

# CHAPTER 6:

## Water Division

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The goal of the Water Division is to protect the surface and groundwater resources in Nebraska. This chapter describes the programs administered by the Water Division, including: petroleum remediation programs, agriculture programs, surface water and groundwater monitoring and assessment programs, water quality planning, wastewater permitting and certification programs, and financial assistance programs.



*Nebraska's municipalities and industries that discharge wastewater need to obtain permits through NDEQ. More information about NDEQ's wastewater programs can be found on page 74.*

In 2016, NDEQ underwent some restructuring. Previously, all the water programs were in the Water Quality Division, which was twice the size as both Air and Land Divisions. To facilitate better management, there are now two divisions for water programs, making all four divisions approximately the same size. The Water Permits Division has livestock, chemigation, secondary containment of ag chemicals, the State Revolving Fund loan programs, and all the NPDES and wastewater (including septic tanks) programs. The Water Quality Division has the petroleum remediation, underground injection control, groundwater and surface water monitoring, wellhead and source water protection, fish kill response, surface water quality standards and assessment, 401 certification, water quality data management, and the nonpoint source programs.

### **Petroleum Remediation Program**

Activities regarding the Petroleum Remediation Program involve two interrelated areas:

1. Overseeing the **investigation and cleanup** of petroleum contamination resulting from leaking above-ground and underground storage tanks (and other sources such as pipeline leaks and transportation spills); and
2. Administering a **financial assistance program** for persons responsible for investigation and cleanup costs due to petroleum releases from tanks.

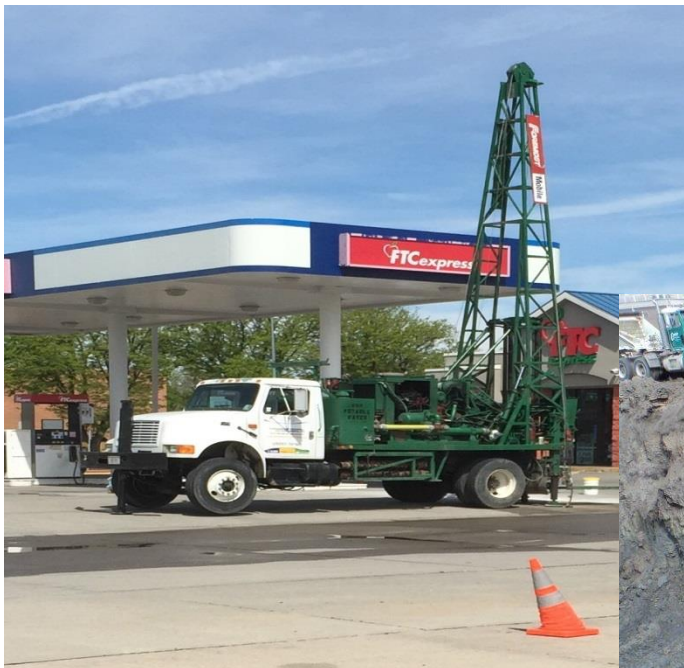
### **Investigation and Cleanup**

The first step in the Petroleum Remediation Program is the review of tank removal assessment reports or other documentation to determine whether contamination exists. After some initial indication that there may be petroleum contamination at a site, NDEQ decides whether more investigation and cleanup are required. NDEQ also determines whether parties who caused the contamination are available and financially capable of assuming responsibility. The Program

also receives reports of catastrophic tank failures, contaminated drinking water wells, vapors in structures and utilities, and other serious situations that may require emergency actions.

In the event these reports indicate a threat to health, safety, or the environment, NDEQ requires a detailed study of the affected groundwater and soil to discover the severity of the contamination, direction of groundwater flow, and potential water supplies or other points of exposure that may be impacted. Program staff review these reports to determine if cleanup requirements are needed and issue a public notice of their decision. Staff review remedial actions throughout the project and determine when sufficient cleanup has been accomplished.

The program has incorporated risk-based corrective action (RBCA) procedures into regulations and accompanying guidance. The RBCA process allows evaluation of all petroleum release sites based on the risk they pose to human health and the environment. Those that pose no significant risk are closed; those that pose significant risk are prioritized for further work. Since 1999, the program has been initiating many new investigations to collect information needed for Tier 1, the first step in the RBCA process. The plan is to continue investigating additional sites until eventually the information necessary for a RBCA Tier 1 evaluation has been collected at all sites. Sites that fail Tier 1 are activated for Tier 2, which is a more detailed investigation and the next step in the RBCA process. If sites fail Tier 2, they are normally scheduled for cleanup.



*Pictured at left is an auger drill rig installing a monitor well during a Tier 1 site assessment.  
Below, right: Excavation of diesel fuel-contaminated soil (gray-green) and removal of free product (liquid) as part of a major redevelopment project.  
Below, left: A typical equipment trailer used to remove gasoline vapors from the subsurface soil and remediate ground water contamination.*



## **Financial Assistance – Petroleum Release Remedial Action Reimbursement Fund**

When contamination has been found at a site, and the NDEQ has determined that more investigation and/or cleanup are required, NDEQ will also determine the “responsible person.” This term refers primarily to those who owned or operated the tank when the leak occurred. Those who are determined to be a responsible person may be eligible for reimbursement through the Petroleum Release Remedial Action Reimbursement Fund.

The Fund was created by the Legislature in order to help tank owners pay for the costs associated with assessing and cleaning up any petroleum releases from tanks as well as meet financial responsibility requirements established by federal law for underground storage tanks. Costs for both underground and above-ground tank releases are eligible for reimbursement. The program’s activities in this area include receiving and processing applications for reimbursement from the fund and subsequently issuing reimbursements for eligible costs. To assist applicants, the program developed guidelines entitled "Reasonable Rates Schedule and Reimbursement Guidance Manual."

### **“Orphan” Sites**

In situations involving "orphan" sites (sites where the responsible person that caused the contamination either cannot be identified or located or does not have the resources to pay for their share of cleanup costs), investigation and remediation costs are paid with federal and/or state funds. In FY2016, 81 orphan sites were activated for investigation and/or cleanup using State contractors. As of September 19, 2016, there were 394 orphan sites yet to be investigated.

### **Pay for Performance**

Some orphan sites are selected by the state to be cleaned up through a different process known as “Pay for Performance.” Under the Pay for Performance program, pre-qualified contractors are invited to submit bids to clean up specific petroleum-contaminated sites. NDEQ has signed 36 Pay for Performance contracts since the program’s inception. Of these projects, 12 have been successfully completed, 20 were terminated prior to completion, and 4 are still in the cleanup phase. This program saves the state time and money by using this procedure to clean these sites up.

### **Equipment Reuse**

As sites are undergoing cleanup, NDEQ pays for the purchase of remediation equipment. When sites are cleaned up and closed, NDEQ seeks to reuse that equipment at other sites. Since June 2005, NDEQ has reused hundreds of pieces of equipment, thus greatly reducing the need to buy new equipment. This reuse program has saved Nebraska taxpayers over \$4.3 million in new equipment costs and allowed that money to be used for cleanup of additional sites.

### **Program Statistics**

From June 1999, through September 28, 2016, 2,958 Tier 1 site investigations have been initiated. Of the 2,605 Tier 1 field investigations completed, 1,586 (61%) were closed, and 1,019 (39%) were determined to need a more detailed Tier 2 investigation. Since April 2002, 935 Tier 2 investigations have been completed; 632 (68%) of these sites have been closed. Of all the sites that have completed a Tier 1 or Tier 2 investigation, approximately 346 (13%) have reported finding the contaminant methyl tert-butyl ether (MTBE) in groundwater.

Revenue going into the cleanup fund in FY16 was about \$11.8 million. As of June 30, 2016, over \$208 million has been disbursed since the program began. During FY16, NDEQ reimbursed about \$4.7 million to responsible persons (or their designees) for work done at 232 different sites.

The 40 sites listed below are all currently active sites that have received a total reimbursement of more than \$600,000 each. Once the statutory limit is reached, the responsibility of funding the remainder of cleanup necessary reverts to the responsible person. Some closed sites also reached the statutory limit but are not shown.

Responsible Person	City	Reimbursed amount as of June 30, 2016	Has Statutory Limit Been Reached?*
Ag Valley Coop	Bartley	\$975,000.00	yes
Burlington Northern & SFR	Alliance	\$975,000.00	yes
Burlington Northern & SFR	Mc Cook	\$975,000.00	yes
Konecky Oil	Mead	\$975,000.00	yes
Elkhorn Valley Coop	Snyder	\$974,752.76	yes
Burlington Northern & SFR	Lincoln	\$974,300.47	yes
Conoco Phillips	Sidney	\$973,919.00	yes
Burlington Northern & SFR	Alliance	\$973,682.45	yes
Burlington Northern & SFR	Alliance	\$973,302.50	yes
Burlington Northern & SFR	Alliance	\$972,578.98	yes
Unocal Corporation	Ogallala	\$959,107.07	yes
Magers Service	North Platte	\$947,669.57	no
Flying J Inc.	Gretna	\$934,446.51	no
Wortman Motor Co.	Doniphan	\$909,702.20	no
Coastal Refining & Market	Chester	\$866,922.51	no
Roesener Oil Co.	Cook	\$856,667.83	no
Neitzel Oil Co.	Springfield	\$851,686.82	no
City of Lincoln	Lincoln	\$848,622.40	no
IBP ATV (At the Verticals)	Dakota City	\$848,409.73	no
Leigh Oil Co.	Leigh	\$822,421.55	no
Sandhill Oil	Theftord	\$810,989.34	no
Foote Oil Company	Hastings	\$805,480.70	no
Indianola Oil Company	Indianola	\$785,430.04	no
Former Milder Oil	Omaha	\$761,089.21	no
Ag Valley Coop	Curtis	\$760,949.30	no
Lexington Coop Oil	Eddyville	\$732,783.85	no
Sinclair Oil Corp.	Grand Island	\$710,609.04	no
Behrends Service	Diller	\$674,287.40	no
Burr Coop	Burr	\$665,431.09	no
Burlington Northern & SFR	Columbus	\$662,844.39	no
UPRR	North Platte	\$656,390.76	no
Farmers Union Coop	Dannebrog	\$650,151.67	no
Kaneb Pipeline Company	Geneva	\$649,198.61	no
Elk Oil Co.	Elk Creek	\$638,249.85	no
Farmers Union Coop Co.	Platte Center	\$635,581.05	no
Ehlers Truck Plaza	Superior	\$623,812.60	no
Wauneta-Palisade Pub Sch	Wauneta	\$621,632.45	no
Havertys Farm & City	Nebraska City	\$616,007.51	no
Crystal Oil Co.	South Sioux City	\$608,818.50	no
Former Farmers Coop	Cedar Bluffs	\$607,091.97	no

\* Those with a yes indicate that the statutory limit was reached prior to June 30, 2016. The total reimbursed amount may have been reduced due to noncompliance.

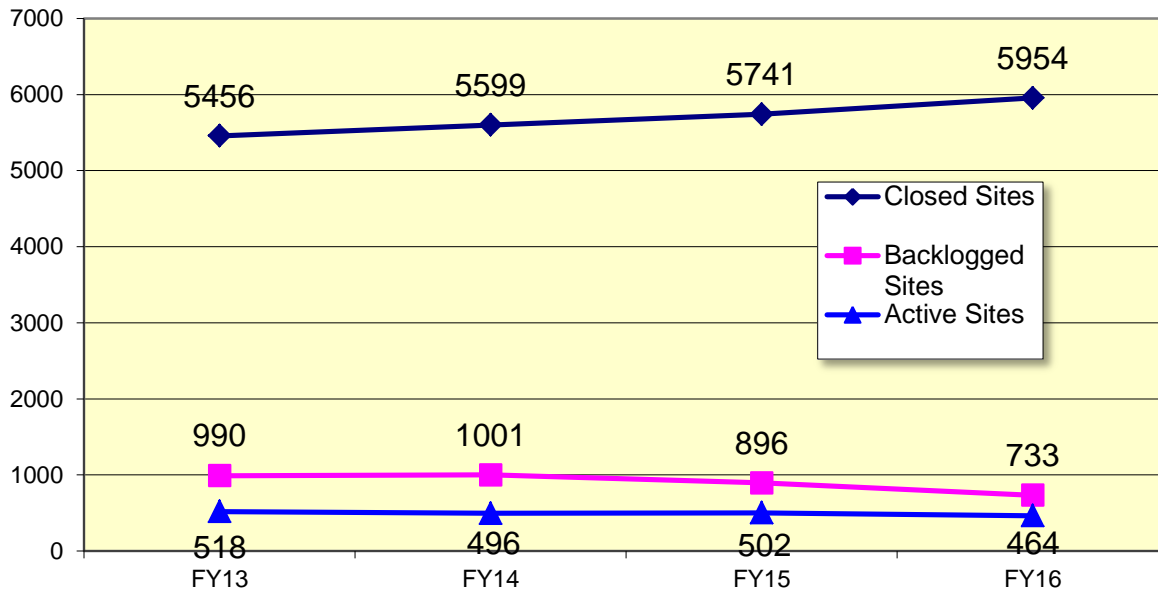
Responsible persons are able to perform voluntary remedial action prior to NDEQ's approval of their plans and still be eligible for reimbursement consideration in the future. This allows sites to

move forward on their own initiative. To date, 228 suspended or backlogged leaking underground storage tank sites have been closed based on voluntary submittals.

The following is a chart of end-of-year totals for the past four years relating to Petroleum Remediation sites in Nebraska. The chart provides information relating to:

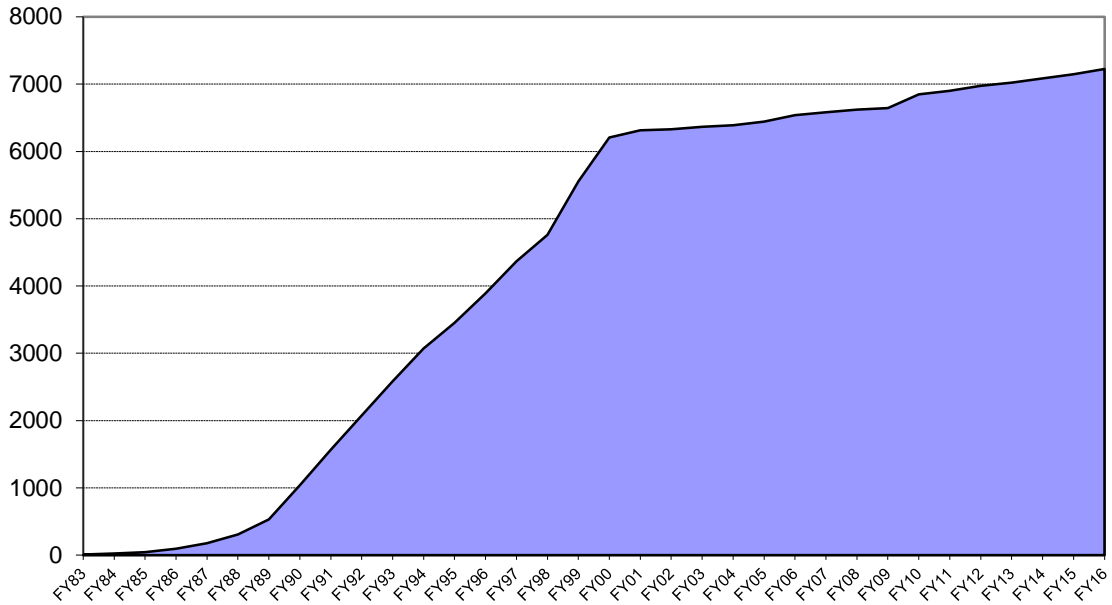
- **Closed Sites:** Sites that have been closed either because they have been cleaned up or it has been determined that no cleanup is necessary.
- **Backlogged Sites:** Sites identified as potentially needing cleanup, but are on a waiting list for further investigation.
- **Active Sites:** Sites that are currently being actively investigated or remediated.

**Petroleum Remediation Trends:  
End-of-Year Totals, FY13-FY16**

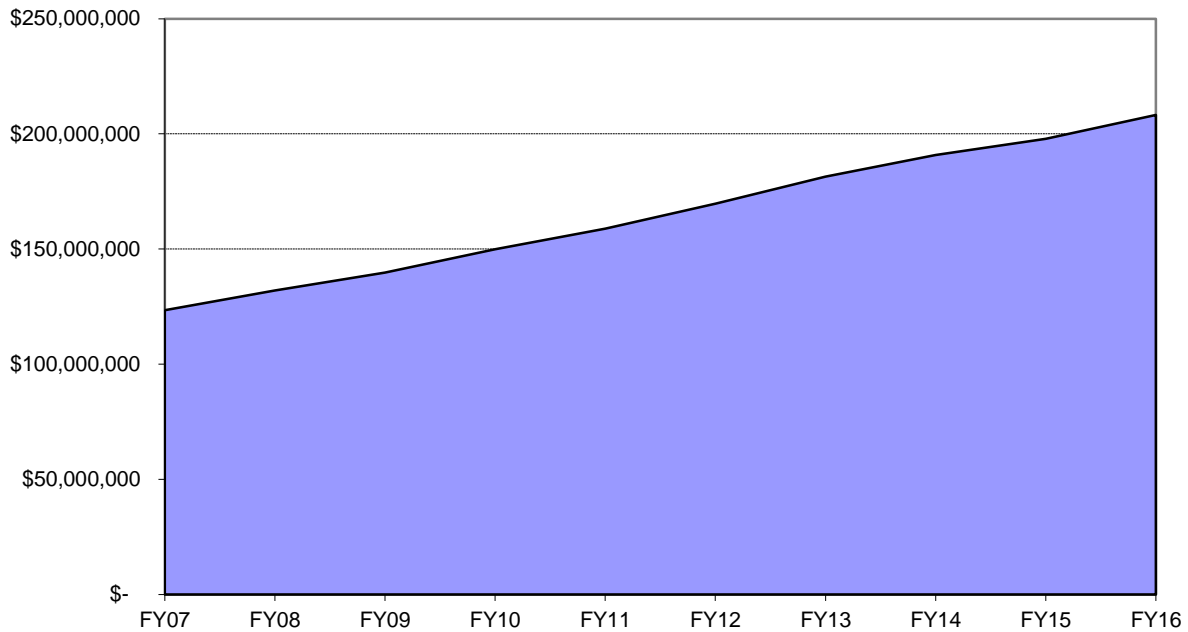


The chart below shows the cumulative number of sites that have had releases identified. The second chart shows the cumulative amount that the program has spent on investigation and cleanup in the past several years.

**Cumulative Number of LUST Releases  
(Through FY16)**



**Cumulative Title 200 Disbursements  
(last 10 years through FY16)**



## Agriculture Section

The Agriculture Section programs consist of the Livestock Waste Control Program, the Chemigation Program, and the Agricultural Chemical Containment Program.

### LIVESTOCK WASTE CONTROL PROGRAM

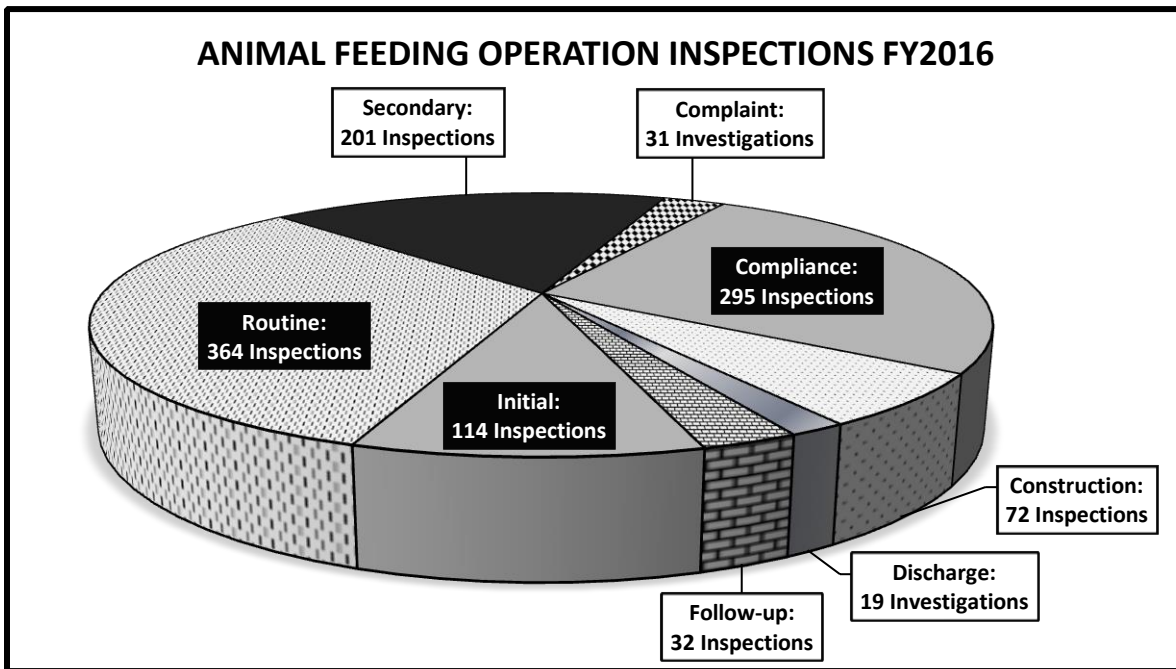
#### Overview

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 733 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 1,128 livestock waste control inspections and investigations in FY2016 (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.

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 on-site complaint investigation.

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

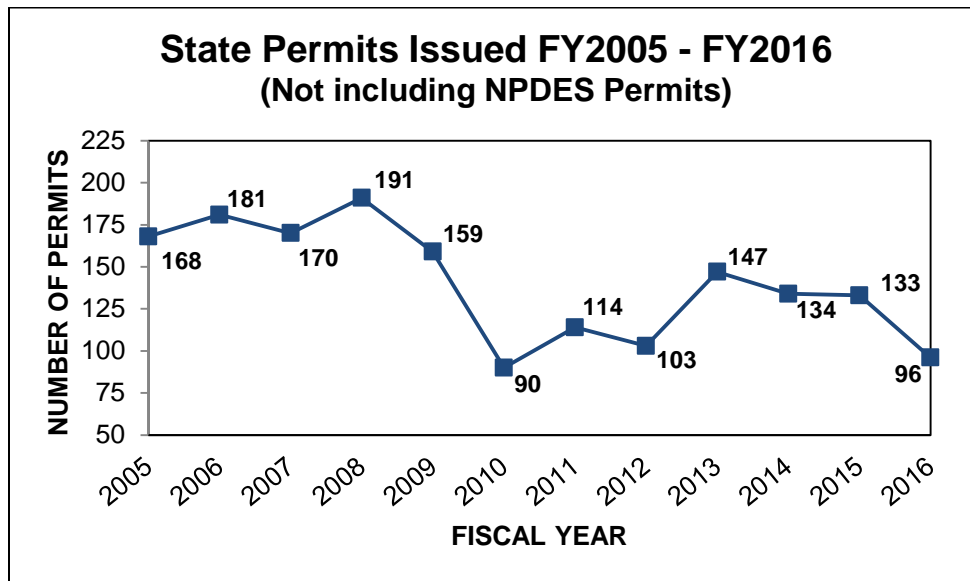


**State Permitting**

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 102 permit applications and issued 96 permits during FY2016, as shown in the table to the right. 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 FY2005. 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.

<b>Construction and Operating Permits – FY2016</b>		
<b>Type of Application or Permit</b>	<b>Applications Received</b>	<b>Permits Issued</b>
New permits	43	38
Modified permits	46	48
Transfer permits	13	10
<b>TOTAL</b>	<b>102</b>	<b>96</b>



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 FY2016, the Department gave approval to 80 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 Concentrated Animal Feeding Operations Confining Cattle. Both 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 FY2016.

<b>NPDES PERMITS – FY2016</b>		
Type of NPDES Application/Permit	Applications Received	Permits Issued
<b>GENERAL PERMIT FOR CAFOs CONFINING CATTLE</b>		
New Coverage	13	6
Modified or Transferred	12	21
Reissued	92	98
<b>SUBTOTAL GENERAL PERMIT:</b>	<b>117</b>	<b>125</b>
<b>INDIVIDUAL PERMITS</b>		
New Coverage	2	2
Modified or Transferred	2	2
Reissued	3	2
<b>SUBTOTAL INDIVIDUAL PERMIT:</b>	<b>7</b>	<b>6</b>
<b>NPDES TOTALS:</b>	<b>124</b>	<b>131</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 Department received \$248,868 in annual permit fees from 725 permitted large AFOs. In addition, the Department received \$33,500 in initial inspection fees (101 inspections), \$38,600 in permit application fees (142 applications), and \$12,950 in late payment fees (eight operations), for a total of \$333,918 in fees.

General information about the Livestock Waste Control Program, including applications, fact sheets, forms, guidance documents, copies of the NPDES General Permit and the four 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>.

## CHEMIGATION PROGRAM

The Chemigation program, which functions in cooperation with Nebraska's 23 Natural Resources Districts (NRDs), works to ensure that users of irrigation systems applying fertilizers and pesticides do not contaminate the sources of irrigation water. These regulations are contained in *Title 195 – Chemigation Regulations*.

The NRDs inspect irrigation systems and issue site permits for specific safety equipment that is required to be installed on systems that chemigate. Chemigation permits for chemigation sites are issued annually, and are reported to the Department on a calendar year basis. Since permitting began in 1987, the total number of annual permits issued has followed an upward trend with NRDs issuing 29,457 chemigation permits in 2015, a two percent increase over 2014 permits issued.

A chemigation applicator initially must be certified by the Department, and re-certified every four years. To receive certification, an applicator must complete training and testing, which is provided under contract with the University of Nebraska Cooperative Extension. Applicator certifications also are reported on a calendar-year basis.

In SFY16, 1,233 applicators have been trained, tested and certified, bringing the current number of certified chemigation applicators to 5,426 applicators. Information about chemigation applicator training dates and certified applicators is available after January 1 of each year on the Department's web site, <http://deq.ne.gov>.

On February 14, 2014, the Governor approved Legislative Bill 272 (2014), and on March 18, 2015, the Governor approved Legislative Bill 207 (2015). Both of these legislative bills changed provisions related to the Nebraska Chemigation Act. Specifically, LB 272 requires that the Natural Resources Districts establish permit fees in the amount to pay the reasonable costs of administering the permit program. LB 207 (2015) proposed a more general reference to natural resources district penalty authority consistent. Title 195 -- Chemigation Regulations was amended to become consistent with the amended Nebraska Chemigation Act. The new regulations became effective September 16, 2015.

## AGRICULTURAL CHEMICAL CONTAINMENT PROGRAM

The Agricultural Chemical Containment program regulates the construction and use of commercial and private facilities for the storage, loading, and rinsing activities of bulk liquid fertilizers and bulk liquid and dry pesticides. These regulations are contained in *Title 198 - Rules and Regulations Pertaining to Agricultural Chemical Containment*.

The regulations administered by this program provide specific requirements for design by a Nebraska Registered Professional Engineer, construction materials, containment capacities and maintenance. Although no permit or registration is required, the operation must have a construction plan for the facility and a management program.

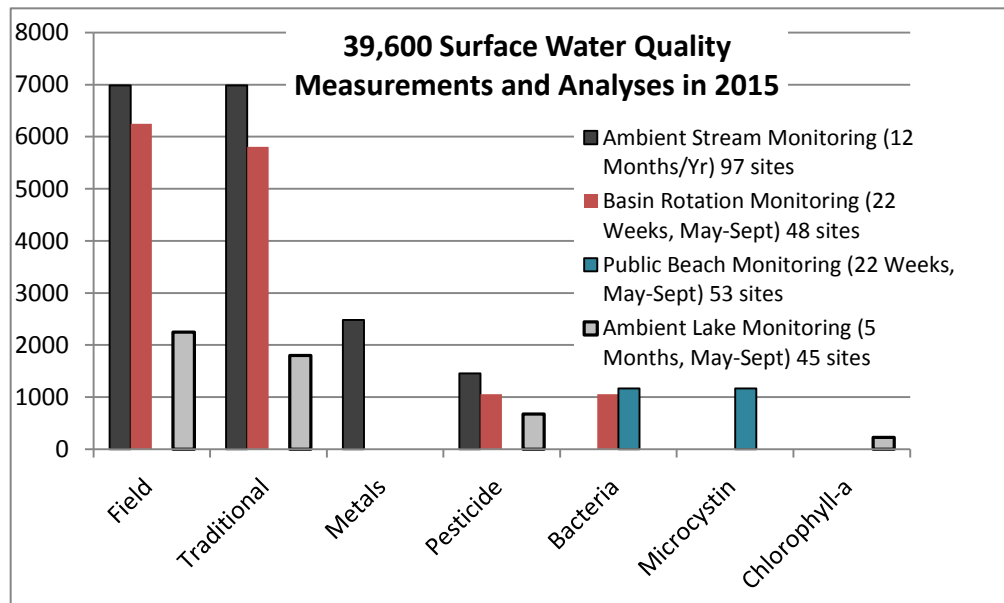
The Department and the Nebraska Department of Agriculture have a cooperative agreement that outlines the procedure for coordinating inspection activities between the two agencies. The agreement enhances the communication between the agencies and provides specific protocols to be followed when investigating Agricultural Chemical Containment complaints. In FY2016, Agriculture Section staff conducted a total of 13 complaint investigations of suspected releases related to agricultural chemical containment systems.

## Water Quality Monitoring and Assessment Programs

### Surface Water Assessment Programs

Staff working with the Surface Water Monitoring and Assessment programs collect physical, chemical and biological water quality samples from streams and lakes, implement surface water improvement projects and prepare surface water quality reports. Some monitoring programs collect stream and lake samples throughout the state; however, most monitoring is focused in one to three major river basins each year in conjunction with a rotating basin monitoring strategy. Monitoring data are used to document existing water quality conditions, assess the support of beneficial uses (such as aquatic life, recreation, and public drinking water supply) and prioritize water quality problems. Current monitoring partners include the Natural Resources Districts (NRDs), Nebraska Public Power District (NPPD), U.S. Army Corps of Engineers (USACE), Nebraska Game and Parks Commission (NGPC), University of Nebraska-Lincoln (UNL), Central District Health Department (CDHD), and United States Geological Survey (USGS).

Each year, surface water samples are collected at hundreds of locations across the state resulting in nearly 40,000 individual field measurements and laboratory analyses. The graph below shows the number of field measurements made and laboratory analyses performed in 2015 (2016 monitoring was finishing as this report was being prepared).



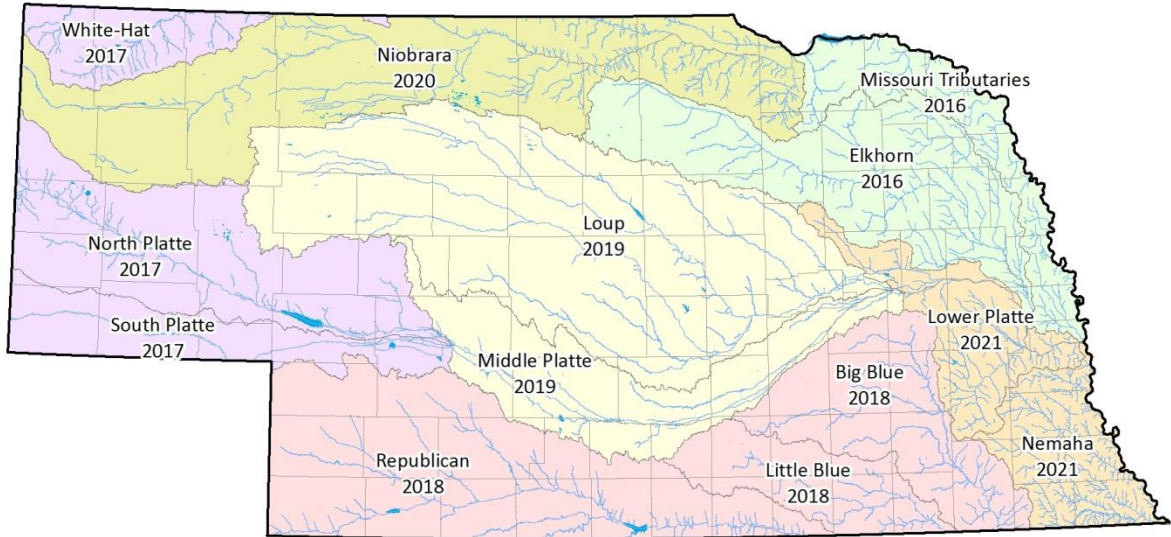
Brief descriptions of the basin monitoring strategy, as well as other water quality monitoring programs are provided below. Additionally, a more detailed overview of the programs are provided in the Department’s annual publication Water Quality Monitoring Report:

<http://deq.ne.gov/publica.nsf/Pages/WAT233>

**Basin Rotation Monitoring Program** — The Basin Rotation Monitoring Program (BRMP) targets one to three river basins each year for intensive monitoring. Targeting resources in this manner improves NDEQ's ability to identify and remediate water quality problems and allows resources to be focused where they can produce the greatest environmental results. During a six-year cycle, all 13 major river basins in the state are intensively monitored (see map below for details).

In 2016, a total of 43 stream sites in the Elkhorn and Missouri Tributaries basins were sampled weekly from May through September. A total of 946 stream samples were analyzed for the 15 parameters collected for this program.

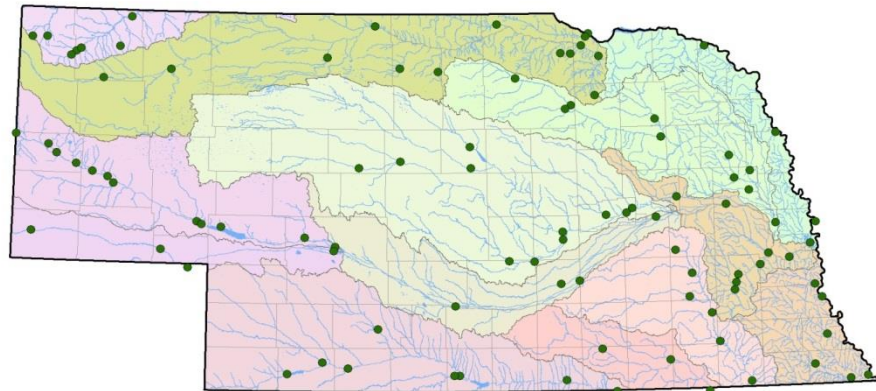
**Six-year basin rotation monitoring schedule**



**Ambient Stream Monitoring Program** — The Ambient Stream Monitoring Program (ASMP) has a network of 100 fixed stations located on main stem and tributary streams across the state (see map below for locations).

The primary objectives are to provide information on the status and trends of water quality in streams within each of the state's 13 major river basins and link assessments of status and trends with natural and human factors that affect water quality. During 2016, approximately 1,200 water samples were analyzed for the 32 parameters collected for this program.

**Locations of NDEQ Ambient Stream Monitoring Program sites**



**Public Beach Monitoring Program** — Since 2004, NDEQ has conducted sample collection at public beaches statewide, for *E. coli* bacteria and the microcystin toxin. The microcystin toxin is hepatotoxin that can be produced by blue-green algae also known as a harmful algal bloom (HAB). The risks to humans come from external exposure (prolonged contact with skin) and from swallowing the water. Symptoms from external exposure are skin rashes, lesions and blisters. Symptoms from ingestion can include headaches, nausea, muscular pains, central abdominal pain,

diarrhea and vomiting. Severe cases could include seizures, liver failure and respiratory arrest. The severity of the illness is related to the amount of water ingested, and the concentrations of the toxins. Incidents in 2004 with dogs dying caused by drinking water from lakes that were undergoing a HAB led NDEQ to begin monitoring public waters for the presence and concentration of microcystin.



In 2016, monitoring occurred weekly at 53 beaches on 50 different lakes from May through September. Over 1,200 samples were assessed for each parameter. Our collection protocols allow for samples to be collected, analyzed and reported to the public weekly before the weekend when lakes typically experience the most usage. Results are posted to the NDEQ website by Thursday afternoon with press releases on affected lakes being sent to area newspapers Friday morning.

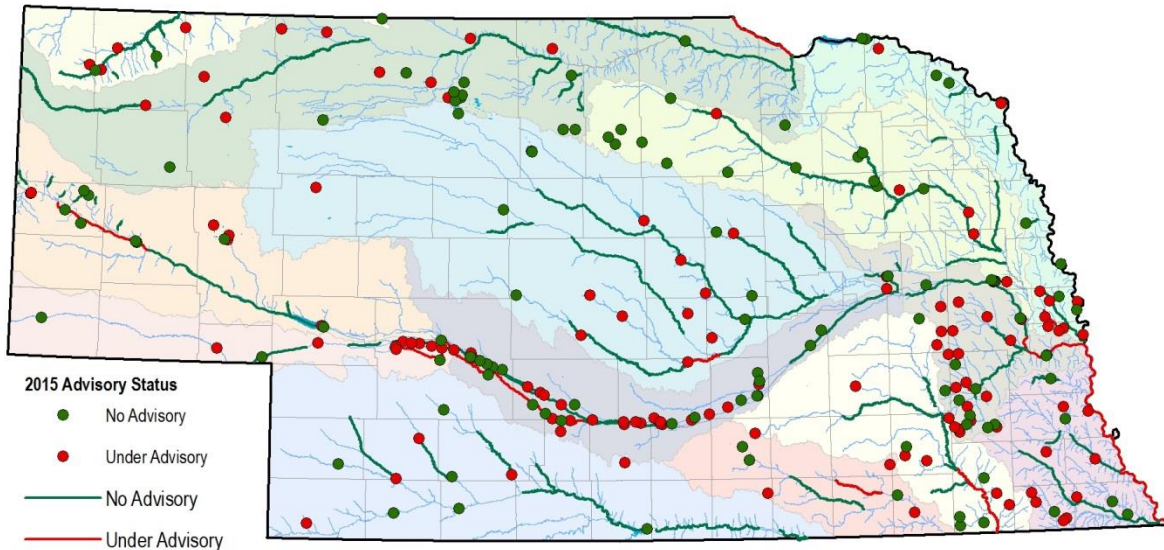
Levels of microcystin above 20 ppb result in public health alerts being issued and signs are then posted recommending full body contact activities in the water be avoided. In 2016, health alerts were issued on ten different lakes and the amount of time the lakes were on alert ranged from two to ten weeks. Results and health alerts are listed weekly during the recreational season on the NDEQ's web site <http://deq.ne.gov>.

**Fish Tissue Monitoring Program** — The NDEQ has been sampling and assessing toxins in fish tissue annually since 1978. In 2016, a total of 92 fish tissue samples were collected from 10 streams and 35 lakes within the Elkhorn and Missouri Tributaries River basins for analysis of pollutants. The University of Nebraska-Lincoln (UNL) School of Natural Resources Department assisted in collecting tissue samples from the Missouri River.

The report “Regional Ambient Fish Tissue Program – 2015 Data Assessment Report” and current list of advisory sites can be found at DEQ’s web site, <http://deq.ne.gov>. The report is located at Publications and Forms/Water Publications/Water Publications by Type/Reports. The direct URL is: <http://deq.ne.gov/Publications/Pages/WAT225>. A summary of fish advisory information is easily located at DEQ’s web site by entering “fish” in the Search NDEQ Web box located on the right side of the Home page. The direct URL is: <http://deq.ne.gov/NDEQProg.nsf/OnWeb/FCA>.

Currently, Nebraska has 142 state-issued advisories. The primary contaminants of concern in fish tissue in Nebraska and most other states are mercury and polychlorinated biphenyl compounds (PCBs). Fish Consumption Advisories are risk-based calculations centering on a 70 kilogram (~154 pound) person eating 8 ounces of fish caught in the specified locations per week. See maps below for current advisory locations.

### Lake and Stream Fish Consumption Advisory Locations in Nebraska Through 2015



**Stream Biological Monitoring Program** — This program is used to assess the health of streams by evaluating the composition and numbers of resident aquatic macroinvertebrate and fish communities. The Department’s fish surveys have also provided information on changing abundances and ranges of fish in the state. During 2016, a total of 34 stream sites were sampled in the Elkhorn and Missouri Tributaries River basins.

**Lake Monitoring Program** — In 2016, 48 lakes and reservoirs were sampled monthly May through September for physical /chemical parameters by NDEQ and its lake monitoring partners which currently includes the USACE and Nemaha NRD. The Department monitors these resources to determine if water quality is suitable for fish and other aquatic organisms to survive and reproduce. Approximately 240 samples were collected at deep water locations and assessed for 15 parameters with additional profiles collected from mid-lake locations.

**Fish Kill and Citizen Complaint Investigations** — The Surface Water Unit (SWU) responds to reports of fish kills and other environmental concerns of citizens related to surface water. On-site investigations are conducted, as needed, to document existing water quality conditions, surface water quality standards violations and identify pollution sources and responsible parties. A total of 17 fish kills were reported between July 1, 2015 and June 30, 2016. Nine of the reported fish kills were attributed to low dissolved oxygen levels within the waterbody, whereas four were the result of disease, one was the result of low water levels compounded with high water temperatures, one was the result of livestock waste and two were the result of an undetermined pollutant.

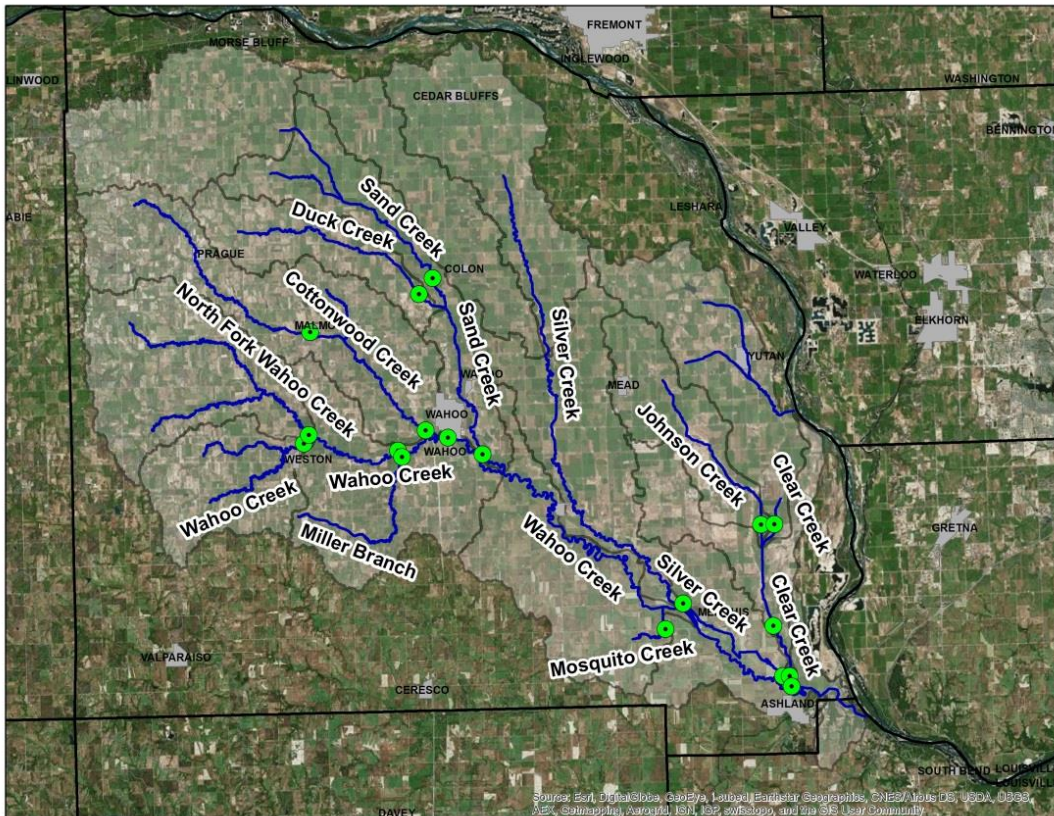
Between July 1, 2015 and June 30, 2016 the SWU received 50 notifications of complaints concerning surface water issues. While many of these cases were referred to other Department programs that more closely relate to the problem, sometimes the SWU assists by providing observations or samples to help document conditions.

**Stream Nutrient Assessment Pilot Study** – In 2015, the Department piloted a methodology to assess impacts from nutrients on the biology of streams based on the State of Ohio’s Stream Nutrient Assessment Protocol (SNAP). Rather than rely on nutrient values which can be transient and highly variable, SNAP integrates stream biology, dissolved oxygen variability, and chlorophyll a measurements to directly indicate whether nutrients may have adversely impacted the aquatic

life uses of a stream. The purpose of this pilot program is to see whether the methodology could be successfully implemented in Nebraska and whether meaningful data could result from the effort. Ten BRMP sites were chosen to collect metrics on fish, aquatic macroinvertebrates, 24 hour dissolved oxygen variation, habitat, benthic chlorophyll *a*, and algal composition in 2016. These data along with the weekly nutrient data collected throughout the summer months for the BRMP at these sites will be assessed and evaluated as this study moves forward.

**Wahoo Creek Special Study** – The Wahoo Creek Special Study (WCSS) was developed so that NDEQ can work towards the goal of assessing all stream segments within the Wahoo Creek watershed, while at the same time, providing information to better design, implement and evaluate sub-watershed projects to reduce pollutant loads and restore and protect the designated uses of stream segments in the watershed. In 2016, the WCSS encompassed the collection of weekly surface water samples from May 1- September 30 at 18 stream locations within the Wahoo Creek watershed. In addition, biological sampling (aquatic macroinvertebrates and fish) and habitat measurements were conducted at all 18 sites while periphyton and chlorophyll *a* samples were collected at nine of these sites. The UNL School of Natural Resources Department and the Lower Platte North NRD is assisting NDEQ with aspects of field data collection and bacteria analysis for this ongoing study.

#### WCSS sampling locations within the Wahoo Creek watershed



**Integrated Report** —States are required by the federal Clean Water Act to prepare a biennial water quality report called the Integrated Report. The Integrated Report provides a comprehensive summary of the status and trends of surface water quality in Nebraska and includes a list of impaired surface waters that do not support their assigned beneficial uses. The 2016 Water Quality Integrated Report, which was approved by the EPA in April 2016, is available on NDEQ's web site <http://deq.ne.gov>. The report's direct URL is: <http://deq.ne.gov/Publications/Pages/WAT234>



**Nebraska Water Monitoring Programs Report** — A report summarizing the monitoring programs performed by NDEQ called the “Nebraska Water Monitoring Programs Report” was prepared again in 2015. This report describes the numerous monitoring programs NDEQ is involved with, its partners, and several highlights of recent monitoring efforts. The 2015 Nebraska Water Monitoring Programs Report is available on the NDEQ's web site <http://deg.ne.gov>, by selecting Your Environment (Welcome to the NDEQ box located in the center of Home page)/Water Quality Monitoring Report. The direct URL is: <http://deg.ne.gov/publica.nsf/Pages/WAT233>

## Groundwater Assessment Programs

**Groundwater Quality Monitoring Report** — Legislation passed in 2001 directed NDEQ to issue an annual report to the Legislature concerning the quality of the groundwater in Nebraska. The first of these reports was issued December 1, 2001. These reports summarize the water quality monitoring efforts of the Natural Resources Districts, NDEQ, and other state, local and federal agencies, and can be found on NDEQ's web site, <http://deg.ne.gov>. (Select Publications, then select Water Quality, then select 2015 Groundwater Quality Monitoring Report. Or, the Water Quality Division reports' index URL is: <http://deg.ne.gov/publica.nsf/pages/WAT222>.) Statistics and maps showing nitrate-nitrogen groundwater monitoring results as well as statistics for three of the 241 agricultural chemicals detected in the state are presented. The report uses data from the Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater, developed cooperatively by the Nebraska Department of Agriculture, University of Nebraska-Lincoln, and NDEQ using federal funding. These data are accessible to the public on the Nebraska Department of Natural Resources web site, <http://dnr.ne.gov>.

**Hydrogeologic Studies and Reviews** — The Groundwater Unit is responsible for hydrogeologic review of various NDEQ projects and programs to determine possible effects on groundwater quality and to recommend possible courses of action. Programs for which this review is performed include leaking underground storage tanks, surface spills, underground injection control, wastewater treatment facilities, septic systems, NPDES permits, livestock waste control facilities, the Natural Resources Districts' Groundwater Management Plans, and others.

In addition, the Groundwater Unit performs reviews and oversees remediation if a situation does not fall under another agency program and is of environmental significance. Unit personnel continue to take responsibility under Title 118 — Groundwater Quality Standards and Use Classification for many site investigations, and have sampled and supervised site cleanups.

**Groundwater Management Areas** — The Groundwater Management Area (GWMA) program focuses on assessing areas where groundwater problems from nonpoint source contaminants (such as agricultural chemicals) exist or are likely to exist. The NDEQ can designate a Groundwater Management Area based off of detailed field studies (see table) conducted by NDEQ personnel. NRDs can also designate Groundwater Management Areas acting on their own authority, the Ground Water Management and Protection Act. To date, the NDEQ has designated three areas and 22 of the NRDs have designated GWMAs within their jurisdiction. The NRDs are responsible for implementation of many aspects of this program. More recently, four NRDs have worked together along with the NDEQ to designate the Bazile Groundwater Management Area along with a plan to address nitrate issues. Public outreach and Best Management Practices are a large component of this plan.

### NDEQ Detailed Studies of Groundwater Quality

Beatrice/DeWitt, 1988	Northern Middle Republican, 1995
Superior, 1988	Lower Republican, 1996 - 1997
Fremont, 1988	Eastern Cheyenne County, 1996
Eastern Upper Big Blue, 1989	Box Butte County/Mirage Flats, 1998
Wilcox/Hildreth, 1989	Southern Lower Elkhorn, 1999
York/Polk County, 1990	Eastern Lower Loup, 2000
Red Willow/Hitchcock Co., 1990	Eastern Sheridan County, 2001
Western Upper Big Blue, 1991	Humboldt, 2001
Eastern Little Blue, 1992 - 1994	Keith-Lincoln County, 2002 - 2003
Deuel County, 1992	Bazile Triangle, 2004
	North of Swanson Reservoir, 2005

**Underground Injection Control (UIC)** — The Underground Injection Control (UIC) program reviews and issues permits, conducts inspections and performs compliance reviews for wells used to inject fluids into the subsurface. The program must ensure that injection activities are in compliance with state and federal regulations, and that groundwater is protected from potential contamination sources. Injection wells are classified by activity. Most wells are Class I, II, III, and V wells. Class II wells are associated with oil and gas production, and are regulated by the Nebraska Oil and Gas Conservation Commission. NDEQ has authority over and manages Class I, III, and V wells. Class IV wells are illegal and have never been allowed in Nebraska.

Three Class I injection wells are currently permitted within the state. The permits are issued for injection of wastewater below the lowermost underground source of drinking water. Two Class I well permits are issued to the Crow Butte Resources uranium mine near Crawford and the other to the City of McCook.

Class III wells are used to inject fluids for the purpose of extracting minerals. The only Class III wells in the state are at the Crow Butte Resources uranium facility near Crawford. Crow Butte Resources operates over 5100 Class III wells as of October 1, 2016.

Injection wells not included in the other specific classes are considered to be Class V wells. Common examples of Class V wells include: open-loop heat pump systems, large capacity septic systems, and sub-surface drip irrigation systems.

**Mineral Exploration Program** — The Mineral Exploration program issues and reviews permits, conducts inspections, and performs compliance reviews for holes drilled, driven, bored, or dug for the purpose of mineral exploration. These permits are issued to persons exploring for potential mineral resources such as consolidated rock; sand and gravel; or material commingled, in solution, or otherwise occurring beneath the surface or in waters of the State, and are regulated under Title 135 – Rules and Regulations for Mineral Exploration Holes. This type of exploration specifically excludes oil and gas exploration, which is regulated by the Nebraska Oil and Gas Conservation Commission.

Wells that are drilled for the production of mineral resources are regulated as Class III injection wells, and are governed by Title 122 – Rules & Regulations for Underground Injection and Mineral Production Wells.

**Wellhead Protection** — The State Wellhead Protection program is a voluntary program, which assists communities and other public water suppliers in preventing contamination of their water supplies. State Wellhead Protection Program activities include delineating the zones of influence which may impact public supply wells, training communities on how to inventory all potential sources of pollution within these vulnerable zones, working with the local officials to identify options to manage these potential pollution sources, working on monitoring plans, and helping develop contingency plans to provide alternate water supplies and site new wells. All community public water supplies have a Wellhead Protection Area map. The Nebraska Legislature passed LB 1161 in 1998 (Neb. Rev. Stat. §46-1501 - 46-1509), authorizing the Wellhead Protection Area Act. This Act sets up a process for public water supply systems to use if they choose to implement a local Wellhead Protection plan. One hundred eleven community water supplies have approved Wellhead Protection Plans as of October 1, 2016.

## Water Quality Planning

### Surface Water Quality Standards

NDEQ develops water quality standards that designate the beneficial uses to be made of surface waters and the water quality criteria to protect these assigned uses. Title 117 - Nebraska Surface Water Quality Standards forms the basis of water quality protection for all surface water quality programs conducted by NDEQ. The federal Clean Water Act specifies that states review their water quality standards and revise where appropriate once every three years.

New federal rules at 40 CFR Part 131 regarding how states must conduct their Water Quality Standards programs under the federal Clean Water Act became effective October 20, 2015. Changes in the federal rule involve the EPA Administrator's Determinations, Designated Uses, Triennial Review, Antidegradation, Variances, and Compliance Schedule Authorizing Provisions. These new rules apply to Nebraska's Surface Water Quality Standards program and will require more accountability and reporting to EPA. Preparations were made during the year for the next triennial review of the Standards considering the changes in the federal requirements.

The standards are available on NDEQ's web page at <http://deq.ne.gov/>. In addition to developing the standards, the Water Division develops and implements procedures for applying the standards to surface water quality programs, such as NPDES permits.

### Section 401 Water Quality Certification

The Water Division Planning Unit administers the Water Quality Certification Program in accordance with Section 401 of the Clean Water Act. This program evaluates applications for federal permits and licenses that involve a discharge to Waters of the U.S. and determines whether the proposed activity complies with Nebraska Surface Water Quality Standards. If the activity is likely to violate the standards, conditions for complying with the standards will be issued with the certification, or certification will be denied. The U.S. Army Corps of Engineers Section 404 Dredge and Fill Permits and Federal Energy Regulatory Commission licenses are examples of federal regulatory programs that require State Water Quality Certification before federal permits or licenses can be issued. NDEQ reviewed 366 Section 404 permit applications during FFY2016.

Although NDEQ has no permitting mechanism for projects in non-federally jurisdictional waters (such as isolated wetlands which are Waters of the State), voluntary procedures have been developed to assist project sponsors so they will meet state water quality standards. Project sponsors are encouraged to contact NDEQ before implementing their project so that the plans can be discussed in light of Title 117 - Nebraska Surface Water Quality Standards. NDEQ can then issue a Letter of Opinion which provides recommendations for implementing the project in a manner that protects water quality in streams, lakes, wetlands, and associated important wildlife habitat.

### Impaired Waters and Total Maximum Daily Loads (TMDLs)

The Federal Clean Water Act, Section 303(d) requires states to prepare a list of impaired surface waters. These are waters that do not support the assigned beneficial uses as listed in Nebraska Surface Water Quality Standards. From this list, states are to prepare TMDLs that

include the pollution control goals and strategies necessary to improve the quality of these waters and remove the identified impairments so that these waters may meet their assigned beneficial uses. EPA and NDEQ have agreed to a new alternative to a TMDL which is designed to meet water quality standards quicker called a 5-alt. While a TMDL is still required of all waterbodies listed as impaired, this 5-alt provides a quicker alternative for planners to develop proper protection activities for a watershed where a project sponsor intends to implement BMPs.

As in previous years, NDEQ has opted to combine the required CWA Section 303(d) list with the Section 305(b) report on the general status of water quality in the state. This combination is referred to as the Integrated Report. The 2016 Integrated Report is available on NDEQ's web site <http://deq.ne.gov>, by selecting Water, then selecting Water Quality Planning. Or, the report's direct URL is: <http://deq.ne.gov/Publica.nsf/Pages/WAT234>. The 2016 Integrated Report was approved by EPA in April 2016.

The following table summarizes NDEQ's work in this area.

TMDL Category	TMDL Name	# of Waterbodies	Pollutant	Status
<b>4a</b>				
	Republican River Basin	1	E. coli	NDEQ Planning Draft Development
<b>5-alt</b>				
	Elkhorn River Basin Plan	8	E. coli	NDEQ & LENRD Developing Draft
	Nemaha River Basin Plan	7	E. coli	NDEQ & NNRD Developing Draft
	Papio-Missouri River Tributaries Plan	3	E. coli	NDEQ & PMRNRD Developing Draft
	South Loup River Basin Plan	4	E. coli	NDEQ & LLNRD Developing Draft
	White River Basin Plan	5	E. coli	NDEQ & UNWNRD Developing Draft
	Lewis and Clark NRD Basin Plan	7	E. coli	NDEQ & LCNRD Planning Draft Development
	Lower Platte South Basin Plan	9	E. coli	NDEQ & LPSNRD Planning Draft Development

(LENRD = Lower Elkhorn NRD; NNRD = Nemaha NRD; PMRNRD = Papio-Missouri River NRD; LLNRD = Lower Loup NRD; UNWNRD = Upper Niobrara White NRD)

## Nonpoint Source Management Program

The Nebraska Nonpoint Source Management Program is an integrated statewide effort to protect and improve water quality impacted by nonpoint source pollution. The program is of particular significance because nonpoint source pollution is the most prevalent, widespread cause of water quality degradation in Nebraska. Nonpoint source pollutants of particular concern in Nebraska include those associated with runoff and percolation from agricultural and urban areas. Initiated in 1990, the program is largely funded by the Environmental Protection Agency (EPA) through Section 319 of the federal Clean Water Act and involves a multitude of federal, state and local agencies and organizations.

State nonpoint source problems and priorities are defined in the primary guidance document of the Nonpoint Source Management Program: "Strategic Plan and Guidance for Implementing the Nebraska Nonpoint Source Management Program 2015-2030." The program emphasizes watershed and groundwater management area planning, targeting of 303(d)-listed impaired waters, community participation in watershed plan development. Eligible projects and activities were refined in the 2014 national Section 319 program guidance to emphasize implementation of 9 element watershed management plans.

Major components of the Nonpoint Source Management Program include development of 9 element watershed management plans, implementation of nonpoint source pollution management

projects through Section 319 grant funding, nonpoint source pollution monitoring and assessment, and program administration. Nonpoint source monitoring and assessment is an integral and crucial element for the successful implementation of the program. Water quality information is needed to identify and prioritize nonpoint source problem areas, develop watershed management plans and TMDLs, and evaluate the effectiveness of measures implemented to abate nonpoint source pollution. Nonpoint source monitoring activities conducted during the past year included investigative water quality evaluations, detailed watershed assessments, and effectiveness evaluations of implemented nonpoint source management measures.

In FFY 2016, the Nonpoint Source Management Program provided and managed 30 Section 319 grants to local sponsors of eligible projects in the two categories: 1) Large Competitive Projects (generally under \$300,000) and 2) Small Project Assistance (under \$15,000). Of the 30 grants managed, 27 were large multi-year projects, with total funds of all projects equaling \$3,897,185. Three small projects were managed with total funds equaling \$35,100. A total of 238 large projects have been funded through Section 319 funds since the beginning of the program in 1990 and have addressed both surface water and ground water quality concerns. The amount of 319 grants funds received by NDEQ between 1990 and 2016 totals \$71,569,848.

Major program highlights this year include the completed renovations of two lakes: Lake Helen in Gothenburg and Plum Creek Park Lake in Lexington. In addition, two success stories were submitted to EPA in 2016 regarding the delisting of impaired waterbodies as a result of 319 projects. Big Indian Reservoir in Wymore and Big Springs Community Lake in Big Springs were both fully restored for aesthetic use following watershed treatment and lake renovation.

### **Source Water Assessment and Protection**

When Congress amended the Safe Drinking Water Act in 1996, one of the amendments created the Source Water Assessment Program (SWAP) for public drinking water protection. Every state has developed a Source Water Assessment Program with the following basic components:

- 1) Delineate the source of each public drinking water system;
- 2) Identify potential contaminants in the source area;
- 3) Determine the drinking water source's susceptibility or vulnerability to contamination; and
- 4) Make the assessments available to the public.

NDEQ is implementing their EPA-approved program in cooperation with the Nebraska Health and Human Services System, Nebraska Rural Water Association, the Natural Resources Districts, and numerous other stakeholders. All assessments were completed and distributed by August 2003; however, delineations continue to be updated as needed upon receipt of new information about public water supply systems.

Beginning in SFY2004, funds were set aside from the Drinking Water State Revolving Fund (DWSRF) to finance source water protection projects statewide. Funds are provided to political subdivisions that operate a public water system serving a population of 10,000 or less. Eligible activities address drinking water quality, quantity, and/or education within the source water protection area. To date, Source Water Protection funds have been distributed to complete 89 separate Source Water Protection projects throughout the state. In SFY2016, Source Water Protection funds were distributed to the following public water systems: Auburn, Fairbury, and Ohioa. The total amount available in SFY2016 was \$100,000.

**Water Quality Data Handling and Storage**

NDEQ has implemented the STORET electronic storage system for water quality data. This will make Nebraska surface water quality information available to anyone who has an internet connection. The web site for this information is [www.epa.gov/storet](http://www.epa.gov/storet). During FY2016, NDEQ continued to add monitoring results to the STORET database, monitoring results conducted on surface waters of the state. The end result will be the centralization of NDEQ's previous and current surface water quality monitoring information.

## Wastewater Permitting and Certification Programs

There are a number of certification and permitting programs relating to wastewater treatment facilities, ranging from certification of those who work on septic systems to the permitting of large municipal facilities. These programs include:

- **Onsite Wastewater Treatment Facilities Program** – This program administers system design, professional certification and system registration requirements that affect mostly smaller wastewater treatment or storage systems, such as septic systems, household lagoons, and holding tanks, and anyone doing work on these types of facilities.
- **Wastewater Treatment Facility Operator Certification Program** – This program administers the certification program for wastewater treatment facility operators to ensure proper operation and maintenance of these facilities.
- **Wastewater Construction Permit Program** – The construction permit program establishes design standards for commercial, industrial, and municipal wastewater facilities that are planned for construction. The program also maintains regulations for the operation and maintenance of wastewater facilities and for the proper abandonment of facilities when they are removed from service.
- **The National Pollutant Discharge Elimination System (NPDES) Program** – This program is responsible for regulating discharges of pollutants to Waters of the State to maintain and protect the water quality of Nebraska's streams, lakes, rivers, and groundwater. Other NPDES-related programs include:
  - **Combined Sewer Overflows** -- to address municipalities that have combined storm water and wastewater sewer systems.
  - **Wastewater Treatment Sludge and Biosolids Disposal** -- requirements for treatment and disposal of municipal and industrial wastewater sludges and biosolids, and
  - **Storm Water Permit Program** -- involves: 1) Construction sites of a specific size; and 2) the Municipal Separate Storm Sewer System permits for medium and large municipalities.
- **The Nebraska Pretreatment Program** -- This program functions to protect municipal wastewater collection and treatment systems from damage or overloading by industries.

NDEQ initiated the **Assessing Wastewater Infrastructure Needs (AWIN)** project to assist Nebraska communities with environmental compliance with existing or upcoming regulations. The project is based in NDEQ's Wastewater Division, but it can involve other NDEQ programs, as well as other state and local agencies.

Many communities in the Upper Great Plains States and other regions of the country have population declines, aging populations, declining median household income, and limited or no job availability, all of which lead to limited resources to operate their utilities. AWIN uses data from the latest census and other available data sources to generate a rating for communities using modeling tools. NDEQ uses this information, the communities' input, their consultants' input, and NDEQ observations to make adjustments in standard procedures and design conditions. A few examples of changes include better interest rates on loans, longer compliance schedules, and designs which take into account future declining population.



## Onsite Wastewater Treatment Facilities Program

The requirements administered by the Onsite Wastewater Program cover septic systems, wastewater holding tanks, individual household wastewater lagoons, and other decentralized wastewater treatment systems not connected to municipal wastewater treatment systems. The majority of onsite systems are for single households. However, there are onsite or decentralized systems that provide wastewater treatment for multiple houses (these systems are sometimes called cluster systems), mobile home parks, churches, recreational facilities, camper trailer parks, a variety of businesses with high strength wastes (such as restaurants, butcher shops, and wineries), equipment maintenance buildings, and other commercial or industrial facilities. The U.S. EPA estimates that nearly one in four households depend on onsite systems for wastewater treatment.

The *Private Onsite Wastewater Treatment System Contractors Certification and System Registration Act* (Act) passed in 2003 required that anyone doing work associated with onsite wastewater systems be certified by the State of Nebraska. The Act provided for the registration of all onsite wastewater systems constructed, reconstructed, altered, or modified. The law also provided for certification and system registration fees to support the program.

The Act was amended in 2007 by LB333, which provided for application fees for permits and subdivision approvals and established a fee waiver provision for government inspectors. Nebraska Administrative Code *Title 124 – Rules and Regulations for the Design, Operation and Maintenance of Onsite Wastewater Treatment Systems* was last amended, effective August 11, 2012. Onsite wastewater or septic system regulations administered by NDEQ were first enacted in 1977.

Certification of onsite professionals covers design, installation, inspection, maintenance, and pumping of onsite systems. Subdivision review and approval requirements apply when onsite systems will be used on any proposed development lots that will have less than three acres suitable for building. Program staff work to make sure that the design, installation, modification, repair, and maintenance of onsite wastewater systems is performed by certified professionals who understand Title 124 and the proper practices of their trade.

The Onsite Program is focused on the protection of surface and groundwater in the area of proposed onsite systems through the use of standardized design requirements, the certification of onsite professionals, review and approval of plans for subdivision development, and review of plans and issuance of permits for large onsite systems.

A certification by examination is required for professionals to obtain initial certification. Currently, 526 people hold onsite wastewater certificates. Some professionals obtain certification in multiple categories. The categories of certification are: Installer (Master and Journeyman), Pumper (Master and Journeyman), Inspector, and Soil Evaluator. Current certificates expire December 31, 2017, and may be renewed via continuing education requirements or re-examination. Certificates must be renewed every two years.

The registration requirement for onsite wastewater systems provides a statewide inventory of new or modified onsite systems. Since registrations began in 2004, nearly 19,500 systems have been registered, with 1,499 systems registered in FY16.

NDEQ has cooperative agreements with other governmental agencies (state and local) to help implement and coordinate the program. There are currently 16 certified inspectors from local

governments. NDEQ also works cooperatively with Nebraska Department of Health and Human Services personnel to resolve health-related onsite wastewater handling issues.

There were 189 new onsite-related complaints in FY16 and program staff resolved a total of 139 complaints, which includes both old and new complaints. Notices of Violation were issued to 26 entities. Typical types of complaints that are investigated include: failed systems that have a surface discharge, and which may pose a threat to public health or the environment, and installation or performance of work on onsite wastewater systems by individuals who are not certified by NDEQ.

The regulations set minimum design standards for all onsite wastewater treatment systems and include an “Authorization by Rule” provision which allows for the installation of typical onsite systems by a certified professional and subsequent operation by the owner without a site-specific construction or operating permit. These standard conforming systems constitute the vast majority of all new and replacement onsite systems.

Department engineers review construction/operating permit applications for systems that do not meet requirements for Authorization by Rule. Title 124 also provides for Department approval prior to construction of any subdivision with any lot less than three acres where onsite wastewater treatment is proposed. In the past year, the program received 51 applications for construction/operating permits and six applications (totaling 39 subject lots) for subdivision review and approval.

The Private Onsite Wastewater Treatment System Advisory Committee advises NDEQ on administration of the Act and proposed rules and regulations. Program staff have worked and continue to work with many organizations to educate the public about the importance of proper installation and maintenance of onsite wastewater treatment systems and to improve the knowledge and skills of the various practitioners who install and maintain onsite systems. These groups include: local health offices, county and city planning and zoning, the Nebraska Onsite Wastewater Association, the Nebraska Onsite Wastewater Task Force, UNL Cooperative Extension, Nebraska Realtors, Nebraska Association of County Officials, and the Groundwater Foundation,

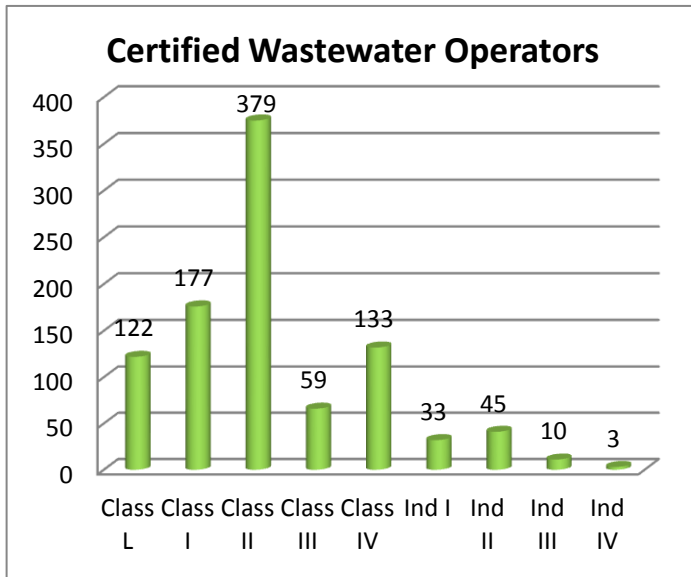
### **Wastewater Treatment Facility Operator Certification Program**

Competent and qualified operators are a critical component to ensure that wastewater treatment plants are well run and protect the environment. The life span of treatment facilities can be prolonged and proper operation and maintenance programs can protect the owner’s substantial financial infrastructure investment. The Wastewater Treatment Facility Operator Certification Program was established to help accomplish this. The program administers the operator certification program, which includes administering certification exams, issuing certificates, evaluating continuing education programs, tracking certificate compliance, processing certificate renewals, and conducting facility ratings to determine operator needs, in addition to continuing to evaluate ways to help wastewater treatment facility operators obtain continuing education to maintain their certification and help them do their jobs.

This program administers nationally accredited certification exams to new wastewater operators, or to operators wishing to advance their credentials, and issues certification renewals for operators who have obtained the necessary Department-approved continuing education as provided for in *Title 197 – Rules and Regulations for the Certification of Wastewater Treatment Operators in Nebraska*. Staff will continue to monitor those facilities that are required to have certified operators and work with them to help them comply with the regulations.

Municipal, commercial, compatible industrial facilities, and non-compatible industrial facilities are required to employ certified operators based on the point rating assigned to each facility by NDEQ. The point rating for each facility is based on the design flow, type of treatment, instrumentation and control systems, and laboratory analysis requirements at each location. Certified Operators for municipal, commercial, and compatible industrial facilities are classified under the following categories: Class L (lagoons), Class I, Class II, Class III, and Class IV, according to the type of facility and its point rating. Certified operators for non-compatible industrial facilities are classified under the following categories: Industrial I, Industrial II, Industrial III, and Industrial IV, according to the type of facility and its point rating.

The Wastewater Operator Certification Program currently has 871 certified operators with municipal/compatible certificates. In



addition, there are currently 90 certified operators with industrial certificates (see chart at left for a breakdown of certified wastewater operators by category).

NDEQ also reviews applications and issues operator certification exemptions for towns and other entities that have full-retention non-discharging lagoon wastewater treatment facilities that may not require qualified operators due to very limited maintenance and operational needs. The exemption is for a fixed four-year period and the period under current review will end at the end of 2016. NDEQ has contacted a total of 257 facilities potentially eligible for the exemption and, of these, issued four-year operator exemptions to 221 facilities.

In FY16, NDEQ provided 13 Discharge Monitoring Report training sessions and eight operator certification examination sessions. Testing of municipal and industrial wastewater treatment facility operators will continue in FY17.

**Wastewater Construction Permit Program**

The Wastewater Section administers Nebraska's construction permit program for wastewater facilities built in the state. Industries, commercial facilities, and municipal utilities are required to submit the plans and specifications for their projects to NDEQ for review and approval. The construction documents are reviewed to make sure that the collection systems and treatment facilities will function properly and protect the public and the environment from adverse effects.

In FY2016, DEQ reviewed and approved designs for a wide range of projects, including a sewer system for the new Omaha National Cemetery, livestock truck washes, Omaha CSO projects, municipal disinfection systems, and a variety of commercial upgrades. For FY2016, a total of 221 wastewater projects were submitted to NDEQ for review and approval.

Nebraska's design standards for wastewater facilities are found in NDEQ *Title 123 -- Rules and Regulations for the Design, Operation and Maintenance of Wastewater Works*. These standards are updated periodically to keep Nebraska in agreement with regional standards. The

state's design standards are written to encourage the use of proven technologies, but have also allowed the use of innovative designs where they are appropriate.

Title 123 also contains basic rules for the operation and maintenance of collection systems and treatment facilities. One chapter has rules for the proper abandonment of wastewater facilities which have been removed from service. The abandonment rules are intended to protect the public from unsafe site conditions and allow the property to be redeveloped for other uses.

A considerable amount of time every year is spent working with communities that need to upgrade their facilities. Section engineers meet regularly with municipal officials, funding agencies, and consulting engineers to develop affordable projects for Nebraska's communities. AWIN principals were used to evaluate projects for small communities. The section also met with food processing industries, power generating plants, manufacturing facilities, and with several groups who plan to anaerobically digest organic waste products to capture methane.

NDEQ staff recently met with officials from Sarpy County who are planning to create a regional wastewater utility to serve the southern part of Sarpy County. This region is a future growth area. The Agency continues to have quarterly meetings with the City of Omaha to discuss their combined sewer separation project. The meetings have provided an excellent forum for reviewing regulatory and engineering issues. NDEQ has now issued construction permits for 38 of the more than 80 CSO projects that Omaha is expecting to construct during the 18 year construction period.

## National Pollution Elimination System (NPDES) and Related Programs

The Wastewater Section administers permitting programs that regulate point source dischargers of water pollutants, including:

- **The National Pollutant Discharge Elimination System (NPDES) Program**, which is responsible for regulating discharges of pollutants to waters of the State so as to maintain and protect the water quality of Nebraska's streams, lakes, rivers, and groundwater. NPDES programs also include:
  - **Combined Sewer Overflows**, which addresses those municipalities that have combined storm water and wastewater sewer systems.
  - **Wastewater Treatment Sludge and Biosolids Disposal**, which are requirements for treatment and disposal of municipal and industrial wastewater sludges and biosolids,
  - **Storm Water Permit Program** – This permit programs involves: 1) Construction sites of a specific size; 2) the Municipal Separate Storm Sewer System permits for medium and large municipalities; 3) Industrial facilities.
  - **The Nebraska Pretreatment Program**, which functions to protect municipal wastewater collection and treatment systems from damage or overloading by industries.

Activities include issuing permits to monitor and limit pollutants in wastewater discharges and evaluate compliance with the permits and other applicable regulatory requirements of the programs.

### NPDES Permits

Anyone who directly discharges pollutants to waters of the state is required to obtain a permit. NPDES permits control pollutant discharges by establishing wastewater limitations for pollutants and/or requiring permittees to maintain certain operational standards or procedures. Permittees are required to verify compliance with permit requirements by monitoring their wastewater, maintaining records, and/or filing periodic reports.

NDEQ is responsible for developing and issuing NPDES permits, and for ensuring that permitted facilities comply with permit requirements. The regulatory basis for this program is through an Environmental Protection Agency (EPA) delegation agreement with the Department and NDEQ *Title 119 - Rules and Regulations Pertaining to the Issuance of Permits Under the National Pollutant Discharge Elimination System*. The Nebraska NPDES program encompasses a number of different types of discharges including: municipal, commercial and industrial wastewater discharges; livestock waste control; industrial discharges to public wastewater treatment systems (also known as the Nebraska Pretreatment Program); municipal combined sanitary and storm sewer overflows; and industrial and municipal storm water discharges. The graph on the next page titled "NPDES Discharge Authorizations" shows the distribution of permits issued to various types of NPDES dischargers, except Livestock. Information regarding Livestock NPDES permits is found on page 57 of this report.

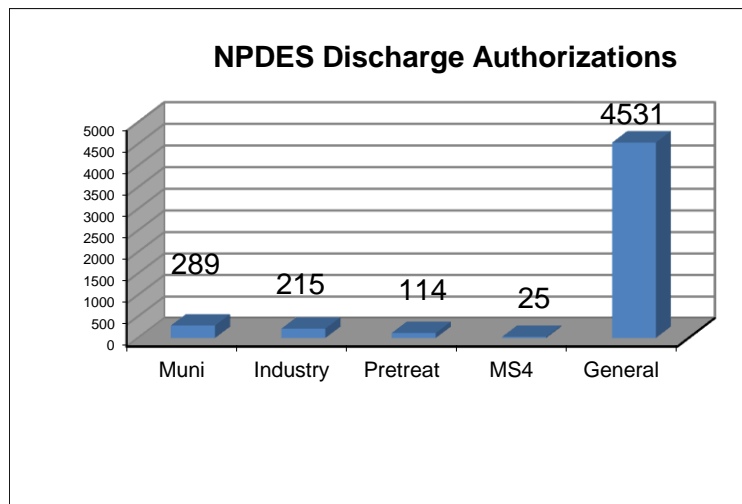
Most NPDES permits limit the discharge of pollutants by establishing effluent limitations for specific pollutants such as carbonaceous biochemical oxygen demand, total suspended solids, and ammonia among others. The permittee is then responsible for testing their wastewater discharge to ensure that the limits are not exceeded. Permits may also limit toxicity in effluents and

permittees may be required to demonstrate that their wastewater is not toxic to aquatic organisms (e.g., daphnia or fathead minnows). The permit may also require development of Best Management Practices Plans to reduce or control pollutant discharges.

The permit development process involves identifying the pollutants of concern, and then developing permit limits based upon the more stringent of either technology-based standards or water quality based standards. Technology-based standards reflect effluent quality that can be achieved using treatment technology that is available to the permittee. NDEQ Title 119 sets forth technology-based standards for municipal facilities and many types of industrial facilities. Technology-based standards can also be developed on a case-by-case basis when necessary.

Water quality based limits are the limits necessary to meet the in-stream water quality standards established in NDEQ *Title 117 - Nebraska Surface Water Quality Standards*. In some instances, where a surface water/groundwater interconnection may be of concern, NPDES permit limits may be based upon NDEQ *Title 118 - Groundwater Quality Standards and Use Classification*.

Permits may be developed and issued on an individual site-specific basis, or they may be developed and issued to apply to facilities with similar activities or effluent characteristics. These two types of permits are respectively referred to as individual permits and general permits. To date, the department has developed and issued general permits for the following activity categories: hydrostatic testing, dewatering, land application of concrete grooving/grinding slurry, pesticides applications to, over, and near Waters of the State, gasoline contaminated groundwater remediation projects, petroleum product contaminated groundwater remediation projects, construction site storm water, and industrial site storm water. Municipal Separate Storm Sewer System (MS4) permits have been issued to entities, including metropolitan areas and counties that meet the criteria of the NPDES Storm Water Program. There currently are 23 metropolitan areas and counties in Nebraska that have received MS4 permits, as well as the Nebraska Department of Roads, and the University of Nebraska-Lincoln. The Construction Storm Water General Permit was reissued, effective November 1, 2016. The Industrial Storm Water General Permit was issued on July 18, 2016. During FY2016, online application processes were utilized for these general permits which streamlined the issuance of coverage to applicants. Determinations for coverage can now be made within a couple of days for qualified applicants.



There are 616 facilities with discharge authorizations under individual permits (municipal, industrial and pretreatment), and 25 municipal storm water permits (MS4). There are 4,531 active facilities authorized to discharge under other general permits. The graph titled "NPDES Discharge Authorizations" (above) provides a summary of this information. The general permits include 3,415 active authorizations under the construction general storm water permit, 165 dewatering including Omaha, 46 hydrostatic testing, 862 industrial storm water, 42 pesticide, and 43 Treated Ground Water Remediation Discharge sites.

**Municipal and Industrial Facilities**

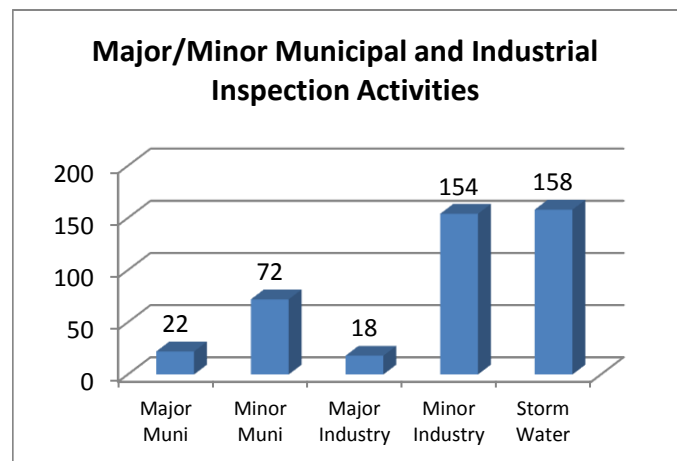
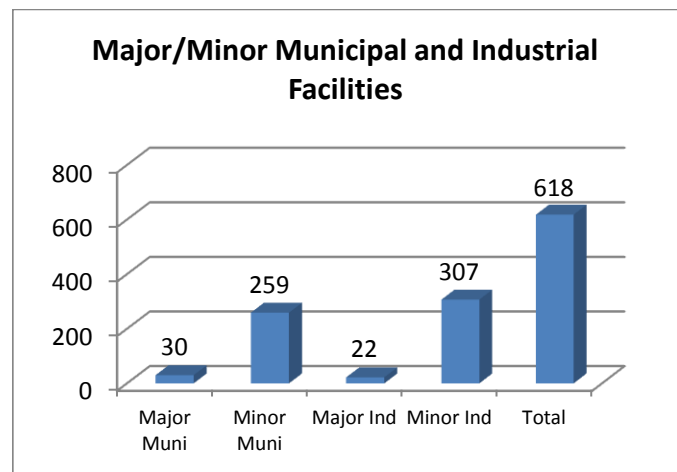
Industrial and municipal facilities are both grouped as major or minor facilities based upon their size and/or their potential to impact the receiving stream. The chart titled "Major/Minor Municipal and Industrial Facilities" provides a numeric break down of these types of facilities.

Municipal and industrial facilities are required to verify compliance with numeric permit limits by monitoring their effluents (i.e., self-monitoring). Monitoring frequency can vary from daily to annually depending upon the pollution and impact potential of the facility. The facility must report monitoring results to the Department; typically this is done on a quarterly basis. However, monitoring results that indicate non-compliance with permit requirements must be reported verbally within 24 hours. Records of all monitoring activities must be kept for a period of three years.

The Section verifies compliance through a variety of activities including reviewing discharge monitoring reports, following up on complaints and incident reports, conducting on-site inspections, and performing effluent monitoring inspections.

During on-site inspections, section personnel walk through the facility and review operational procedures and records. Major industrial and municipal facilities receive annual on-site inspections. The priority of minor facilities inspections is based on discharge compliance histories, incident reports and complaints. Inspectors performed 424 NPDES inspections in Fiscal Year 2016. A breakdown of those inspections is provided in the chart at right. The minor industrial inspections include 108 pretreatment inspections. During selected effluent monitoring inspections, effluent samples are collected and analyzed by the Department to compare with self-monitoring results. Facilities selected for effluent monitoring inspections are chosen based upon pollution potential, past compliance or incident report histories, complaints, and/or Basin Management Approach priorities.

Data generated by facility monitoring and Department on-site and effluent monitoring inspections are reviewed and entered into the federal Integrated Compliance Information System (ICIS) computer database. This database is used to generate facility reports and review facility compliance history.



### **Combined Sewer Overflows**

The Combined Sewer Overflow (CSO) program addresses Omaha's combined storm water and wastewater sewer systems. Omaha's systems were built prior to the existence of secondary sanitary wastewater disposal standards. When storm or snow melt runoff is occurring, these systems may become hydraulically overloaded and excess water flows bypass the treatment system. When bypasses occur, untreated wastewater is discharged into the receiving stream.

The City of Omaha has combined sewers that are subject to storm-induced bypasses of untreated waste. The City submitted a substantively complete long-term control plan on October 1, 2007 in compliance with an Administrative Consent Order between the City and NDEQ. On September 25, 2009, the City submitted their Final Long Term Control Plan, also in compliance with the Administrative Consent Order. This order initially required Omaha to complete the long-term control plan projects by 2024. In 2012 the order was modified to add an additional three years due to the 2011 Missouri River flood. The projects included in the plan span 18 years and are estimated to cost \$1.5 billion. The goal of the projects is to reduce or eliminate combined sewer overflows and comply with State and Federal regulations.

The City of Omaha's CSO NPDES permit has been re-issued effective October 1, 2010 and includes a schedule for project implementation. This schedule utilizes the first five years of project implementation as defined by the Long Term Control Plan.

### **Wastewater Treatment Sludge and Biosolids Disposal**

Disposal requirements for municipal and industrial wastewater treatment sludges or biosolids can be incorporated into NPDES permits. These sludge disposal requirements assure that sludges or biosolids are treated and disposed in a manner that is environmentally sound and protective of human health. Beneficial use, such as land application of biosolids, is strongly encouraged.

On Feb. 19, 1993, the EPA published the federal sludge regulations. Under these regulations, an estimated 330 municipal facilities in the state have additional sludge monitoring requirements. These additional requirements include increased metal and nutrient content analyses; improved records for tracking the amount of sludge and metals applied to each disposal site, and cumulative disposal limits. The Department has not sought delegation of this program from the EPA. The program is managed out of the EPA Region 7 office in Lenexa, KS.

### **Storm Water Program**

In compliance with federal regulations, the NPDES Storm Water Phase I and Phase II Programs regulate the discharge of pollutants in storm water from certain construction sites, industrial facilities and municipal storm sewer outfalls. Phase II was promulgated by EPA in March of 2003. Storm Water Phase II federal regulations lowered the threshold for coverage of construction sites from five acres or more to one acre or more. And, sites that are less than one acre can also be regulated in Phase II, if they are part of a common plan of development or sale. The industrial facilities are defined to include a number of different types of facilities in addition to typical process industries (e.g., landfills, wastewater treatment sites, recycling centers, scrap yards, mining operations, transportation facilities, and hazardous waste facilities). These regulations also increase the number of municipalities and urban areas that are subject to the NPDES program for storm water discharges.



The cities of Omaha and Lincoln were subject to the Municipal Separate Storm Sewer System (also known as the MS4) Program with the implementation of Phase I. Lincoln was issued an MS4 Permit on September 1, 2002. This permit was reissued on July 1, 2008 and January 1, 2013. The Omaha MS4 Permit was issued on October 1, 2003 and was reissued in October 1, 2008. Phase II has expanded the areas requiring coverage under an NPDES MS4 Permit to include the urbanized areas in Douglas, Sarpy, Lancaster, Washington and Dakota Counties. An NPDES permit for Douglas, Sarpy and Washington Counties was issued effective August 1, 2004 and reissued October 1, 2009. The Dakota County MS4 permit was issued effective December 1, 2004.

The Department determined that the communities of Beatrice, Columbus, Fremont, Grand Island, Hastings, Kearney, Lexington, Norfolk, North Platte and Scottsbluff were exempt as of December 20, 2002. However, new approved Total Maximum Daily Loads and a review of the criteria for each municipality, made all subject to Phase II regulations for MS4s. A statewide general permit was issued January 1, 2006. The Storm Water Management Plans for all of these cities have been received, public noticed and each of these communities was authorized under this general permit. These permittees have entered into a cooperative agreement to form the Phase II Storm Water Cooperative. Their Storm Water Management Plans are being coordinated so that development work and implementation plans can be shared between them. The NDEQ is working closely with this group. The re-issuance of the statewide general permit for small MS4s is scheduled in Fiscal Year 2017. Dakota County, South Sioux City, and Dakota City will also be covered under this state-wide permit when it becomes effective.

Nearly \$1.825 million in grant funds was awarded in FY2016 to MS4 permittees. This program, established by Legislative Bill 1226 in 2006, is awarded annually for implementation of the MS4 communities' Storm Water Management Plans. The grant is distributed by population and requires a matching 20% from each of the grantees. Funds are distributed near the end of each calendar year.

Two general permits have been issued to provide coverage for industrial facilities and construction sites. Both of these general permits require the permittee to develop Storm Water Pollution Prevention Plans to control and reduce the discharge of pollutants. The NPDES General Permit for Storm Water Discharges from Construction Sites, NER160000 is effective November 1, 2016. The NPDES General Permit for Storm Water Discharges from Industrial Activity, NER910000, was issued July 18, 2016. The new permit continues benchmark monitoring for certain industrial activities.

### **Nebraska Pretreatment Program Permits**

The Nebraska Pretreatment Program functions to protect municipal wastewater collection and treatment systems from damage or overloading by industrial dischargers. The pretreatment regulations are found in Title 119. The rules and regulations set forth prohibited discharge standards that apply to all industrial users of publicly owned wastewater treatment facilities and require permits for significant industrial users. The significant industrial users are determined by one of several means: 1) the existence of an industrial category for which pretreatment discharge standards are established in NDEQ Title 119; 2) the volume or strength of the wastewater discharged from the facility; or 3) the potential of the industrial user to adversely affect the wastewater collection or treatment facilities.

The authority for establishing the Pretreatment Program is derived from the NPDES program requirements set forth in Section 402 of the Federal Clean Water Act. The issuance procedures and general format of Pretreatment Program and NPDES permits are very similar. Permittees are required to carry out self-monitoring activities, maintain records and submit periodic reports.

Compliance activities include report reviews, on-site inspections and compliance monitoring inspections. Compliance data are entered into ICIS to facilitate compliance review activities.

Although the Pretreatment Program is really a subprogram of the NPDES program, administration of this program requires more coordination and cooperation with local municipal officials. To accomplish this, the Department has entered into Memorandums of Agreement (MOAs) with 11 communities describing respective city and state responsibilities. The agreements vary in nature depending on the size and capabilities of the community. Omaha and Lincoln are the most active municipal partners, accepting responsibility for a large variety of activities including facility sampling, inspections, complaint investigations, permit reviews, and industrial user technical assistance. Other communities rely more heavily upon the State for compliance inspections and technical reviews. However, all cities with agreements conduct initial complaint or incident investigations, report significant incidents to the Department and assist in permit development by reviewing draft permits. The Department is working with communities throughout the state to get them more involved in the pretreatment program and to improve cooperative efforts in this program.

## State Revolving Loan Fund Programs

The Water Quality Division's Financial Assistance Section administers distribution of state and federal assistance for the Clean Water State Revolving Loan Fund and the Drinking Water State Revolving Loan Fund.

### Clean Water State Revolving Loan Fund

The Nebraska Clean Water State Revolving Loan Fund (CWSRF) program provides low-interest loans and small community matching grants to municipalities for construction of wastewater treatment facilities and sanitary sewer collection systems to alleviate public health and environmental problems. The loan principal repayments go into new loans, and interest earnings on the Fund are used to pay off the state match bond issues and to make new loans.

The CWSRF program receives an annual federal EPA capitalization grant. A 20% state match, required to obtain the federal grant, is provided through Nebraska Investment Finance Authority (NIFA) bond issues. After 28 years of activity, the Fund's Net Assets have reached \$286.5 million. Since its inception, the CWSRF has provided loans for 281 projects with a cumulative loan award amount of \$577.8 million.

In State Fiscal Year (SFY) 2016, the CWSRF funded projects totaling \$35,788,260 in loans and \$762,350 in loan forgiveness and grant funds.

The EPA awarded the 2015 capitalization grant, in the amount of \$7,107,000, in June of 2015. A \$1,425,000 bond was used to match this federal grant.

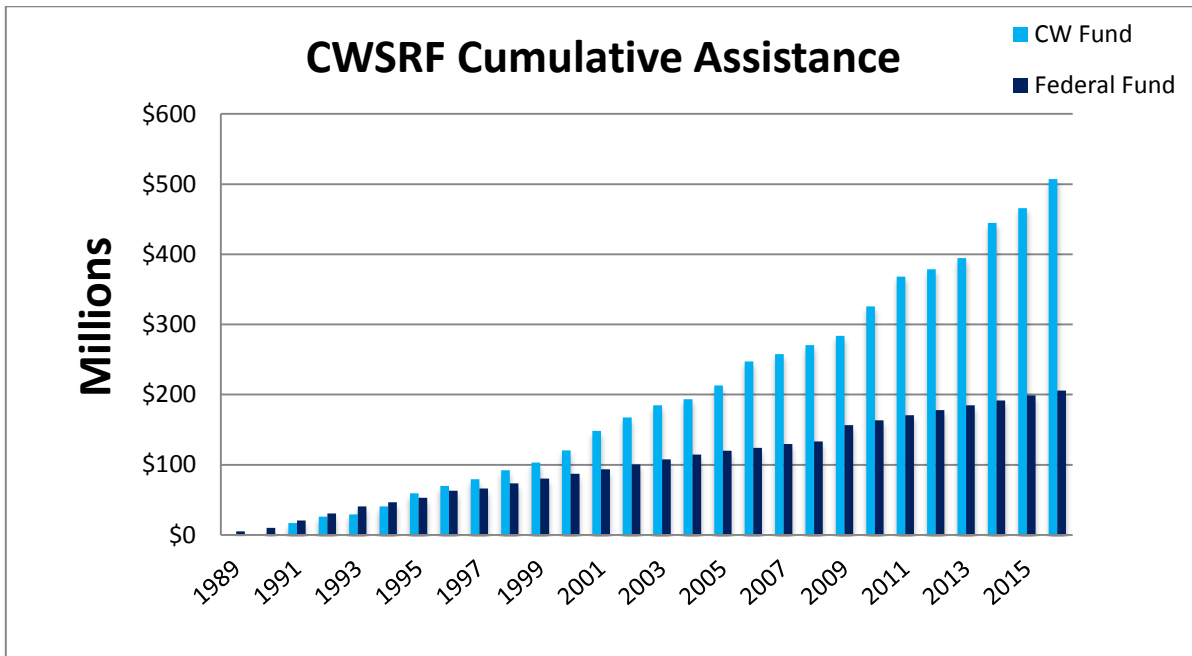
Initiatives for the SFY 2016 for the State Revolving Fund Program include:

- The Program is implementing Northbridge Loans and Grant Tracking System (LGTS) software purchased with the 4% set-aside funds from both CWSRF and DWSRF. The Agency began the development phase of the LGTS software during SFY 2014, and is anticipating this phase to be completed during SFY 2017. Once dependable, reconciled results will be established, the existing internal system will be discontinued, and LGTS will become the sole system for use within the SRF program alongside the State Accounting system.
- Inclusion of Fiscal Sustainability and Cost and Effectiveness Analysis wording to Title 131 was introduced to the EQC in November 2015. The amendments were approved and signed by the Governor on May 26, 2016.
- Clean Water Act amendments from 2014 such as CWSRF eligibilities and extended loan terms required Nebraska State Statute changes and have taken longer to implement into Title 131. LB737, approved by the Governor in February 2016, provided these statute changes and NDEQ is currently proposing amendments to Title 131 to incorporate these additional amendments and is planning to present these changes to the EQC in June 2017.
- NDEQ proposed changes to Title 131 for implementation of LB514, which includes the approval of the Linked Deposit Program, to the Environmental Quality Council (EQC) on June 14, 2016 which the council approved. At the time of this report, the proposed Title 131 revisions are awaiting the Governor's approval.

**Municipalities Receiving CWSRF Loans in SFY 2016**

Municipality	Loan Date	Loan Amount	Principal Forgiveness Amount	Small Town Grant Amount	Total
Maxwell Amd #1	7/17/2015	\$50,000			\$50,000
Chester	8/5/2015	\$375,000	\$100,000	\$91,010	\$566,010
Grand Island Amd #1	9/17/2015	\$200,000			\$200,000
Grand Island	9/17/2015	\$4,800,000			\$4,800,000
Hartington Amd #1	10/23/2015	\$40,000			\$40,000
Oconto	10/28/2015	\$168,750	\$100,000		\$268,750
Allen	11/13/2015	\$796,000	\$100,000	\$250,000	\$1,146,000
Loup City	12/7/2015	\$235,300			\$235,300
Culbertson	12/15/2015	\$783,950			\$783,950
Sidney	12/18/2015	\$1,792,000			\$1,792,000
Firth	4/27/2016	\$433,660	\$21,340		\$455,000
York	5/16/2016	\$19,355,000			\$19,355,000
Superior	6/8/2016	\$114,000	\$100,000		\$214,000
Dakota City	6/27/2016	\$6,644,600			\$6,644,600
<b>TOTAL</b>		<b>\$35,788,260</b>	<b>\$421,340</b>	<b>\$341,010</b>	<b>\$36,550,610</b>

The graph reflects the cumulative loan assistance of CWSRF.



**Small Community Matching Grants**

In addition to and concurrent with loans, the CWSRF provides small community matching grants to financially distressed municipalities with a population of 10,000 or less. The Small Town Grant (STG) program has provided \$8.6 million in grant funding for 73 projects concurrent with a CWSRF loan since the start of the program. Many small municipalities find that needed projects are too costly without the additional grant subsidy provided concurrent with the CWSRF loan. During SFY 2008, legislation was passed providing the department with authority to allocate up to 65% of prior-year revenue from fees collected on CWSRF loans to the various grants. This legislation also increased the population level for eligible communities to 10,000 or less. The department intends to provide increased funding to as many qualifying projects as possible; therefore, for SFY2016, up to \$341,010 was available for small community grants, and any one community could receive a maximum of \$250,000. The program provided a total of \$341,010 in grant funds to the communities of Allen and Chester.

In SFY 2016, five planning grants for a total of \$100,000 from the Administrative Cash Fund were awarded to small communities. These communities identified wastewater treatment facility project needs. They were listed on the Project Priority List, have not received a planning grant in the previous five years, and have a population of 10,000 or less.

### **Drinking Water State Revolving Loan Fund**

The Nebraska Drinking Water State Revolving Loan Fund (DWSRF) program provides low-interest loans and loan forgiveness to owners of public water systems. The loan principal repayments go into new loans, and interest earnings on the Fund are used to pay off the state match bond issues and to make new loans. An agreement between the NDEQ and the Nebraska Department of Health and Human Services, Division of Public Health (NDHHS-DPH), effective on October 30, 1997, defined the authority of the two agencies in administering the DWSRF program.

The DWSRF is similar to the Clean Water State Revolving Fund in that both obtain the required 20% state match through Cash Funds or revenue bonds, give low interest loans, and will be self-sustaining. The DWSRF is unique in that loans may be awarded to privately owned public water supplies. Other program differences include set-asides for program administration, technical assistance, wellhead protection, capacity development, and operator certification. After 19 years of activity, the Fund's Net Assets have reached \$174.5 million.

### **DWSRF Set Aside Funds and Administration Cash Fund**

Administrative costs are being paid out of the Administrative Cash Fund and may include program operating costs for both NDEQ and NDHHS-DPH, including day-to-day DWSRF program management activities for both agencies. Also included are other costs associated with debt issuance, financial management, consulting, and support services necessary to provide a complete program.

The Small System Technical Assistance set-aside (2%) provides technical assistance to Public Water Systems (PWS) serving a population of 10,000 or less. This is accomplished through contracts with organizations with expertise in dealing with small systems and is coordinated by the NDHHS-DPH.

In FY2016, under the Local Assistance and Other State Programs set-aside (15%), six agreements for preliminary engineering reports totaling \$90,000 were awarded to high priority ranked communities to address public health issues associated with public water supplies, and \$100,000 for source water protection project agreements. The NDEQ administers these programs.

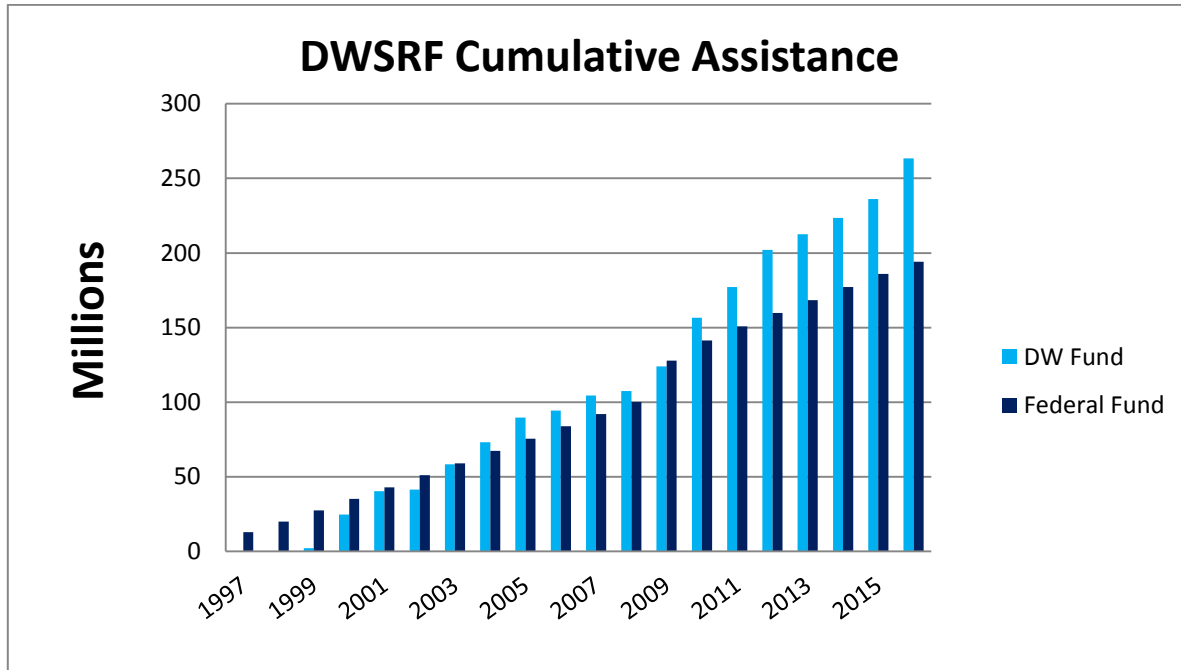
The State may use up to a total of 10 percent of the Capitalization Grant for the PWS Program Administration set-aside, but must provide a one-to-one state match as required by Section 1452(g)(2) of the SDWA. NDHHS-DPH used \$1,234,500 from the FFY 2015 Capitalization Grant to administer Nebraska's Public Water Supply Program during SFY 2016. That amount included \$350,000 of authority that had been previously reserved from past capitalization grants. DHHS-DPH has determined the set-aside eligibility by using program match and overmatch dollars for federal fiscal year 1993, cash, and in-kind contribution funds. The total of State funding available for one-to-one match to the \$1,234,500 was \$2,539,745.

### Municipalities Receiving DWSRF Loans in SFY2016

Municipality	Loan Date	Loan Amount	Principal Forgiveness	Total
Holstein	7/2/2015	\$104,000	\$26,000	\$130,000
Overton	7/31/2015	\$624,713	\$0	\$624,713
Phillips	8/5/2015	\$364,000	\$196,000	\$560,000
Pleasanton	8/18/2015	\$365,640	\$34,360	\$400,000
Central City	8/27/2015	\$434,007	\$108,502	\$542,509
Osmond	8/28/2015	\$621,790	\$334,810	\$956,600
Oshkosh	9/3/2015	\$3,018,750	\$1,006,250	\$4,025,000
Grant	9/8/2015	\$1,725,384	\$431,346	\$2,156,730
Sarpy Cnty SID #29	12/11/2015	\$670,000	\$0	\$670,000
Falls City	12/21/2015	\$4,267,530	\$1,066,882	\$5,334,412
Sidney	1/25/2016	\$7,400,000	\$100,000	\$7,500,000
Weeping Water	2/22/2016	\$560,000	\$140,000	\$700,000
Edgar	3/29/2016	\$218,325	\$72,775	\$291,100
Hartington	4/20/2016	\$400,000	\$100,000	\$500,000
Lindsay Amd #1	10/26/2015	\$57,140	\$25,028	\$82,168
Utica Amd #1	12/18/2015	\$1,144,000	\$286,000	\$1,430,000
North Loup Amd #1	1/20/2016	\$162,500	\$87,500	\$250,000
*Elgin Amd #1	5/12/2016	-\$51,570	\$79,983	\$28,413
<b>TOTAL</b>		<b>\$22,086,209</b>	<b>\$4,095,436</b>	<b>\$26,181,645</b>

\*Elgin's Loan Forgiveness eligibility increased from 20% to 25%

The graph reflects the cumulative loan assistance of DWSRF.



The 2015 DWSRF capitalization grant allocation totaled \$8,787,000. In SFY 2016, the DWSRF entered into 18 binding commitments to communities, including 4 amendments to already existing loans, to provided financial assistance to PWS projects totaling \$26,181,645, of which disadvantaged communities received \$4,095,436 in forgiveness funding. The Federal Fiscal Year (FFY) 2015 capitalization grant required that a minimum of 20% of the grant be reserved for additional subsidization (e.g., principal forgiveness).

In addition, from the FFY 2015 capitalization grant \$1,759,500 was allocated to the 10% (\$1,234,500), and 15% (\$525,000) Set-Asides. More details on the programs associated with these Set-Asides can be found in the Drinking Water State Revolving Fund Annual Report for SFY 2016 on our website at <http://deq.ne.gov/>.