

NEBRASKA

DEPT. OF ENVIRONMENT AND ENERGY

FY2019 ANNUAL REPORT TO THE LEGISLATURE LIVESTOCK WASTE CONTROL PROGRAM Nebraska Department of Environment and Energy

December 2019

Introduction

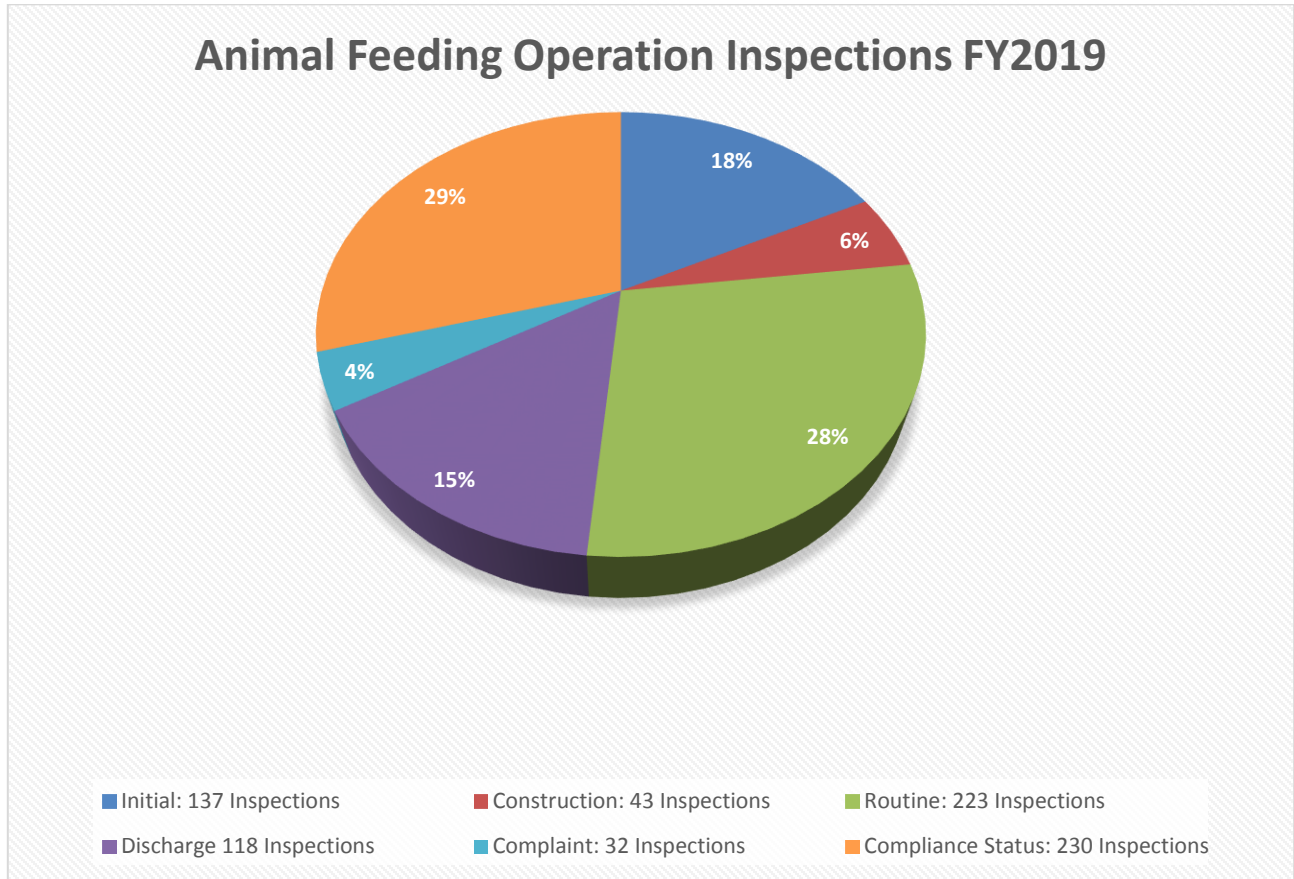
Each year, the Nebraska Department of Environment and Energy submits a report to the Legislature, pursuant to Neb. Rev. Stat. §54-2428(5), in sufficient detail to document all direct and indirect costs incurred in the previous fiscal year in carrying out the Livestock Waste Management Act (Neb. Rev. Stat. §54-2416 to 54-2438). The Department implements the Livestock Waste Management Act through our Livestock Waste Control Program (LWC). The Department is pleased to provide the Appropriations Committee a report on the activities of the agency's Livestock Waste Control Program during fiscal year 2019.

Overview

The Livestock Waste Control Program is charged with the overall responsibility to protect Nebraska's surface water and groundwater from discharge of livestock waste from any of the thousands of Animal Feeding Operations (AFOs) in Nebraska.

To accomplish this responsibility, the program administers *Title 130 - Livestock Waste Control Regulations*. The LWC program primarily focuses on the 1,194 active large Concentrated Animal Feeding Operations (CAFOs) required to have permits, but also works with 2,151 Medium AFOs. The LWC Program uses inspections, permitting, and periodic monitoring to fulfill this responsibility. The permitting program includes administering the federal National Pollutant Discharge Elimination System (NPDES) program for CAFOs.

Inspections



The LWC Program staff conducted a total of 783 livestock waste control inspections and investigations in FY2019 (including complaint and discharge investigations). The chart above illustrates the breakdown by type of inspection or investigation. A concerted effort was made during the fiscal year to revisit many medium-sized operations to ensure that they were in compliance with Title 130 and the EPA CAFO Rule.

The flooding in March of 2019 caused a significant amount of discharges. About 100 discharges were reported from that event alone. There were 101 more discharge investigations in FY2019 than the previous year.

A short description of each type of inspection and investigation follows:

Initial Inspection. Before constructing a new operation or expanding an existing operation, all medium and large AFOs – whether or not the operation currently is permitted -- must request an initial inspection by LWC Program staff. The reason for this inspection is to determine if livestock waste control facilities (LWCF) must be constructed, expanded, or modified to prevent a discharge and to properly manage the livestock waste generated by the operation.

Post Construction Inspection. Upon completion of any required construction of a LWCF, program staff conduct a post-construction inspection to verify the LWCF was constructed as approved by the Department.

Routine Inspections. Once a CAFO or an AFO has received a permit, and the Department has approved operation of the LWCF, program staff will conduct periodic, routine inspections to monitor

operation of the livestock waste control facilities, management of the operation's livestock waste, and the records these CAFOs and AFOs are required to maintain. Routine inspections are regularly scheduled inspections of an AFO, involving a detailed, extensive inspection of the LWCF, recordkeeping, and waste management at the operation.

Discharge Investigations. Discharge investigations are conducted when discharges of livestock waste from livestock waste control facilities are reported. Sometimes these discharges are not recorded as complaints because the AFO does self-reporting, as required by the regulations.

Complaint Investigations. When a complaint is received, LWC Program staff will investigate the complaint and may conduct an on-site complaint investigation.

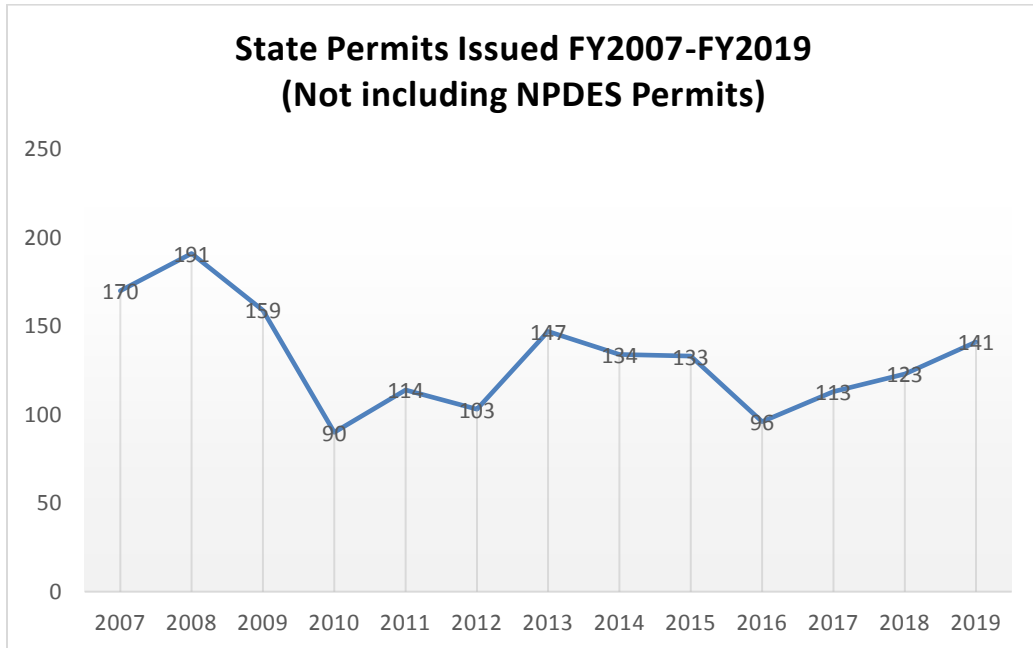
State Permitting

After conducting an initial inspection, the Department may require the AFO to submit an application for a Construction and Operating Permit – the state permitting process for livestock waste control facilities – prior to construction of livestock waste control facilities.

The Department received a total of 150 permit applications and issued 141 permits during FY2019, as shown in the table to the right.

Construction and Operating Permits – FY2019		
Type of Application or Permit	Applications Received	Permits Issued
New permits	77	76
Modified permits	54	47
Transfer permits	19	18
TOTAL	150	141

The totals do not include applications received or permits issued for any NPDES permits. The chart below shows the total number of state permits issued annually for livestock waste control facilities since FY2007. The Department updated some existing Construction Permits, Construction Approvals and Operating Permits to Construction and Operating Permits if the AFOs updated their nutrient management plans (NMP) to current Title 130 standards. The NMP updates were mainly in conjunction with NPDES Permit renewals or transferred permits.



Once a permitted AFO has completed its construction project, the Department conducts a post-construction inspection. If the post-construction inspection shows the construction was completed as approved, the Department notifies the AFO that operation of the new livestock waste control facility is approved. In FY2019, the Department gave approval to 62 AFOs for operation of their new or expanded LWC facilities. **National Pollutant Discharge Elimination System (NPDES) Permit**

The program also oversees the NPDES permitting process for livestock, issuing coverage under individual NPDES permits to CAFOs, as well as coverage under a NPDES General Permit for Concentrated Animal Feeding Operations Confining Cattle. These permits expire every five years, and permittees are required to submit a reissuance application to continue NPDES permit coverage.

The table below summarizes the number of NPDES applications received and permits issued for livestock waste control facilities in FY2019.

NPDES PERMITS – FY2019		
Type of NPDES Application/Permit	Applications Received	Permits Issued
GENERAL PERMIT FOR CAFOS CONFINING CATTLE		
New Coverage	14	3
Modified or Transferred	25	11
Reissued	1	54
SUBTOTAL GENERAL PERMIT:	40	68
INDIVIDUAL PERMITS		
New Coverage	3	4
Modified or Transferred	2	2
Reissued	12	6
SUBTOTAL INDIVIDUAL PERMIT:	17	12
NPDES TOTALS:	57	80

Fees

The annual fee is assessed on all permitted Large CAFOs and all CAFOs covered under an NPDES permit. The fee is determined based upon the number of head of livestock for which the operation has a permit. The fees provide 20% of the Department's costs to administer the livestock waste control program, as required by statute. The Department received \$263,562 in annual permit fees. In addition, the Department received \$48,618 in initial inspection fees, \$38,585 in permit application fees, and \$1,900 in late payment fees, for a total of \$352,665 in fees. This total accounts for approximately 19% of the annual budget.

The chart below lists the size categories for AFOs, as well as the rate, by species, of the annual permit fee for FY2018. The fee amount is based on the operation's permitted capacity. The program seldom works with operations in the Small AFO category (those with less than the minimum number of head listed for a Medium AFO) because these operations usually are exempt from the inspection and permitting requirements by statute.

Animal Feeding Operations (AFO) Categories and Annual Permit Fee Rates			
SPECIES	LARGE	MEDIUM	ANNUAL PERMIT FEE RATE
Cattle/Calves/ Heifers	≥ 1,000	300 - 999	\$0.05 per head
Dairy Cows	≥ 700	200 - 699	\$0.075 per head
Swine – 55 lbs. or more	≥ 2,500	750 - 2,499	\$2.00 per 100 *
Swine – Weaned or Nursery Pigs	≥ 10,000	3,000 - 9,999	\$0.50 per 100 *
Chickens – Laying Hens, Broilers: Liquid Manure System	≥ 30,000	9,000 - 29,999	\$1.50 per 1,000 *
Chickens – Laying Hens: Dry Manure System	≥ 82,000	25,000 - 81,999	\$0.50 per 1,000 *
Chickens – except Laying Hens: Dry Manure System	≥ 125,000	37,500 - 124,999	\$0.50 per 1,000 *
Turkeys	≥ 55,000	16,500 - 54,999	\$1.00 per 1,000 *
Horses	≥ 500	150 - 499	\$0.10 per head
Sheep/Lambs	≥ 10,000	3,000 - 9,999	\$0.50 per 100 *
*NOTE: Or any fraction of the Unit of calculation			

General information about the Livestock Waste Control Program, including applications, fact sheets, forms, guidance documents, copies of each of the NPDES General Permits, Title 130 regulations, and public notices of permit issuance or denial, can all be found on the Department's website at: <http://dee.ne.gov>.

Online Applications

In February 2017, the Agriculture Section held a team building event intended to identify areas where additional effort would improve overall operations. A key outcome of the event is the online submittal of permit applications. Section personnel have been working with information technology professionals designing an online portal for the submittal of construction and operating permit applications. The program is convinced that a more streamlined processing of applications for businesses will still be protective of water quality. The new system is still under development and is expected to be in production in 2020.

Water Quality Monitoring – Surface Water

The Surface Water Unit of the Water Quality Assessment Section receives reports of fish kills, complaints and questions concerning the quality and possible pollution of Nebraska's rivers, streams, lakes, and ponds. Occasionally the reported fish kills and complaints that the Surface Water Unit receives are related to animal feeding operations and livestock waste control facilities.

During FY2019, the Surface Water Unit received reports on 4 fish kills, down slightly from the previous year's 5 fish kills reported. Of these 4 reported fish kills, none were attributed to livestock waste. There were also no livestock waste-related fish kills in FY2018.

The Surface Water Unit received a total of 80 complaints about Nebraska's surface waters during FY2019, up considerably from last year's 42 complaints received. Three of the 80 complaints received this year involved livestock waste, which was comparable to the two livestock related complaints received during FY2018. While many of these cases were referred to other Department programs that more closely relate to the problem, sometimes the Surface Water Unit provides assistance through investigations and/or collecting samples to help document conditions.

Upon receiving a complaint or a report of a fish kill, Surface Water Unit staff, Livestock Waste Control Program staff or other Department inspectors investigate the report or complaint. The investigators verify the complaint or report, attempt to identify the source of the problem, and gather samples for analysis, if appropriate.

If the source of the problem is determined to be livestock-waste related, Livestock Waste Control Program staff work to identify a responsible party and correct any problems caused by improper livestock waste management, including cooperation with other Department programs if appropriate. If a responsible party is identified, the Department may seek additional compliance or enforcement actions, as necessary.

Water samples taken by the Surface Water Unit – whether at the site of a problem or as part of the extensive routine sampling done by the unit's staff – are analyzed to detect the presence of pollutant sources, including livestock waste. The analysis looks for ammonia, chlorides, bacteria, nutrients, and organic matter present in the sample. Even though livestock waste is not the only source of these pollutants, elevated concentrations of these parameters can indicate its presence. These pollutants are of special concern because they can significantly lower water quality if they reach rivers, streams, and lakes. These pollutants may impair the biological communities in the water, kill fish, result in water unfit for swimming because of bacterial pollution, increase algae blooms in the water body, and raise the potential for the growth of toxic algae.

For additional information on surface water quality data or monitoring programs, please refer to the 2017 Nebraska Water Monitoring Programs Report and the 2018 Surface Water Quality Integrated Report, which are available on the Department's web site, <http://dee.ne.gov>.

Water Quality Monitoring - Groundwater

The Groundwater Unit of the Water Quality Assessment Section has been reviewing plans for livestock waste control facilities since October 1997 to determine the need for groundwater monitoring. Groundwater Unit staff prepare a review for each animal feeding operation using site-specific information to determine the potential for groundwater pollution by the livestock waste control facility. The review considers numerous factors, including:

1. Distance between groundwater and the bottom of the livestock waste control facility;
2. Direction of groundwater flow;
3. Type of soils and sediments in the unsaturated zone; and
4. Whether the groundwater is used as drinking water near the livestock waste control facility.

If the Department determines that groundwater monitoring is needed, the operation is required to prepare a groundwater monitoring plan, with details on monitoring well placement, construction, and groundwater sampling techniques. The plan must be approved by the Department before

being implemented. Groundwater is tested for nitrate as nitrogen, ammonia as nitrogen, and chloride, as well as measurement of the depth to groundwater. Samples are required to be collected twice a year – spring and fall -- with results submitted to the Department within 45 days of sampling.

Since October 1997, Groundwater Unit staff have reviewed permit applications for 1,469 separate animal feeding operations, and re-evaluated livestock waste control facilities at another 669 operations due to expansion or design changes. Slightly more than one-third (34%) of the 1,469 permit applications reviewed, or 493 AFOs, have been recommended for groundwater monitoring.

During FY2019, the Department required 9 operations to submit groundwater monitoring plans, approved 24 groundwater monitoring plans, and reviewed 501 sets of groundwater monitoring results. To date, the Department has approved a total of 479 groundwater monitoring plans and received at least one set of groundwater monitoring results from 346 operations.

The Department is tracking and evaluating the groundwater sampling results received. Once an animal feeding operation has submitted at least three sampling events, Groundwater Unit staff evaluate the operation's livestock waste control facility to determine if groundwater quality is being impacted. Currently, 331 AFOs have submitted at least three sets of sampling results. Of these 331 AFOs, 28 operations now sample and submit results once, rather than twice, each year, based on the quality and consistency of their groundwater results. On the other hand, several operations have been required to do additional work due to the inconsistent results from their groundwater sampling.

Costco

The livestock program began receiving new chicken barn applications from producers under contract with Costco in FY2018. These chicken producers are not required to obtain permits because their waste product is considered dry manure. However, Costco is requiring their contract chicken producers to apply and obtain the same permit that cattle or hog producers apply for. There have been 34 Construction and Operating permits issued for Costco producers through FY2019. More Costco chicken barn applications are expected in the next year.

Livestock Growth

Livestock continues to grow in Nebraska. In FY2019 the state saw an increase of 37 large operations from FY2018. The state also saw an increase of 30 medium operations from FY2018. With this growth there was an increase of 34 new Construction and Operating Permits issued from FY2018.

LIVESTOCK PROGRAM STATISTICS FOR FY2019

Inspections – FY2019

Total Initial Inspection Requests Received	164
Total Initial Inspections.....	137
Total Post-Construction Inspections	43
Total Routine (Scheduled) Inspections.....	223
Total Number of Compliance Status Inspections	230
Total Number of Discharge Investigations	118
Total Number of Complaint Investigations.....	32
Total Number of Inspections/Investigations Performed	783

Permits – FY2019

Total Number of New Permit Applications Received (<i>excluding NPDES</i>).....	77
Total Number of Applications for Modified/Transferred State Permits	73
New Construction & Operating Permits Issued	76
Modified/Transferred State Permits Issued	65
NPDES General Permits	
New Coverage Applications Received.....	14
Modification/Transfer Requests Received	25
Reissuance of Coverage Applications Received	1
Permit Coverage Issued/Reissued/Modified/Transferred	68
NPDES Individual Permits	
New Applications Received.....	3
Modification/Transfer Requests Received	2
Reissuance Applications Received	12
Permit Coverage Issued/Reissued to CAFOs.....	12

Livestock Program Costs and Fees Received – FY2019

Total Program Costs.....	\$ 1,884,769
Inspection Fees Received	\$ 48,618
Late Fees Received	\$ 1,900
Permit Application Fees Received.....	\$ 38,585
Total Annual Permit Fees Received	<u>\$ 263,562</u>
Total Program Fees Received.....	\$ 352,665