



## DEPT. OF ENVIRONMENT AND ENERGY

### SFY2022 ANNUAL REPORT TO THE LEGISLATURE LIVESTOCK WASTE CONTROL PROGRAM Nebraska Department of Environment and Energy

December 2022

#### 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 state fiscal year 2022.

#### 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.

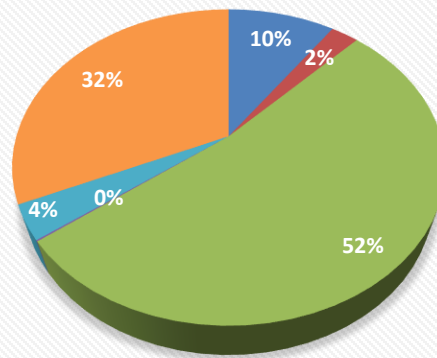
To accomplish this responsibility, the program administers *Title 130 - Livestock Waste Control Regulations*. The LWC program primarily focuses on the 1,330 active large Concentrated Animal Feeding Operations (CAFOs) required to have permits, but also works with 2,558 Medium AFOs. The LWC Program uses 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 768 livestock waste control inspections and investigations in FY2022 (including complaint and discharge investigations). Chart 1 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 compliance with Title 130 and the EPA CAFO Rule.

With the continued lifting of the restrictions put in place at the beginning of the COVID-19 pandemic, there was an increase in person site inspections and a sharp reduction of virtual or remote investigations. There were 194 more inspections than were conducted in FY 2021.

**Chart 1: Animal Feeding Operation Inspections FY2022**



Initial: 74 Inspections	Construction: 19 Inspections
Routine: 403 Inspections	Discharge: 1 Inspections
Complaint: 27 Inspections	Compliance Status: 244 Inspections

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.

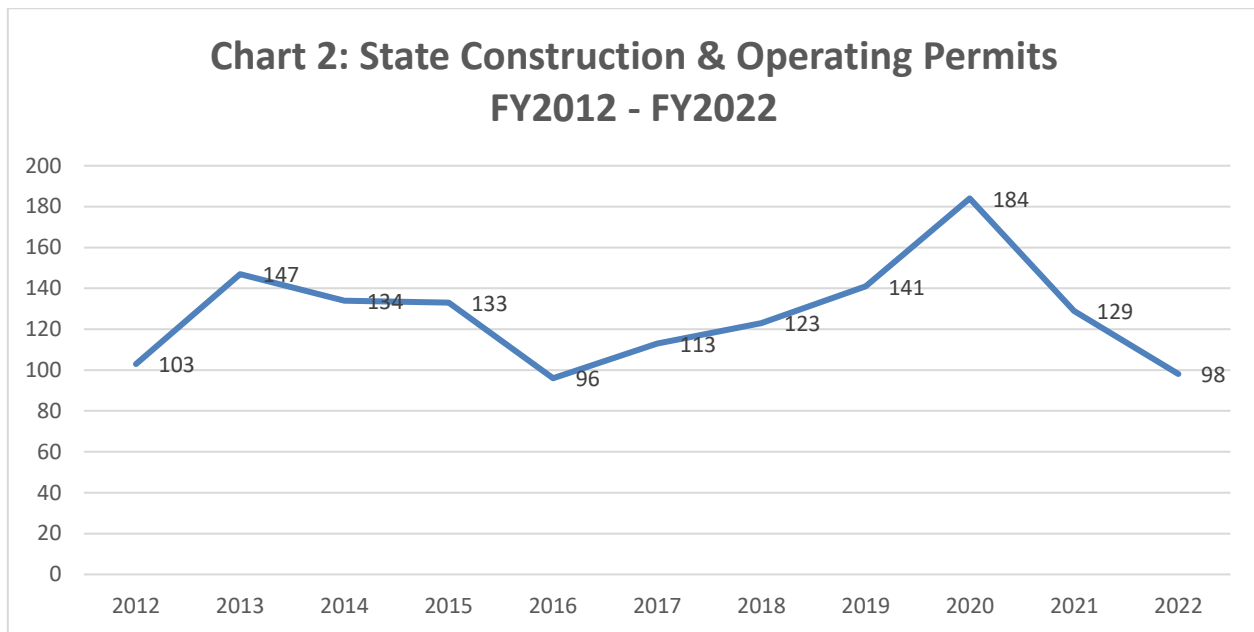
### **State Permitting**

After conducting an initial inspection, the Department may require the AFO to submit an application for a Construction and Operating Permit if there is a potential to discharge to waters of the State. The Construction and Operating Permit is the state permitting process for livestock waste control facilities. A state permit is required prior to construction of livestock waste control facilities at AFOs.

The Department received a total of 89 permit applications and issued 98 permits during FY2022, as shown in the table below.

<b>Table 1: State Construction and Operating Permits – FY2022</b>		
<b>Type of Application or Permit</b>	<b>Applications Received</b>	<b>Permits Issued</b>
New permits	14	20
Modified permits	59	63
Transfer permits	16	15
<b>TOTAL</b>	<b>89</b>	<b>98</b>

The values in Table 1 detail the breakdown of state Construction and Operating Permits. Chart 2 below shows the total number of state permits issued annually for livestock waste control facilities since FY2012.



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 may begin operation. In FY2022, the Department gave approval to operate 102 AFOs for new or expanded LWC facilities.

**National Pollutant Discharge Elimination System (NPDES) Permit**

The NPDES permit program addresses water pollution by regulating point sources that have the potential to discharge pollutants to waters of the State. An Animal Feeding Operations (AFO) are considered point source of water pollution if it meets the definition of a CAFO. CAFOs are required to obtain NPDES coverage. The program oversees the NPDES permitting process for livestock, issuing coverage under individual NPDES permits to CAFOs, as well as coverage under a NPDES

General Permit. These permits expire every five years, and permittees are required to submit a reissuance application to continue NPDES permit coverage.

Table 2 below summarizes the number of NPDES applications received and permits issued for livestock waste control facilities in FY2022.

<b>Table 2: NPDES PERMITS – FY2022</b>		
Type of NPDES Application/Permit	Applications Received	Permits Issued
<b>GENERAL PERMIT FOR CAFOS CONFINING CATTLE</b>		
New Coverage	12	3
Modified or Transferred	20	9
Reissued	105	100
<b>SUBTOTAL GENERAL PERMIT:</b>	<b>137</b>	<b>112</b>
<b>NPDES PERMITS – FY2022</b>		
<b>INDIVIDUAL PERMITS</b>		
New Coverage	1	1
Modified or Transferred	3	1
Reissued	2	0
<b>SUBTOTAL INDIVIDUAL PERMIT:</b>	<b>6</b>	<b>2</b>
<b>NPDES TOTALS:</b>	<b>143</b>	<b>114</b>

**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 fee for FY2022 remained unchanged from FY2021. The Department received \$212,900 in annual permit fees. In addition, the Department received \$21,200 in initial inspection fees, \$114,400 in permit application fees, and \$1,522 in late payment fees, and \$4,986 in investment income for a total of \$355,008 in fees.

Table 3 below lists the size categories for AFOs, as well as the rate, by species, of the annual permit fee for FY2022. 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.

**Table 3: Animal Feeding Operations (AFO)  
Categories and Annual Permit Fee Rates**

<b>SPECIES</b>	<b>LARGE</b>	<b>MEDIUM</b>	<b>ANNUAL FEE RATE</b>
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 System	≥ 82,000	25,000 - 81,999	\$0.50 per 1,000 *
Chickens – except Laying Hens: Dry 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 *
<b>*NOTE:</b> 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 LWC Program 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. Department 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 began to be used in FY2021.

### **Water Quality Monitoring – Surface Water**

The Monitoring Section of the Monitoring and Remediation Division 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 Monitoring Section receives are related to animal feeding operations and livestock waste control facilities.

During FY2022, the Monitoring Section received reports on 16 fish kills, up from the previous year’s 11 fish kills reported. Of these 16 reported fish kills, none were attributed to livestock waste.

The Monitoring Section received a total of 126 complaints about Nebraska’s surface waters during FY2022. Five of the 126 complaints received this year involved livestock waste, up from the two livestock related complaints received during FY2021. While many of these cases were referred to other Department programs that more closely relate to the problem, the Monitoring Section is

available to provide assistance during investigations and/or collecting samples to help document conditions.

Upon receiving a complaint or a report of a fish kill, Monitoring Section 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 Monitoring Section – whether at the site of a problem or as part of the extensive routine sampling conducted by the Section’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 2021 Nebraska Water Monitoring Programs Report and the 2020 Surface Water Quality Integrated Report, which are available on the Department’s web site, <http://dee.ne.gov>.

### **Water Quality Monitoring - Groundwater**

The Groundwater Section of the Drinking Water and Groundwater Division has been reviewing plans for livestock waste control facilities since October 1997 to determine the need for groundwater monitoring. Groundwater Section 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 Section staff have reviewed permit applications for 1,566 separate animal feeding operations, and re-evaluated livestock waste control facilities at another 742 operations due to expansion or design changes. Slightly more than one-third (33.5%) of the

1,566 permit applications reviewed, or 525 AFOs, have been recommended for groundwater monitoring.

During FY2022, the Department required 13 operations to submit groundwater monitoring plans, approved 11 groundwater monitoring plans, and reviewed 767 sets of groundwater monitoring results. To date, the Department has approved a total of 512 groundwater monitoring plans and received at least one set of groundwater monitoring results from 377 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 Section staff evaluate the operation's livestock waste control facility to determine if groundwater quality is being impacted. Currently, 368 AFOs have submitted at least three sets of sampling results. Of these, 33 operations now sample and submit results once, rather than twice, each year, based on the quality and consistency of their groundwater results.

# LIVESTOCK PROGRAM STATISTICS FOR FY2022

## Inspections – FY2022

Initial Inspections	74
Post-Construction Inspections	19
Routine (scheduled) Inspections	403
Compliance Status Inspections	244
Discharge Investigations	1
Complaint Investigations	27
Total Inspections & Investigations	768

## Construction & Operating Permits – FY2022

New Construction & Operating Permit Applications	14
Modification & Transferred Applications	75
Total Applications Received	89
New Construction & Operating Permits Issued	20
Modification & Transferred Permit Issued	78
Total Permits Issued	98

## NPDES Permits – FY2022

New General Permit Coverage Applications	12
Modification & Transferred General Permit Applications	20
Reissuance of General Permit Coverage Applications	105
Total General Permit Coverage Permits Issued	137
New Individual NPDES Permit Applications	1
Modification & Transferred Individual Permit Applications	3
Reissuance of Individual Permit Applications	2
Total Individual Permits Issued	6
Total NPDES Permits Issued	143

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## Livestock Program Budget & Revenue– FY2022

Total Program Budget	\$1,901,702
Initial Inspection Fees Received	\$21,200
Late Fees Received	\$1,522
Permit Application Fees Received	\$114,400
Annual Fees Received	\$212,900
Investment Income	\$4,986
Total Revenue	\$355,008