



**FY2013 ANNUAL REPORT TO THE LEGISLATURE
LIVESTOCK WATER CONTROL PROGRAM
Nebraska Department of Environmental Quality
December 31, 2013**

Introduction

Each year the Nebraska Department of Environmental Quality is required to submit a report to the Legislature 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. §54-2808). The Department implements the Livestock Waste Management Act through our Livestock Waste Control Program. 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 2013.

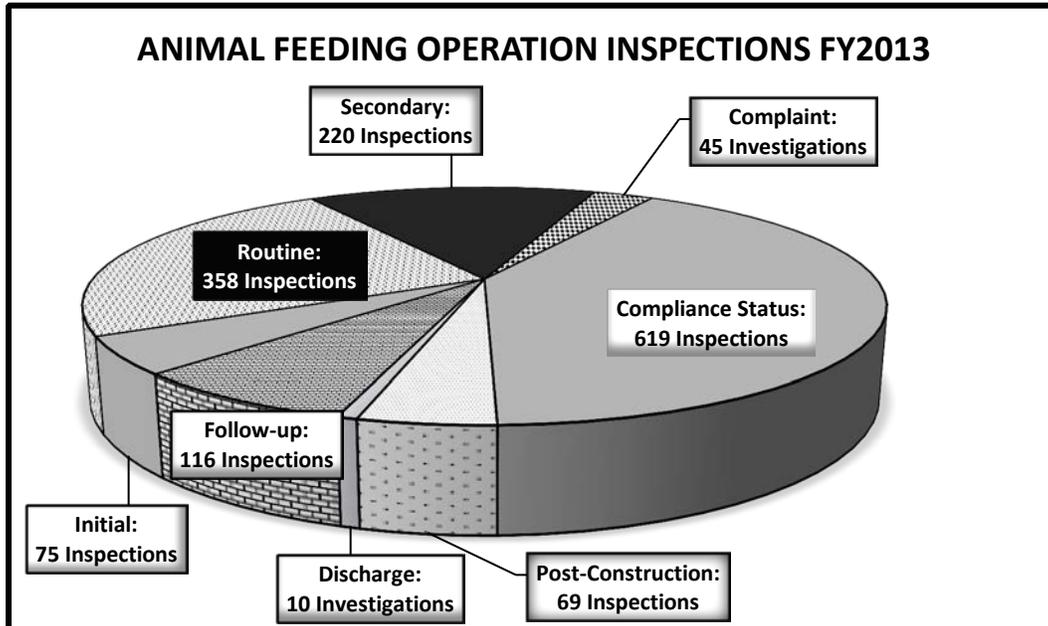
Overview

The Livestock Waste Control Program (LWC) 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 757 active large Concentrated Animal Feeding Operations (CAFOs) required to have permits, but also works with approximately 2,000 Medium AFOs. The LWC Program uses inspections, permitting, and periodic monitoring to fulfill this responsibility. The permitting includes administering the National Pollutant Discharge Elimination System (NPDES) program for CAFOs.

Amendments to Title 130 became effective October 4, 2011 to reflect changes in the U.S. Environmental Protection Agency (EPA) CAFO Rule for NPDES permitting, which primarily involved who needs to apply for NPDES permit coverage. The changes were necessary to ensure the Department would continue to administer the NPDES permit program for EPA. As a result, only CAFOs that discharge are required to apply for NPDES permit coverage.

Inspections



The LWC Program staff conducted a total of 1,512 livestock waste control inspections and investigations in FY2013 (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. As a result, there were more compliance status inspections and less routine compliance 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 waste control facility 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.

Follow-up Inspections. These are conducted in response to some specific activity, situation, or request by the operation. Follow-up inspections could be prompted by an operation's request for a "second opinion" on a requirement; or to monitor the AFO's progress on completing a construction or repair project; or to follow up after a complaint inspection or enforcement action, for example.

Compliance Status Inspections. Generally conducted to verify the AFO's operating status or level of compliance with a specific requirement; these inspections are usually less urgent, non-emergency situations.

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.

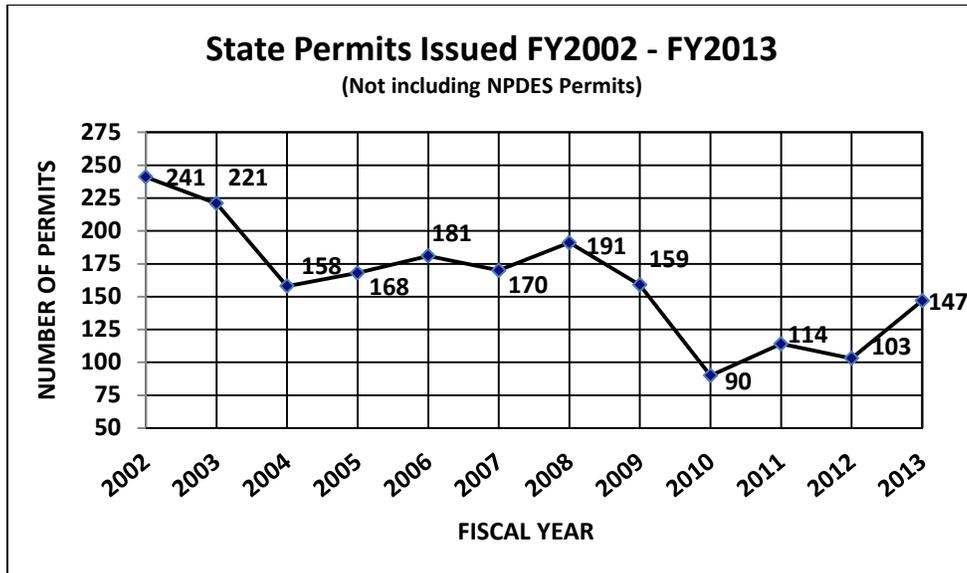
Complaint Investigations. When a complaint is received, LWC Program staff will investigate the complaint and may conduct an onsite complaint investigation.

Secondary Inspections. Secondary Inspections are primarily conducted for training purposes and to assist the primary inspector in evaluating unusual or atypical AFOs.

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 101 permit applications and issued 147 permits during FY2013. 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 FY2002. There were more Construction and Operating Permits issued than applications received because the Department updated some existing Construction Approvals and Operating Permits to Construction and Operating Permits if the AFOs updated their nutrient management plans to current Title 130 standards. The 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 FY2013, the Department gave approval to 144 AFOs for operation of their new or expanded LWC facilities.

National Pollutant Discharge Elimination System (NPDES) Permit

The LWC 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 Open Lot Cattle Operations. These permits expire every five years, and permittees are required to submit a reissuance application to continue NPDES permit coverage.

The NPDES general permit issued April 1, 2008 expired on March 31, 2013. Individuals with coverage under the general permit were required to apply for reissuance by October 1, 2012. In preparation for the receipt of hundreds of applications for reissuance, the Department drafted four new NPDES general permits for cattle operations. The permits expire in 2, 3, 4, and 5 years after issuance. The content of each permit is the same except for the expiration date. This is to distribute the permits so they all do not expire the same year. After this round of permits, all permits will again be available for 5-year terms. The permits were signed on July 26, 2012 so individuals could apply for coverage under the new permits prior to the October 1, 2012 reapplication date. The effective date of each permit is April 1, 2013. Individual permits will continue to expire five years from the date of issuance.

The table below summarizes the number of NPDES applications received and permits issued for livestock waste control facilities in FY2013.

NPDES PERMITS – FY2013		
Type of NPDES Application/Permit	Applications Received	Permits Issued
GENERAL PERMIT FOR OPEN LOTS		
New Coverage	369	142
Modified or Transferred	6	12
Reissued	0	0
SUBTOTAL GENERAL PERMIT:	375	154
INDIVIDUAL PERMITS		
New Coverage	3	3
Modified or Transferred	5	3
Reissued	5	7
SUBTOTAL INDIVIDUAL PERMIT:	13	13
NPDES TOTALS:	388	167

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 \$230,432 in annual permit fees from 690 permitted large AFOs. In addition, the Department received \$24,200 in initial inspection fees (72 inspections), \$84,500 in permit application fees (425 applications), and \$1,850 in late payment fees (two operations) for a total of \$340,982 in fees.

The chart below lists the size categories for AFOs, as well as the rate, by species, of the annual permit fee for FY2013. 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.

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

**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			

Water Quality Monitoring – Surface Water

The Surface Water Unit receives reports of fish kills, complaints and questions concerning the quality and possible pollution of Nebraska's rivers, stream, 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 FY2013, the Surface Water Unit received reports on 21 fish kills, down somewhat from the previous year's 23 fish kill reports. Of these 21 reported fish kills, none were believed to be attributed to livestock waste. There were also no livestock waste-related fish kills in FY2012.

The Surface Water Unit received a total of 27 complaints about Nebraska's surface waters during FY2013, down substantially from last year's 53 complaints received. Only one of the 27 complaints received this year involved livestock waste, which was also the number of livestock related complaints received during FY2012. 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, LWC 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, LWC 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 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 the 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 2012 Nebraska Water Monitoring Programs Report and the 2012 Surface Water Quality Integrated Report, which are available on the NDEQ's web site, www.deq.ne.gov.

Water Quality Monitoring - Groundwater

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

1. Distance between groundwater and the bottom of the LWCF;
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 LWCF.

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 1,137 separate animal feeding operations, and re-evaluated livestock waste control facilities at another 401 operations due to expansion or design changes. Slightly more than one-third (35%) of the 1,137 permit applications reviewed, or 396 AFOs, have been recommended for groundwater monitoring.

During FY2013, the Department required 11 operations to submit groundwater monitoring plans, approved six groundwater monitoring plans, and reviewed 548 sets of groundwater monitoring results. To date, the Department has approved a total of 345 groundwater monitoring plans and received at least one set of groundwater monitoring results from 278 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 LWCFs to determine if groundwater quality is being impacted. Currently, 269 AFOs have submitted at least three sets of sampling results. Of these 269 AFOs, eight 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.

LIVESTOCK PROGRAM STATISTICS FOR FY2013

Inspections – FY2013

Total Initial Inspection Requests Received89

Large 45
Medium..... 43
Small 1

Total Number of Inspections/Investigations Performed1512

Total Initial Inspections..... 75

Large 39
Medium..... 35
Small 1

Total Post-Construction Inspections 69

Large 47
Medium..... 22
Small 0

Total Routine (Scheduled) Inspections..... 358

Large274
Medium..... 72
Small 12

Total Number of Compliance Status Inspections..... 619

Large 75
Medium.....328
Small216

Total Number of Follow-Up Inspections 116

Large43
Medium.....60
Small 13

Total Number of Discharge Investigations 10

Large 9
Medium..... 1
Small 0

Total Number of Complaint Investigations 45

Total Number of Secondary Inspections 220

Permits – FY2013

Total Number of New Permit Applications Received (excluding NPDES) **44**

Large 32
Medium..... 12
Small 0

Total Number of Applications for Modified/Transferred State Permits **57**

New Construction & Operating Permits Issued **80**

Large 66
Medium..... 14
Small 0

Modified/Transferred State Permits Issued **67**

Large55
Medium.....11
Small 1

NPDES General Permits

New Coverage Applications Received 369
Reissuance of Coverage Applications Received 0
Modification/Transfer Requests Received 6
Permit Coverage Issued/Reissued/Modified/Transferred 154

NPDES Individual Permits

New Applications Received 3
Reissuance Applications Received 5
Permit Coverage Issued/Reissued to CAFOs..... 13

Livestock Program Costs and Fees Received – FY2013

Total Program Direct Costs..... **\$ 1,482,144**

Inspection Fees Received.....\$ 26,050

Inspection Fees Received \$ 24,200
Late Fees Received..... \$ 1,850

Permit Application Fees Received.....\$ 84,500

Total Annual Permit Fees Received.....\$ 230,432

Total Program Fees Received..... **\$ 340,982**