animals are not confined, there is no need to determine whether the AFO meets one of the two discharges criteria to be defined as Medium CAFO. However, the operation could still be designated as a CAFO if the appropriate authority determines that the operation is a significant contributor of pollutants to waters of the U.S.

An operation that confines multiple animals types, where no one type meets the Large or Medium CAFO threshold, can be designated as a CAFO if it is found to be a significant contributor of pollutants to waters of the U.S. For additional discussion of designated CAFOs, see Section 2.2.8.

2.2.8. AFOs Designated as CAFOs

The CAFO regulations set the standards for the Director (either the Regional Administrator or the NPDES permitting authority) to designate any AFO as a CAFO if the AFO is a significant contributor of pollutants to waters of the U.S.¹ Designation provides for protection of surface water quality while maintaining flexibility for states or other entities to assist small and medium AFOs to mitigate the conditions that could subject the AFO to NPDES requirements.²

The Director may designate any AFO as a CAFO on a case-by-case basis if he determines that the AFO is a significant contributor of pollutants to waters of the U.S. as specified in 40 CFR part 122.23(c). AFO operations that may be considered for designation include the following:

- ▶ A medium-sized AFO that is not defined as a CAFO and is determined to be a significant contributor of pollutants to waters of the U.S. The definition of a Medium CAFO is in the text box provided.
- ▶ A small AFO (i.e., confines fewer than the number of animals defined in Table 2-2) that meets one of the methods of discharge criteria in 40 CFR sections 122.23(c)(3)(i), (ii) and is determined to be a significant contributor of pollutants to waters of the U.S.
- ▶ An AFO that raises animals other than species identified in the regulatory definitions of Large and Medium CAFOs and is determined to be a significant contributor of pollutants to waters of the U.S. Examples of such AFOs include geese, emus, ostriches, llamas, minks, bison, and alligators.

Medium CAFO Definition Discharge

- Pollutants are discharged into waters of the U.S. through a man-made ditch, flushing system, or other similar man-made device; or
- Pollutants are discharged directly into waters of the U.S. that originate outside and pass over, across, or through the facility or otherwise come into direct contact with animals confined in the operation.

40 CFR §§ 122.23(b)(6)(ii)(A), (B)

2.2.9. Process for Designating an AFO as a CAFO

For an AFO to be designated as a CAFO, the Director must determine that the AFO is a significant contributor of pollutants to waters of the U.S. 40 CFR part 122.23(c). Once an operation is designated as a CAFO, it must seek coverage under an NPDES permit and, among other things, develop and implement an NMP.

Under 40 CFR part 122.23(c)(3), an AFO may not be designated as a CAFO until the NPDES permitting authority or EPA has determined that the operation should and could be regulated under the permit program and conducted an inspection of the operation. In addition, a small AFO may not be designated as a CAFO unless it also meets the small AFO discharge criteria, 40 CFR parts 122.23(c)(3)(i), (ii), and is determined to be a significant contributor of pollutants to waters of the U.S. EPA recommends that the designation process be conducted as soon as possible following the inspection. Regardless of when an inspection takes place, the designation should be based on current information.

In determining whether an AFO is a significant contributor of pollutants to waters of the U.S., the permitting authority or EPA Regional Administrator (see Section 2.2.10) will consider the factors specified in 40 CFR part 122.23(c)(2), which are listed in the left-hand column of Table 2-3, below. The right-hand column in Table 2-3 gives examples of case-by-case designation factors that can be assessed during the designation inspection. The assessment of regulatory factors may be based on visual observations and water quality monitoring and other sources of relevant information.

Table 2-3. Example factors for case-by-case CAFO designation

| Designation factor | Example factors for inspection focus |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Size of the operation and amount of wastes reaching waters of the U.S. | <ul style="list-style-type: none"> • Number of animals • Type of feedlot surface • Feedlot design capacity • Waste handling/storage system design capacity |
| Location of the operation relative to waters of the U.S. | <ul style="list-style-type: none"> • Location of waterbodies • Location of floodplain • Proximity of production area and land application area to waters of the U.S. • Depth to groundwater, direct hydrologic connection to waters of the U.S. • Located in an impaired watershed |
| Means of conveyance of animal wastes and process wastewaters into waters of the U.S. | <ul style="list-style-type: none"> • Identify existing or potential man-made (includes natural and artificial materials) structures that could convey waste • Direct contact between animals and waters of the U.S. |
| Slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of manure into waters of the U.S. | <ul style="list-style-type: none"> • Slope of feedlot and surrounding land • Type of feedlot (concrete, soil) • Climate (e.g., arid or wet) • Type and condition of soils (e.g., sand, karst) • Drainage controls • Storage structures • Amount of rainfall • Volume and quantity of runoff • High water table • Buffers |
| Other relevant factors | <ul style="list-style-type: none"> • History of noncompliance • Use of conservation practices to minimize nutrient transport to waters of the U.S. • Working with USDA or Soil and Water Conservation District to improve operation |

Following the on-site inspection for designation, the NPDES permitting authority should prepare a brief report that (1) identifies findings and any follow-up actions, (2) determines whether the facility should or should not be designated as a CAFO, and (3) documents the reasons for that determination. Regardless of the outcome, the permitting authority should prepare a letter to inform the facility of the results of the inspection and, if appropriate, propose that the facility be designated as a CAFO. The letter should explain that EPA regulations would require the operation to seek coverage under an NPDES permit if it is designated. After providing the CAFO a reasonable opportunity to respond with any questions or concerns, the permitting authority may then send the CAFO a final designation letter. The letter should indicate whether a general permit is available or whether an individual permit application should be submitted by a specific date.

In those cases where a facility has not been designated as a CAFO but the NPDES permitting authority has identified areas of concern, the authority should note those areas in the letter. The letter should state that if the concerns are not corrected, the facility could be designated as a CAFO in the future. The letter should also include a date for a follow-up inspection to determine whether the concerns have been adequately addressed. Samples of letters that would be used at the conclusion of a designation inspection are in Appendix B, Example Letters to Owners/Operators after a Site Visit.

The following are examples of situations that might warrant CAFO designation.

- ▶ An AFO that maintains 350 cattle is adjacent to a river that is impaired as a result of nutrient loading. The operator routinely piles the waste next to the enclosure where it remains until a contract hauler picks it up. The waste is removed monthly, but precipitation occurs several times a month; runoff from the stockpiled manure flows through naturally occurring channels in the ground to the river. The facility would be a candidate for inspection and designation as a CAFO (the permitting authority also could recommend site modification). Note that an AFO that confines the number of animals specified in 40 CFR part 122.23(b)(6) (Medium CAFO) does not need to meet the discharge criteria specified in parts 122.23(c)(3)(i) or (ii) to be designated as a CAFO. For a discussion of Medium CAFOs, see Section 2.2.5.
- ▶ An AFO with 650 swine is crossed by a stream that originates outside the facility. The stream flows through an open lot where the animals are confined and continues on to connect with other waters of the U.S. beyond the facility. The facility would be a candidate for inspection and designation as a CAFO. Because the facility is a small AFO, meeting one of the discharge criteria in 40 CFR parts 122.23(c)(3)(i) or (ii) is a necessary condition for designation.

2.2.10. EPA Designation in NPDES Authorized States

The CAFO regulations authorize the EPA Regional Administrator to designate AFOs as CAFOs in NPDES-authorized states and tribal areas where the Regional Administrator has determined that one or more pollutants in an AFO's discharge contribute to an impairment in a downstream or adjacent state or Indian country water that is impaired for that pollutant or pollutants.

2. AFOs and CAFOs

2.1. Animal Feeding Operations (AFOs)

2.2. Concentrated Animal Feeding Operations (CAFOs)

2.2.10. EPA Designation in NPDES Authorized States

Such designation is based on assessment of the factors in §122.23(c)(2) and requires an on-site inspection. Upon designation by EPA, the operation would be required to apply to the permitting authority for permit coverage. EPA designation in NPDES-authorized states is intended to ensure consistent implementation of designation requirements across state or tribal boundaries where serious water quality concerns exist. If EPA decides that the AFO does not need to be designated as a CAFO, EPA may work with the state permitting authority to identify other appropriate actions.

References

USEPA (U.S. Environmental Protection Agency). 1995. *Guide Manual on NPDES Regulations for Concentrated Animal Feeding Operations*. EPA-833-B-95-001. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 2002. *Development Document for the Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operation*. EPA-821-R-03-001. U.S. Environmental Protection Agency, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 2003. *NPDES Permit Writers' Guidance Manual and Example Permit for Concentrated Animal Feeding Operations*. EPA-833-B-04-001. U.S. Environmental Protection Agency, Washington, DC.

Endnotes

¹ 40 CFR part 122.23(c); for more information about EPA designation in authorized states, see Section 2.2.10.

² The Manual does not address how the CWA applies to discharges from AFOs that are not defined or designated as CAFOs.