

# CHAPTER 6:

## Water Quality Division

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

### **Petroleum Remediation Program**

NDEQ's activities regarding the Petroleum Remediation Program involve two interrelated program areas:

1. overseeing the **investigation and cleanup** of petroleum contamination resulting from leaking above-ground and underground storage tanks; 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 potential contamination exists. After some initial indication that there may be petroleum contamination at a site, NDEQ decides whether more investigation and cleanup is required. The agency determines whether parties who caused the contamination are available and financially capable of assuming responsibility.

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 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.

Due in part to the recommendations of a technical advisory committee and legislative requirements, the program has developed risk-based corrective action (RBCA) 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. In recent years, 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.

#### **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 is required, the agency will also determine the "responsible person(s)." This term refers primarily to those who owned or operated the site when the leak occurred. Those

who are determined to be the responsible persons may be eligible for reimbursement through the Petroleum Release Remedial Action Reimbursement Fund.

This fund helps pay for investigation and cleanup costs for owners/operators of facilities that have leaking petroleum 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 initiating 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 person or business 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 FY11, 21 orphan sites were activated for investigation and/or cleanup. As of September 2, 2011, there were 528 orphan sites waiting on the inactive list.

### **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, 10 have been successfully completed, 8 were terminated prior to completion, and 18 are still in the cleanup phase. This program saves the state time and money in getting these sites cleaned up.

### **Program Statistics**

Since June 1999, through September 27, 2011, 2,436 Tier 1 site investigations have been initiated. Of the 1,929 Tier 1 field investigations completed, 1,102 (57%) were closed, and 827 (43%) were determined to need a more detailed Tier 2 investigation. Since April 2002, 647 Tier 2 investigations have been completed; 457 (71%) of these sites have been closed. Of all the sites that have completed a Tier 1 or Tier 2 investigation, 305 (16%) have reported finding the contaminant methyl tert-butyl ether (MTBE) in groundwater.

The revenue going into the cleanup fund in FY11 was about \$11.7 million. As of June 30, 2011, a total of \$158,852,641 has been disbursed since the program began. During FY2011, NDEQ reimbursed \$2,210,617 to 121 Tier 1 sites and an additional \$3,302,211 to 151 other active sites.

The 43 sites listed on the next page are all currently active sites that have received a total reimbursement of more than \$600,000 each. Once the statutory limit is reached (either \$975,000 or \$985,000, depending on the applicable deductible/co-payment amount), the responsibility of funding the remainder of cleanup necessary reverts to the responsible person.

Responsible Person	City	Reimbursed amount as of June 30, 2010	Has Statutory Limit Been Reached?*
BURLINGTON NORTHERN & SF	MC COOK	\$975,000.00	yes
BURLINGTON NORTHERN RR	ALLIANCE	\$975,000.00	yes
COOP FIRTH	FIRTH	\$975,000.00	yes
KONECKY OIL	MEAD	\$975,000.00	yes
BNSF	ALLIANCE	\$973,682.45	yes
CORNER SERVICE	BANCROFT	\$973,000.00	yes
BURLINGTON NORTHERN RR	ALLIANCE	\$972,578.98	yes
ELKHORN VALLEY COOP	SNYDER	\$953,516.14	no
MAGERS SERVICE	NORTH PLATTE	\$947,669.57	no
NU STAR ENERGY LP	NORFOLK	\$939,761.89	no
PETERSON OIL CO INC	DAVENPORT	\$910,066.53	no
COBB MOTORS INC	STUART	\$902,581.26	no
WORTMAN MOTOR CO.	DONIPHAN	\$899,386.26	no
FORMER HERSHEY TRUCK STOP	HERSHEY	\$886,149.40	no
WESTERN COOPERATIVE CO.	ALLIANCE	\$884,340.43	no
TOMAHAWK TRUCK STOP	NORTH PLATTE	\$879,430.07	no
AG VALLEY COOP	BARTLEY	\$875,597.48	no
GORDON AIRPORT AUTHORITY	GORDON	\$865,512.06	no
NEITZEL OIL CO.	SPRINGFIELD	\$851,693.57	no
COOP PANHANDLE	MITCHELL	\$850,727.23	no
DANKERTS INC.	CHAMBERS	\$845,466.63	no
CONOCO PHILLIPS	SIDNEY	\$836,014.87	no
BNSF	ALLIANCE	\$829,561.86	no
IBP ATV(AT THE VERTICALS)	DAKOTA CITY	\$825,000.72	no
UNOCAL CORPORATION	OGALLALA	\$824,659.06	no
AMERITAS INVESTMENT CO	LINCOLN	\$764,604.93	no
FOOTE OIL COMPANY	HASTINGS	\$726,923.66	no
FARMERS COOP GRAIN SUPPLY	TRENTON	\$702,114.34	no
CARPENTER OIL & PROPANE	STERLING	\$690,014.62	no
AG VALLEY COOP	CURTIS	\$689,181.80	no
LEIGH OIL CO	LEIGH	\$686,527.14	no
SINCLAIR OIL CORP.	GRAND ISLAND	\$683,073.33	no
WHITEHEAD OIL 33RD A	LINCOLN	\$675,885.30	no
KLEPPER OIL	DU BOIS	\$672,530.00	no
MAGELLAN PIPELINE CO	ROCA	\$668,009.71	no
WYMORE OIL CO	WYMORE	\$667,538.35	no
LOHR PETROLEUM CO	COLUMBUS	\$646,553.17	no
ROESENER OIL CO	COOK	\$630,703.18	no
CITY OF LINCOLN	LINCOLN	\$620,025.96	no
BARNARD OIL COMPANY	BEATRICE	\$617,881.13	no
MIDLAND COOP - AXTELL	AXTELL	\$609,185.03	no
FLYING J INC	GRETNA	\$607,399.97	no
FORMER FARMERS COOP	CEDAR BLUFFS	\$607,091.97	no

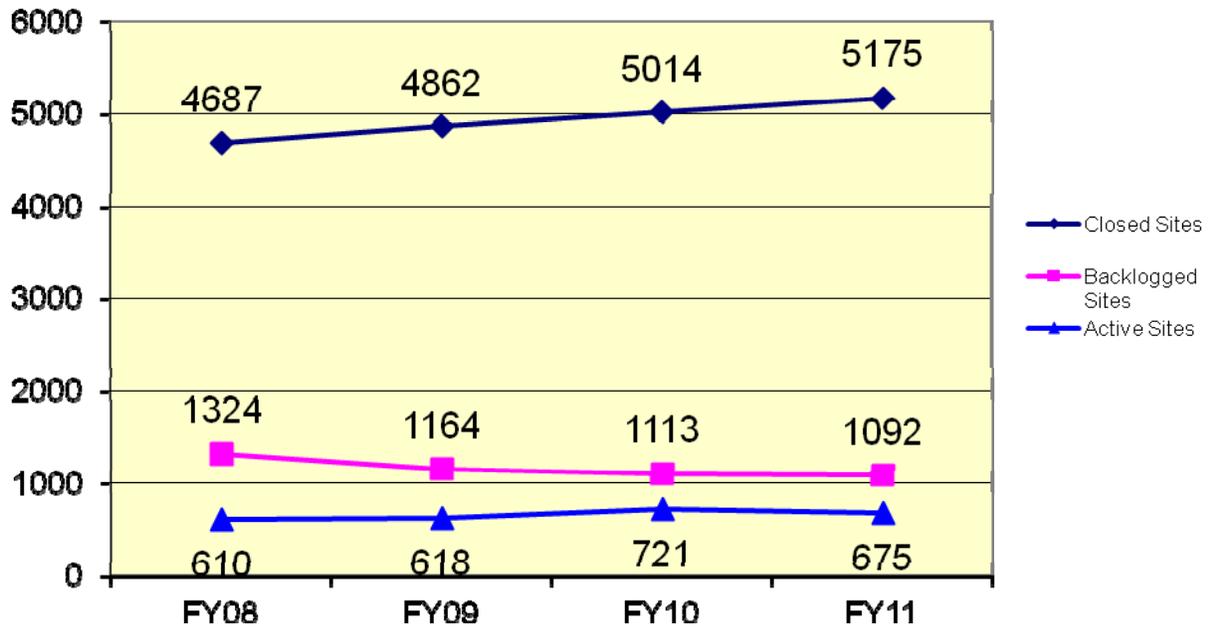
\* Those with a yes indicate that the statutory limit was reached prior to June 30, 2011. The total reimbursed amount may have been reduced due to noncompliance reductions.

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. About 173 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:

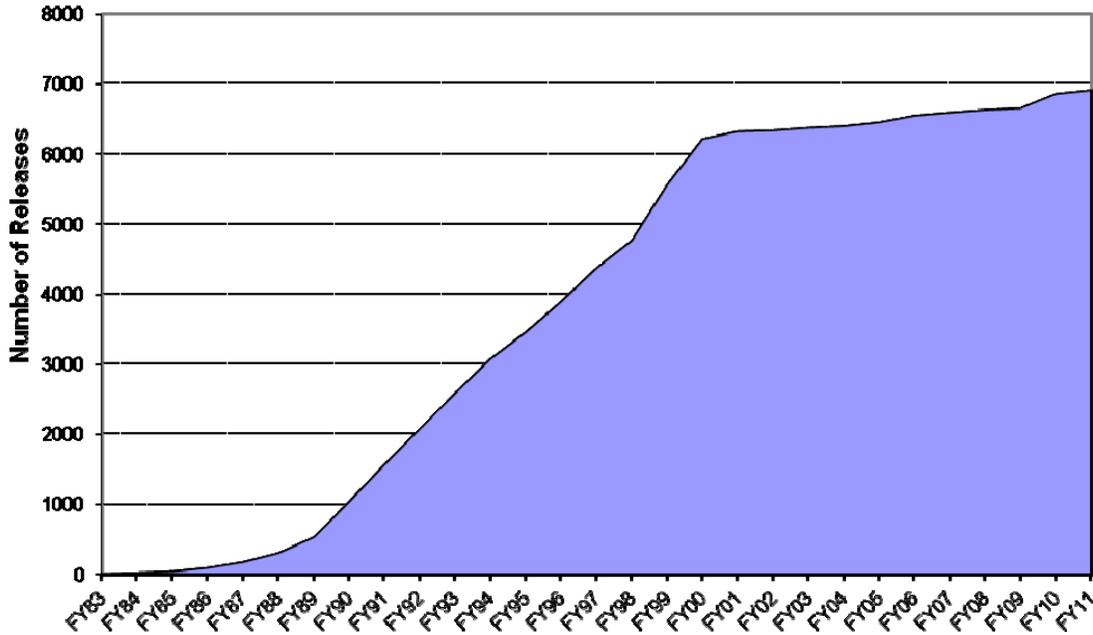
- **Closed Sites:** Sites that have been closed either because they have been cleaned up or it has been determined that no cleanup is necessary
- **Backlogged Sites:** Sites identified as potentially needing cleanup, but are on a waiting list for further investigation
- **Active Sites:** Sites that are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

### Petroleum Remediation Trends: End-of-Year Cumulative Totals, FY08-FY11

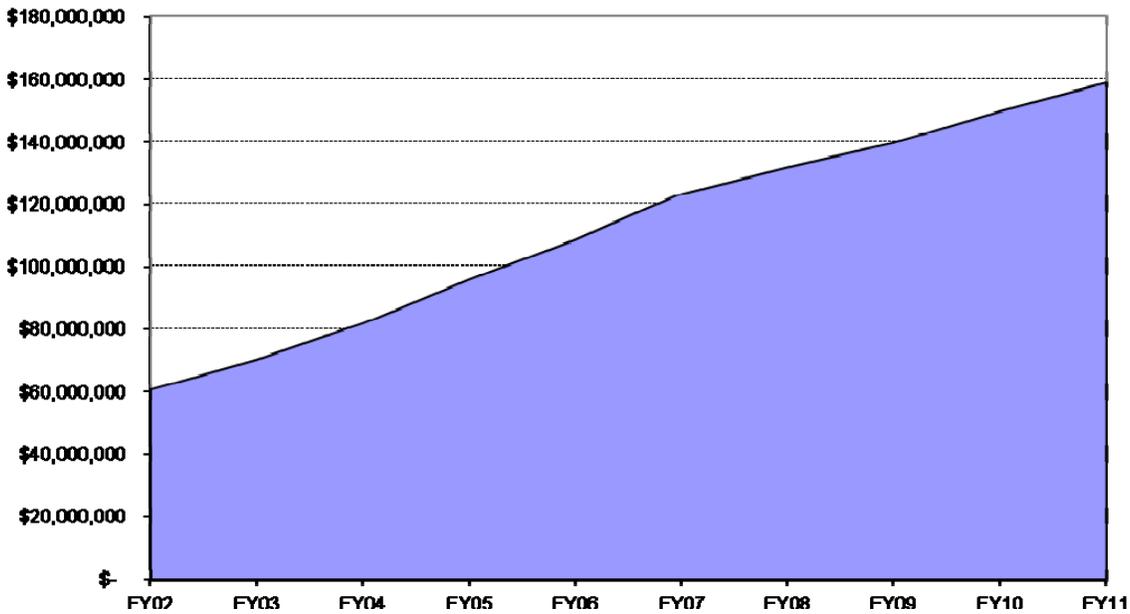


The chart below shows the cumulative number of sites that have had releases identified. The second chart shows the cumulative amount that the program has spent on investigation and cleanup in the past several years.

**Cumulative LUST Release Totals (Through FY11)**



**Cumulative Title 200 Disbursements (last 10 years through FY11)**



## 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

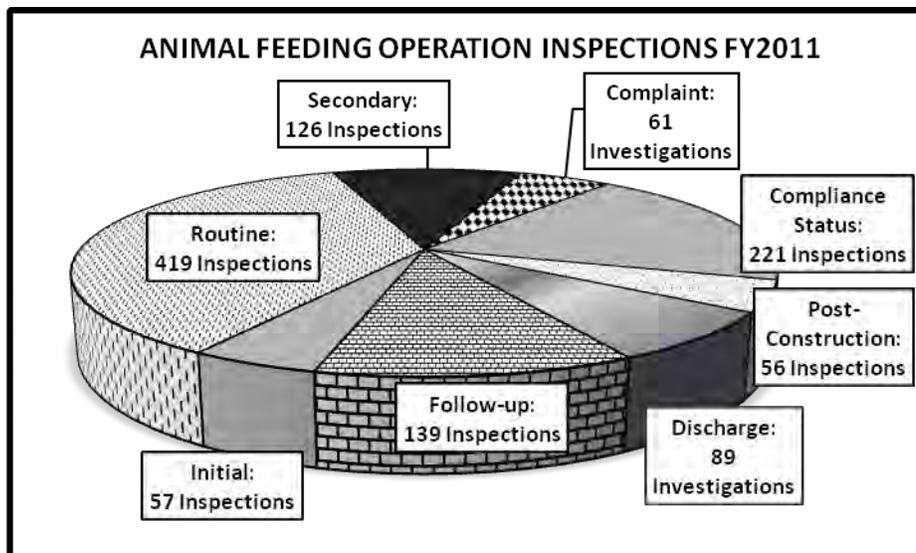
#### Overview

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 736 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.

Title 130 was amended during the year to reflect changes in the U.S. Environmental Protection Agency (EPA) CAFO Rule for NPDES permitting, which primarily involved changes in the nutrient management plan requirements. The changes were necessary to ensure the Department could continue to administer the NPDES permit program for EPA. As a result, every application submitted to the Department must include a detailed nutrient management plan that ensures adequate waste storage, available disposal capabilities, and record keeping criteria. The nutrient management plan will also be available for public review.

#### Inspections



The LWC Program staff conducted a total of 1,168 livestock waste control inspections and investigations in FY2011 (including complaint and discharge investigations). The chart above illustrates the breakdown by type of inspection or investigation.

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. Heavy rains in several parts of the state this year prompted many discharge reports that staff investigated.

**Complaint Investigations.** In FY2011, the LWC Program received 74 complaints. When a complaint is received, LWC Program staff will investigate the complaint and may conduct an on-site complaint investigation. During FY2011, Program staff conducted 69 complaint investigations.

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

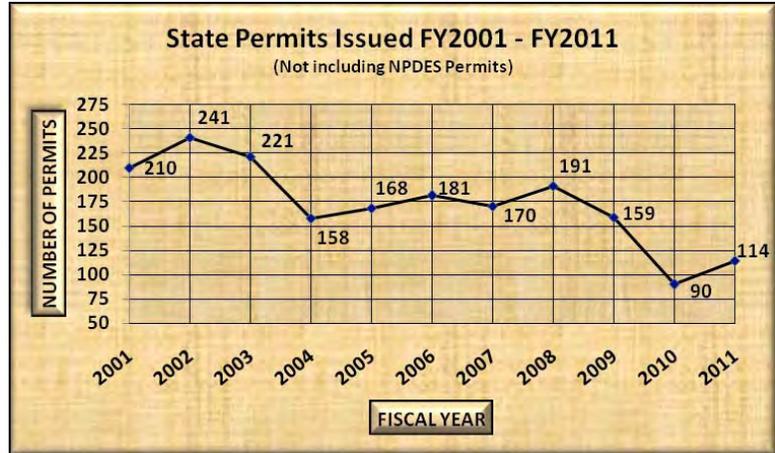
**State Permitting**

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.

Construction and Operating Permits – FY2011		
Type of Application or Permit	Applications Received	Permits Issued
New permits	24	21
Modified permits	25	28
Transfer permits	64	65
<b>TOTAL</b>	<b>113</b>	<b>114</b>

The Department received a total of 113 permit applications and issued 114 permits during FY2011, as shown in the table above. 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 for livestock waste control facilities for each year since FY2001.

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 FY2011, the Department gave approval to 71 AFOs for operation of their new or expanded LWC facilities.



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

The LWC Program also oversees the NPDES permitting process for livestock, issuing coverage under individual NPDES permits to CAFOs, as well as coverage under a NPDES General Permit for Open-Lot Cattle Operations. 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 FY2011.

NPDES PERMITS – FY2011		
Type of NPDES Application/Permit	Applications Received	Permits Issued
<b>GENERAL PERMIT FOR OPEN LOTS</b>		
New Coverage	20	20
Modified or Transferred	12	17
Reissued	0	2
<b>SUBTOTAL GENERAL PERMIT:</b>	<b>32</b>	<b>39</b>
<b>INDIVIDUAL PERMIT</b>		
New Coverage	1	5
Modified or Transferred	3	2
Reissued	7	0
<b>SUBTOTAL INDIVIDUAL PERMIT:</b>	<b>11</b>	<b>7</b>
<b>NPDES TOTALS:</b>	<b>43</b>	<b>46</b>

## Fees

The annual permit fee is assessed on all permitted Large CAFOs and all CAFOs covered under a NPDES permit. The fee is determined based upon the number of head of livestock for which the operation has a permit. For FY2011, the fee rate was adjusted to ensure that fees provide 20% of the Department's costs to administer the livestock waste control program, as required by statute. Based on the adjusted rate, the Department received \$329,205 in annual permit fees from 672 permitted AFOs. In addition, the Department received 52 initial inspection fees, 56 permit application fees, and one late payment fee.

General information about the Livestock Waste Control Program, including applications, fact sheets, forms, guidance documents, copies of the NPDES General Permit, Title 130 regulations, and public notices of permit issuance or denial, can all be found on the Department's web site at: [www.deq.state.ne.us](http://www.deq.state.ne.us).

## CHEMIGATION PROGRAM

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

The NRDs inspect systems and issue site permits for specific safety equipment that is required to be installed on irrigation systems that chemigate. Chemigation permits for chemigation sites are issued annually, and are reported to the Department on a calendar year basis, rather than by fiscal year. Since permitting began in 1987, the total number of annual permits issued initially followed an upward trend, but leveled off in recent years. In 2010, the NRDs issued 19,529 chemigation permits, slightly less than the 19,539 permits issued in 2009.

In 2011 the legislature, through LB 28, amended the chemigation statutes. The significant change reflected in LB 28 is that the Department will no longer maintain a database of the chemigation permit information. The NRDs will maintain each application or the information contained in the application and provide such information to the Department upon request. Title 195 is in the process of being revised.

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 NDEQ by the University of Nebraska Cooperative Extension. Applicator certifications also are reported on a calendar-year basis. The application form for the Chemigation Applicator Certification includes the United States Citizenship Attestation Form required of individuals that receive State benefits.

In 2011, 2040 applicators have been trained, tested and certified, bringing the current number of certified chemigation applicators to 4,628 applicators. Information about chemigation applicator training dates and certified applicators is available after the first of each year on the Department's web site, [www.deq.state.ne.us](http://www.deq.state.ne.us).

The Department has two interagency agreements with the University of Nebraska concerning the Chemigation program. The first intergovernmental agreement is to implement the chemigation annual training program for applicator certification. This agreement runs through 2012. The

second is to develop an internet-based chemigation training program. The internet-based chemigation training program is in the final stages of being implemented.

### **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.

On August 16, 2006, the U.S. Environmental Protection Agency (EPA) published final regulations that required secondary containment structures and loadout facilities for bulk storage of pesticides. The Department and the Nebraska Department of Agriculture (NDA) asked EPA to review the existing Title 198 regulations to determine equivalency with the EPA regulations. The Department received the EPA review and comments, and developed modifications to Title 198 to address any deficiencies. The modified Title 198 was presented to the Environmental Quality Council at the Council's December 2010 meeting. On June 27, 2011 the modified Title 198 went into effect.

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 Title 198 complaints. In FY2011, Agriculture Section staff conducted a total of four inspections of chemical containment systems.

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## Water Quality Monitoring and Assessment Programs

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### Surface Water Assessment Programs

In 2001, NDEQ completed a comprehensive study on water quality monitoring in response to LB 1234, and began implementing comprehensive, integrated surface water monitoring programs throughout the state by working with additional monitoring partners to collect water samples. These programs use contractual and voluntary monitoring relationships to collect samples, which has significantly improved the efficiency and effectiveness of NDEQ's statewide monitoring networks. 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, University of Nebraska-Lincoln, Central District Health Department, the City of Carter Lake, and U.S. Geological Survey.

The Surface Water Monitoring and Assessment programs collect physical, chemical, and biological water quality samples from streams and lakes, implements surface water improvement projects, and prepare surface water quality reports. Several monitoring programs collect stream and lake samples throughout the state; however, most monitoring is focused in two or three river basins each year in conjunction with a rotating basin monitoring strategy.

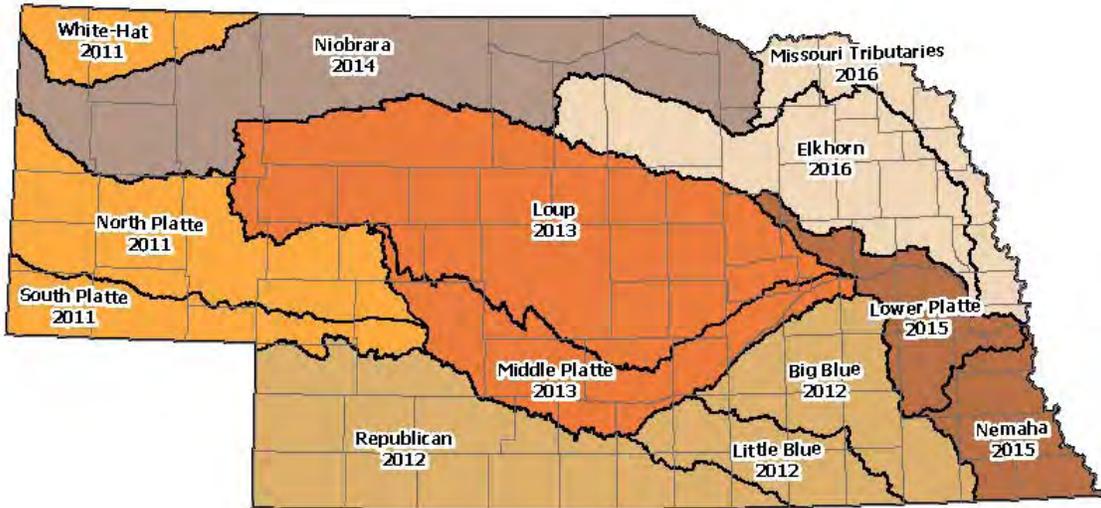
A brief description of the basin monitoring strategy, as well as other water implementation monitoring of assessment programs is provided below. Or, for a more detailed overview of the programs are provided in the agency publication [Nebraska Water Monitoring Programs Report](#).

**Basin Rotation Monitoring Program** — The Basin Rotation Monitoring Program 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 river basins in the state are intensively monitored (see map below for details). 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. The current six-year basin rotation monitoring cycle is:

- 2011 -- White River-Hat Creek, North Platte and South Platte River basins;
- 2012 -- Big Blue, Little Blue and Republican River basins;
- 2013 -- Middle Platte and Loup River basins;
- 2014 -- Niobrara River basin;
- 2015 -- Lower Platte and Nemaha River basins; and
- 2016 -- Elkhorn and Missouri Tributaries River basins.

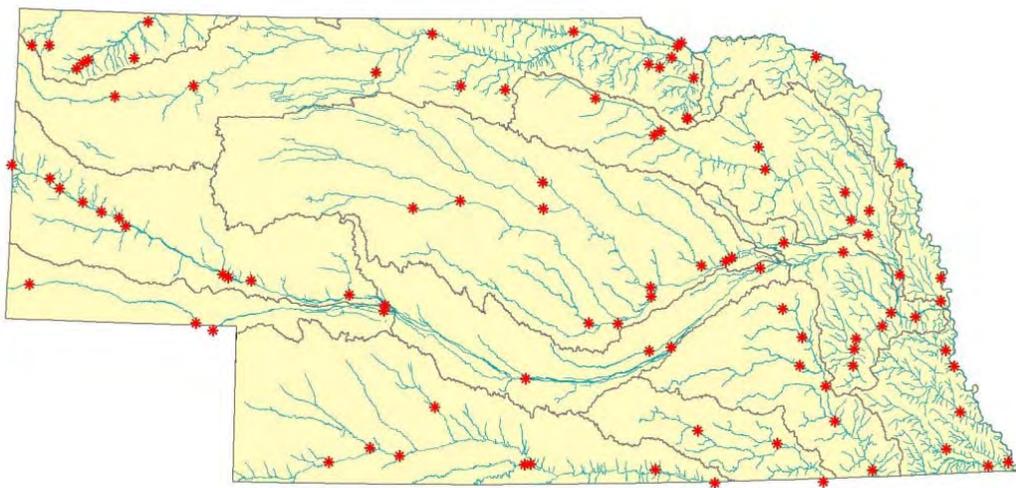
In 2011, a total of 34 stream and 8 lake sites in the White River-Hat Creek, North Platte and South Platte River Basins were sampled weekly from May through September. The lake sites were sampled for *E. coli* bacteria and field measurements including temperature, pH, oxygen, conductivity and turbidity and the stream sites also analyzed for physical/chemical parameters including the nutrients and select pesticides. The data is used to document existing water quality conditions, identify water quality problems, identify pollutant(s) of concern and their sources, and estimate pollutant loadings. During 2011, 748 stream samples plus 176 lake samples were collected for a total of 924 samples.

**Six-year basin rotation monitoring schedule**



**Ambient Stream Monitoring Program** — This program has a network of 97 fixed stations located on main stem and tributary streams across the state (see map below for details). The primary objectives are to provide information on the status and trends of water quality in streams within each of the state's 13 river basins and link assessments of status and trends with natural and human factors that affect water quality. Fifty-eight of the 97 sites are located on main stem streams. Ecoregion and land use considerations were used in selecting many of the stream locations. Samples are collected monthly and analyzed for traditional chemical and physical parameters and include some herbicides and heavy metals. During 2011, a total of 1,160 water samples were collected for this program.

Locations of NDEQ ambient stream monitoring sites



**Lake Beach Bacteria and Toxic Algae Monitoring** — *E. coli* bacteria and toxic blue-green algae (microcystin toxin) were monitored weekly during 2011 at 49 beaches on 46 different lakes during the recreation season from May through September. Over 1,000 samples were assessed for

each parameter. Especially targeted were the major public lakes with designated swimming beaches. The microcystin toxin was added to the existing beach bacteria program in 2004 following the deaths of several dogs after they drank water from lakes with blue-green algae blooms. Microcystins are the most common toxins released by blue-green algae. Several monitoring partners assisted NDEQ in collecting these samples including NRDs, NPPD, the Central District Health Department, the City of Carter Lake and U.S. Army Corps of Engineers. The analysis procedures provide a quick-turnaround time, allowing the samples collected on Monday to be posted on the NDEQ web-page by Thursday afternoon, and prior to each weekend's recreation activities. Levels of microcystin above 20 ppb resulted in public health alerts to be issued and signs posted recommending full body contact activities in the water be avoided. During 2011 health alerts were issued on four different lakes and the amount of time the lakes were on alert ranged from two to five weeks. Results and health alerts are listed weekly during the recreational season on the NDEQ's web site [www.deq.state.ne.us](http://www.deq.state.ne.us).

**Fish Tissue Monitoring Program** — The NDEQ has been sampling and assessing toxins in fish tissue annually since 1978. In 2011, a total of 66 fish tissue samples were collected from 13 streams and 31 lakes across Nebraska for analysis of pollutants. This compares to 50 samples from 25 streams and 25 lakes in 2010. This information is used to assess pollutant trends, identify potential problem areas, and to inform the public about health risk concerns identified through fish consumption advisories. Nebraska began issuing fish consumption advisories in 1990. The data is received from the EPA lab approximately one year after collections and therefore, the final report on the 2010 data is expected to be completed by the end of 2011 and the 2011 data report is anticipated near the end of 2012.

The report "Findings of the 2009 Regional Ambient Fish Tissue Program in Nebraska" and current list of advisory sites can be found at DEQ's web site, [www.deq.state.ne.us](http://www.deq.state.ne.us). The report is located at Publications/Surface Water Monitoring/Reports. The direct URL is: [www.deq.state.ne.us/Publications/Pages/WAT173](http://www.deq.state.ne.us/Publications/Pages/WAT173). A summary of fish advisory information is located at DEQ's web site by going to the Topics of Interest category and selecting Fish Consumption Advisories; the direct URL is: [www.deq.state.ne.us/SurfaceWater/Pages/FCA](http://www.deq.state.ne.us/SurfaceWater/Pages/FCA).

Currently, Nebraska has 85 state-issued advisories. The primary contaminants of concern in fish tissue in Nebraska and most other states are mercury and polychlorinated biphenyl compounds (PCBs). Advisories are based on an average consumption rate of eight ounces of fish per week for an average-sized adult over a 70-year lifetime that would result in an additional risk of one in 10,000 for cancer or other health problems. Health advisories are not intended to discourage people from eating fish in moderation. Actually, fish are a high quality protein, low in saturated fat, and high in omega-3 fatty acid. It is a primary goal of the program to ensure that the public have as much information as possible regarding the water bodies that they use for fishing. An immediate health risk is unlikely from an occasional meal of fish from waters where fish consumption advisories have been issued; however, in order to reduce health risks that may result from long-term consumption, it is recommended that eating fish from advisory waters not exceed an average of eight ounces of fish per week.

**Stream Biological Monitoring Program** — This program is used to evaluate the health of aquatic life population and involves a unique randomized sample design that allows water quality status and trend assessments to be determined with a known level of confidence. During 2011, a total of 37 stream sites were sampled in the North Platte River, South Platte River and White River-Hat Creek basins. Since 1994, this program has been conducted using "state-of-the-art" fish, macroinvertebrate, and habitat sampling protocols and ecoregion-based reference sites.

Sampling is conducted in conjunction with the basin rotation monitoring strategy. Data from 2004 to 2008 were recently assessed and used to verify the biological criteria used in evaluating the health of aquatic life populations in Nebraska streams. The current approach allows evaluations of aquatic life health to be made with greater confidence even though fewer samples are collected. A report entitled “Nebraska Stream Biological Monitoring Program 2004-2008” is available on DEQ’s web site, [www.deq.state.ne.us](http://www.deq.state.ne.us) located in Publications/Water Quality/Reports.

**Lake Monitoring Program** — Lake monitoring is currently conducted on 53 lakes across the state. Monitoring involves the collection of monthly water samples from May through September. These data are used to document existing water quality conditions, evaluate long-term trends, design watershed and lake restoration/protection projects, and evaluate project effectiveness. Monitoring focuses on nutrients, sediment, pesticides, heavy metals, dissolved oxygen, pH, temperature, conductivity, and water clarity. In 2011, a total of 295 samples were collected at deep water locations with additional profiles collected from mid-lake locations. In addition, some inlet streams are sampled during periods of significant precipitation to provide information on nutrient, sediment, and pesticide loadings to lakes during runoff events.

In addition, reservoir volume surveys are conducted on priority lakes to evaluate historic sediment loads. In 2011, reservoir volume surveys were conducted at Conestoga Reservoir (Lancaster County), Hedgefield Reservoir (Lancaster County), Walnut Creek Reservoir (Sarpy County), Burchard Reservoir (Pawnee County), and Wildwood Reservoir (Lancaster County).

**Fish Kill and Citizen Complaint Investigations** — The surface water unit 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 16 fish kills were reported between July 1, 2010 and June 30, 2011. This compares to 24 during the same time period the year before. Most of the fish kills (9) were attributed to low dissolved oxygen levels from winter/summer kill and decomposition of organic matter during flooding. Four were attributed to disease/parasite issues, one from thermal stress and two were from unknown causes.

Between July 1, 2010 and June 30, 2011 the surface water unit received 39 notifications of complaints concerning surface water issues. This compares to 21 notifications during the same time period the year before. (While many of these cases were referred to other agency programs that more closely relate to the problem, sometimes the surface water unit would assist by providing observations or samples to help document conditions.)

**Integrated Report** — Beginning in 2004, and every two years thereafter, states are required to prepare a biennial water quality report called the Integrated Report, which is a combination of the Section 305(b) and Section 303(d) reporting requirements of the Clean Water Act. 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 2010 Integrated Report, which was approved by the EPA in January 2011, is available on NDEQ’s web site [www.deq.state.ne.us](http://www.deq.state.ne.us), by selecting Publications, then selecting Water Quality. Or, the report’s direct URL is: <http://www.deq.state.ne.us/Publica.nsf/Pages/WAT166>

**Nebraska Water Monitoring Programs Report** — A report summarizing the monitoring programs performed or required by NDEQ called the “Nebraska Water Monitoring Programs Report” was prepared again in 2010. This report describes the numerous monitoring programs NDEQ is

involved with, its partners, and several highlights of recent monitoring efforts. Future enhancements to this report will include more in-depth examinations of what our monitoring programs are telling us, how we are using them to manage and improve water quality, and to inform the public of the trends observed. The 2010 Nebraska Water Monitoring Programs Report is available on the NDEQ's web site [www.deq.state.ne.us](http://www.deq.state.ne.us), by selecting Publications, then selecting Water Quality. Or, the report's direct URL is: <http://www.deq.state.ne.us/Publica.nsf/pages/WAT169>.

**Big Blue River/Tuttle Creek Lake Interstate Targeted Watersheds Grant Project** — In April 2006, the U.S. EPA awarded an \$810,000 Targeted Watersheds Grant to NDEQ on behalf of the Big Blue River/Tuttle Creek Lake Watershed Partners. This was one of 12 grants awarded nationally to outstanding watershed coalitions as part of the EPA's third round of Targeted Watersheds grants (TWG). This watershed partnership involves a wide array of agricultural and water quality organizations in Nebraska and Kansas that have been working together for many years to coordinate monitoring, educational outreach, installation of Best Management Practices (BMPs), and improve water quality in the Big Blue River Basin and Tuttle Creek Lake. Tuttle Creek Lake is a large impoundment on the lower Big Blue River near Manhattan, Kansas; however, three-fourths of the lake's drainage area is in Nebraska. This project addresses multi-jurisdictional water quality problems involving excessive runoff of sediment, nutrients, herbicides, and bacteria. Most project activities are focused in a critical four-county area near the Nebraska-Kansas state line. Cost share payments for BMP installation were used to encourage and support landowner participation. The majority of BMPs installed for this project included no-till farming systems, terraces, field borders, and riparian buffer strips. The monitoring data that was collected in 2010 is being assessed to determine post-project water quality conditions. The 2010 water quality conditions are being compared to the pre-project assessments in conjunction with models to assess the effectiveness of the BMPs installed during this project. The TWG project is being completed and a final report will be prepared to summarize the results.

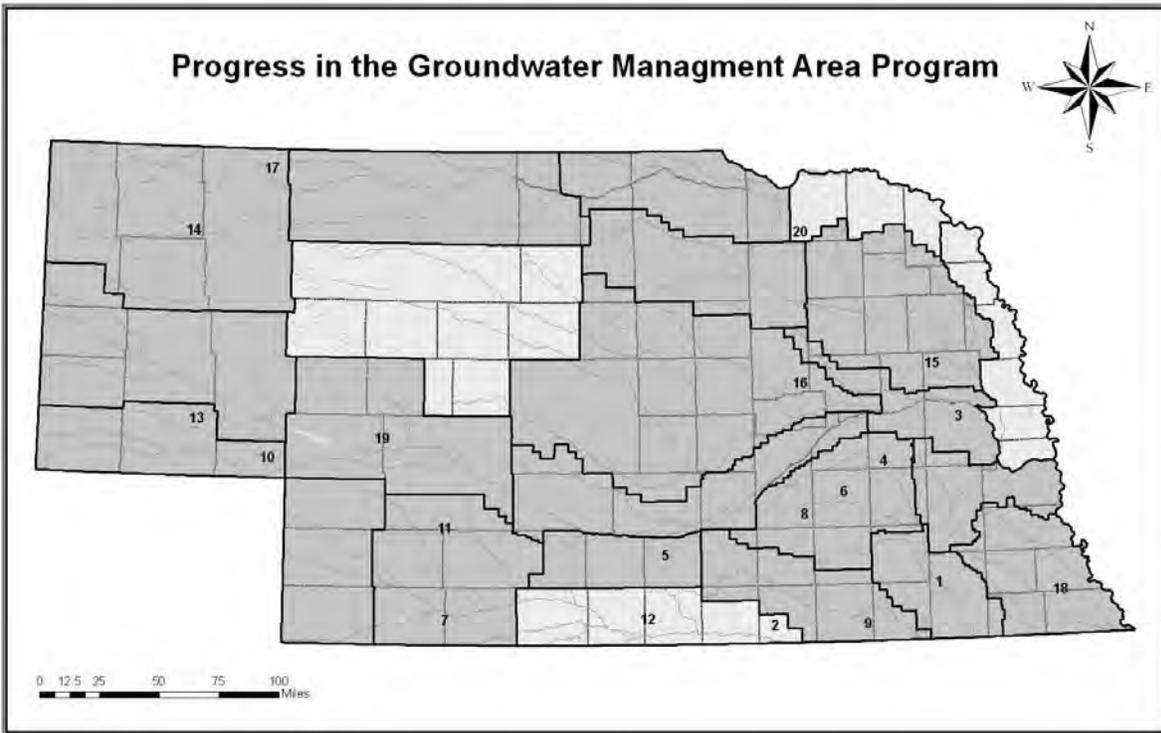
## Groundwater Assessment Programs

**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 the agency's web site, [www.deq.state.ne.us](http://www.deq.state.ne.us). (Select Publications, then select Water Quality, then select 2010 Groundwater Quality Monitoring Report. Or, the report's direct URL is: <http://www.deq.state.ne.us/Publications/pages/WAT160>). Statistics and maps showing nitrate-nitrogen groundwater monitoring results as well as four of the 42 pesticides sampled in the state are presented. The report uses data from the Quality-Assessed Agricultural Contaminant Database for Nebraska Groundwater, developed cooperatively by the Nebraska Department of Agriculture, University of Nebraska-Lincoln, and Nebraska Department of Environmental Quality using federal funding. These data are accessible to the public on the Nebraska Department of Natural Resources web site, [www.dnr.state.ne.us](http://www.dnr.state.ne.us).

**Hydrogeologic Studies and Reviews** —The Groundwater Unit is responsible for hydrogeologic review of various Department 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 and surface petroleum 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 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 Agency carries out detailed field studies to collect groundwater data, assesses the data, and determines whether a correlation exists between land use practices and any nonpoint contamination trends. The Department's conclusions and recommendations are presented at public hearings during which public comments on the study are also obtained. The Director makes a determination on whether or not to designate the study area as a Groundwater Management Area. The staff works closely with the Natural Resources District (NRD) within whose boundary the area is located throughout the investigation, designation and implementation stages. The NRDs are responsible for implementation of many aspects of this program. In fact, NRDs can designate Groundwater Management Areas acting on their own authority. In addition to the three NDEQ-designated areas, 20 NRDs have designated GWMA's within their jurisdiction. However, if an NRD does not implement a Groundwater Management Area, the Department has the responsibility of implementation. The Department reviews and comments on all proposed GWMA rules and regulations prior to public notice. The following map shows NDEQ study areas (numbers) and existing GWMA's (shaded areas). In addition, a study is under way in Cuming County. Data was collected in 2011, is currently being analyzed, and the final report on this study is expected to be completed in 2012.



NDEQ GWMA Studies

- |                                   |                                      |
|-----------------------------------|--------------------------------------|
| 1. Beatrice/DeWitt, 1988          | 11. N. Middle Republican, 1995       |
| 2. Superior, 1988                 | 12. Lower Republican, 1996 - 97      |
| 3. Fremont, 1988                  | 13. E. Cheyenne Co., 1996            |
| 4. E. Upper Big Blue, 1989        | 14. Box Butte Co./Mirage Flats, 1998 |
| 5. Wilcox/Hildreth, 1989          | 15. S. Lower Elkhorn, 1999           |
| 6. York/Polk Co., 1990            | 16. E. Lower Loup, 2000              |
| 7. Red Willow/Hitchcock Co., 1990 | 17. E. Sheridan Co., 2001            |
| 8. W. Upper Big Blue, 1991        | 18. Humboldt, 2001                   |
| 9. E. Little Blue, 1992 - 1994    | 19. Keith-Lincoln Co., 2002 - 2003   |
| 10. Deuel Co., 1992               | 20. Bazile Triangle, 2004            |

**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 is a category that has 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 wells 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 4080 Class III wells as of October 1, 2011.

Injection wells not included in the other specific classes are considered to be Class V wells. The EQC revised *Title 122 - Rules and Regulations for Underground Injections and Mineral Production Wells* in 2002, prohibiting the following types of Class V wells: agricultural drainage wells, untreated sewage waste disposal wells, cesspools, radioactive waste disposal wells, motor vehicle waste disposal wells, and abandoned drinking water wells used for disposal of waste. The Underground Injection Control program is working to close these types of existing waste disposal systems. A common example of Class V wells would be those associated with heat pump 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 a mineral resource using in-situ leach technology 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 as of October 1, 2009. 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. Ninety community water supplies have approved Wellhead Protection Plans.

## 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 the Department. The federal Clean Water Act specifies that States review their water quality standards and revise where appropriate once every three years. NDEQ's last triennial review was completed in FY2009. Governor Heinemann approved these revisions and they became the official surface water quality standards regulation for the State of Nebraska on March 22, 2009. These revised Standards were submitted to EPA Region VII for approval under the Clean Water Act.

EPA notified NDEQ on September 30, 2010 that the majority of the FY2009 Water Quality Standards revision package was approved under the Clean Water Act. During FY2011, NDEQ developed proposed revisions to Title 117 for the next required triennial review. In addition to a number of criteria changes due to new science, the Department hopes to take care of the previously deferred EPA approval decisions, most notably nutrient criteria for lakes and reservoirs, with this triennial review. These revisions have been released for public review and are scheduled for hearing at the December, 2011 Environmental Quality Council meeting.

The standards are available on the department's web page at [www.deq.state.ne.us](http://www.deq.state.ne.us). In addition to developing the standards, the Planning Unit develops and implements procedures for applying the standards to surface water quality programs, such as NPDES permits.

### Section 401 Water Quality Certification

The 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 state and determines whether the proposed activity complies with *Title 117 - 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. The Department reviewed 384 Section 404 permit applications during FY2011.

On January 9, 2001 the U.S. Supreme Court issued a decision in the matter of *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers*, No. 99-1178. The court decision eliminated the Corp's regulatory jurisdiction over isolated, non-navigable intrastate waters where the only link to interstate commerce was the use of the waters by migratory birds. Therefore no permit or other authorization by the Corps of Engineers is required for projects that might impact waters meeting those criteria. Following the SWANCC decision in 2001, the Supreme Court handed down a decision in *Rapanos et ux., et al. v. United States* on June 19, 2006 that further limits the Corps of Engineers jurisdiction over waters of the U.S. This had the effect of further reducing the number of projects that needed a Corps 404 permit. However, these waters of the state are still under the authority of the Department of Environmental Quality, because isolated wetlands are regulated by Title 117.

Although the department has no permitting mechanism to authorize projects in advance of their implementation, procedures have been developed to assist project sponsors who wish to avoid violating state water quality standards and potential enforcement actions. To maintain consistency between how NDEQ treats projects involving wetlands impacted by the court ruling and those proposed for jurisdictional wetlands, a series of checklists was developed. The checklists enable project sponsors to know what information they must provide, and allow NDEQ to deliver timely and consistent decisions on these wetlands. The checklists also provide documentation of the decision-making process for each project. Project sponsors are encouraged to contact NDEQ before implementing their project so that the plans can be discussed in light of Title 117 requirements.

### **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 Title 117. 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 the beneficial uses assigned to them via Title 117. As in previous years, the Department 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 2010 Integrated Report is available on NDEQ's web site [www.deq.state.ne.us](http://www.deq.state.ne.us), by selecting Publications, then selecting Water Quality. Or, the report's direct URL is: <http://www.deq.state.ne.us/Publications/Pages/WAT166>. The 2010 Integrated Report was submitted to EPA Region 7 in March 2010 and was approved by EPA January 2011.

In 2010, the Department prepared and submitted to EPA Region 7 an Integrated Report Category Change for Waters in the Big Blue, Lower Platte, and Niobrara River Basins Impaired by Selenium. This report documents the natural occurrence of selenium in the basins' surface and groundwater and suggests selenium impairments in these basins be placed in category 4c (impaired but not by a pollutant) in the 2012 Integrated Report.

Total Maximum Daily Loads (TMDLs) for Mud Creek in the Loup River Basin and the North Platte River Basin were posted for Public Notice on 9/7/2011. TMDLs in the draft stage are in the Middle Platte River Basin, Conestoga Reservoir in Lancaster County, and Fremont State Lakes.

### **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 (CWA) and involves a multitude of federal, state and local agencies and organizations.

Through this program, the Department initiated major shifts in program activities, including increased emphasis on watershed and groundwater management area planning, targeting of 303(d)-listed impaired waters, community participation in project development and implementation, and installation of management practices in smaller areas of manageable size. Because of the

program changes it was necessary to reduce financial support for local awareness and demonstration projects. Prioritization of eligible projects and activities will be refined.

Major components of the nonpoint source management program include program administration, nonpoint source monitoring and assessment, and implementation of nonpoint source pollution management projects through Section 319 grant funding. 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. Currently identified 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 2000-2015." Nonpoint source monitoring activities conducted during 2011 included investigative water quality evaluations, detailed watershed assessments, and effectiveness evaluations of implemented nonpoint source management measures.

The Nonpoint Source Management Program provides Section 319 grants to local sponsors of eligible projects in the following categories:

- 1) Large Competitive Projects (generally <\$300,000);
- 2) Small Projects Assistance (<\$15,000);
- 3) Community Lakes Restoration Assistance (negotiated);
- 4) Urban Run-off Management Assistance (<\$75,000);
- 5) Wellhead Protection Area Management Assistance (negotiated)

During 2011, 119 projects were managed among the five grant categories. These included 63 large projects totaling \$12,481,207; 22 small projects totaling \$263,985; 13 community lakes projects totaling \$902,638; one urban run-off management project for \$60,000; and no wellhead area management assistance projects.

A total of 180 large projects, spending \$58,581,456, have been funded through Section 319 grants since the beginning of the program in 1990. Of these 180 projects, 107 have addressed surface water, 49 have addressed groundwater and 24 have focused on both surface water and groundwater problems.

### **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. Grants are given to political subdivisions, in Nebraska, that operate a public water system serving a population of 10,000 or less. Eligible activities will address drinking water quality, quantity, security, and/or education within the source water protection area. To date, Source Water Protection funds have been distributed to 49 individual entities to complete 63 separate Source Water Protection projects throughout the state. In 2011, Source Water Protection funds were distributed to two public water systems: Village Paxton and City of Wayne.

### **Water Quality Data Handling and Storage**

The department 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 FY2011, the department 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 certification program involves smaller systems, such as septic systems and private lagoons. Anyone doing work on these types of facilities must be certified.
- **Wastewater Treatment Facility Operator Certification Program** – This program administers the certification program for wastewater treatment facility operators, to ensure proper operation and maintenance programs at these facilities.
- **Wastewater Construction Permit Program** – This permit program is for communities that are constructing new wastewater facilities or are renovating or expanding existing facilities.
- **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. Other NPDES-related programs 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, and
  - **Storm Water Permit Program** – This permit programs 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**, which functions to protect municipal wastewater collection and treatment systems from damage or overloading by industries.

### Onsite Wastewater Treatment Facilities

The Onsite Wastewater Program covers septic tanks, holding tanks, small lagoons, and other engineered wastewater treatment systems typically not connected to a municipal wastewater treatment system. The majority of these systems are for single households, although there are onsite systems that provide wastewater treatment for multiple houses (these systems are sometimes called cluster systems), churches, camps, a variety of establishments (such as restaurants, butcher shops, and wineries), ethanol plants, 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. LB 333 also 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 also amended, effective December 26, 2007, to incorporate the new fees.

The program focuses on protecting surface and groundwater in the area of proposed onsite systems through the use of standardized design requirements, the certification of onsite professionals, review of plans for subdivision development, and review of plans and permitting of large onsite systems, systems where other concerns have been identified (such as setback, soil limitations, shallow groundwater, design), or systems with non-domestic wastes (such as wineries, butchers shops, animal housing or veterinarian clinics, equipment shops, hair salons, water treatment facilities). 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 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 qualified and certified professionals who understand Title 124 and the proper practices of their trade.

A certification by examination is required for professionals to obtain initial certification. A total of 12 hours of approved continuing education in the two-year certification period is required for certificate renewal. Examinations for certification began in July of 2005. The Department has held 178 exam sessions and administered nearly 1,800 exams since the certification program began, with 19 exam sessions in FY11. A total of 589 people currently hold onsite certificates. Some professionals obtain certification in multiple categories. All current certificates expire December 31, 2011, unless renewed on or before that date.

The registration requirement provides a statewide inventory of new or modified onsite systems. Since registrations began in 2004, over 11,000 systems have been registered, with 1,428 systems registered in FY11.

NDEQ has cooperative agreements with other governmental agencies (state and local) to help implement and coordinate the program. The government inspector fee waiver provision in LB333 helps with implementation locally. There are currently 17 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. NDEQ provides information to the public, industry practitioners, and local governments on the regulations for onsite systems through telephone calls, email, direct mail, meetings, and educational seminars. Staff meet with local government officials as well as providing compliance assistance to developers and their onsite professionals by discussing with them the subdivision requirements, necessary before any construction, and waste management plans and alternatives for subdivisions and housing developments located where municipal sewer systems aren't available.

Program staff received and responded to 115 complaints in FY11 and resolved a total of 126 complaints, which includes both old and new complaints. During this same time period, 18 Notices of Violation were issued, four cases were forwarded for enforcement action (NDEQ Administrative Order or request for enforcement to the Nebraska Attorney General), and program staff participated in an enforcement hearing.

The Private Onsite Wastewater Treatment System Advisory Committee advises the Department on administration of the Act and proposed rules and regulations. Title 124 was last amended in 2007 to increase the late registration fee, at the recommendation of the Advisory

Committee, and to establish the application fees for permits and subdivision approvals to cover the direct and indirect costs of administering the program, as required by LB 333.

Additional changes are being considered at the committee's recommendation. These potential changes deal with an endorsement provision and allowing for distance education for continuing education. The endorsement provision would provide for endorsement by examination for properly qualified certified installers to design mound systems. Mound systems are typically required in high ground water areas and currently require an engineer design and permit. Title 124 currently requires classroom based continuing education. A change to allow distance type continuing education could significantly enhance the educational opportunities for onsite professionals (reduced travel and related expenses, schedule on their own time schedule with less impact on their business time).

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 onsite systems. This allows the Department more time to focus resources on the certification of qualified professionals, education, complaint response, work with local governmental entities to address onsite wastewater issues, review of proposed subdivision developments, and review of permit applications which may include large systems or systems that receive non-domestic wastes.

Department staff review construction/operating permit applications for systems that do not meet requirements for Authorization by Rule. Title 124 also provides for Department approval of subdivisions prior to construction which contain lots less than three acres where onsite wastewater treatment is proposed. In the past year, the program received 30 applications for construction/operating permits and 17 applications for subdivision review and approval. The subdivision applications were for a total of 75 lots subject to approval.

Program staff work with many other organizations, including local health offices, county and city planning and zoning, the Nebraska Onsite Wastewater Association (NOWWA), the Nebraska Onsite Wastewater Task Force, UNL Cooperative Extension, and the Groundwater Foundation 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. NOWWA has held annual conferences and produced other training seminars since its inception in March 2001. UNL Cooperative Extension has continued to develop and deliver a variety of training and continuing education programs. This past year program staff reviewed and approved a total of 17 programs offering 74 professional development hours for continuing education. A schedule of continuing education programs is posted, along with other Onsite Program information, on the Onsite Program page on the Department website.

Staff continue to give extra effort during FY11 to the further development of the Onsite Program webpage. New or revised Fact Sheets on floor drains, establishments, septic tank & lagoon closure and septic system maintenance with links to relevant forms and documents have been provided to allow a quick and easy way for certified professionals, the public, and others to access, view, download, and print information about the Onsite Program. The webpage has been an unqualified success as it has proven to be a convenient way to access timely and relevant information about onsite wastewater issues affecting Nebraska citizens. An example of this occurred this past summer as the Onsite program provided information on the webpage directed to those affected by flooding about the signs to look for when assessing damage to septic systems.

### **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 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. The wastewater operator certification program has 859 certified operators with municipal certificates and 75 operators with industrial certificates.

The Department 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 2012. The Department has contacted a total of 232 facilities that may be eligible for the exemption and, of these, issued four-year exemptions to 203 facilities.

In FY11, the Department provided several Discharge Monitoring Report training sessions, and 10 operator certification examination sessions. Testing of municipal and industrial wastewater treatment facility operators will continue in FY12.

### **Wastewater Construction Permit Program**

The Wastewater Section administers the Department's construction permit program for new or modified wastewater works built in the state. Plans and specifications for municipal, industrial, and commercial wastewater facilities are reviewed by the Section's engineering staff to make sure that the facilities are designed to protect the public health and the environment from the effects of improperly handled or treated wastewater. For FY2011, a total of 174 wastewater projects were submitted to the Department for review and approval.

The State'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 design standards are updated periodically to keep Nebraska consistent with national standards. The State's design standards are written to encourage the use of proven technologies, but have also allowed Nebraska communities to utilize innovative designs where they are appropriate.

Title 123 also contains basic rules for the operation and maintenance of sanitary sewer systems and wastewater treatment facilities. It requires that Operation and Maintenance Manuals be prepared by utilities that describe the routine and emergency procedures that need to be followed to assure that reliable sewer service is provided to the public. Title 123 also contains

rules for the proper abandonment of wastewater facilities that have been removed from service. The abandonment rules are intended to protect the public from the threat of unsafe conditions or public health hazards.

Engineers from the Wastewater Section joined the state's emergency flood control efforts to keep municipal wastewater treatment facilities functioning during the Missouri River flooding in the summer of 2011. A tracking system was also maintained to update the status of flood threatened communities.

Considerable time was spent working with communities that needed to upgrade their wastewater treatment facilities. The section also met with representatives of food processing industries, power generating plants, ethanol plants, and other industries to assure that they properly treat and dispose of their wastewater.

Engineers from the Department's Wastewater Section continued to meet every month with the City of Omaha during 2010-2011 to discuss Omaha's plan to separate their combined sewer system. Omaha's project is expected to have about 80 separate construction projects over a 15-year period. Each of these individual projects will be submitted to NDEQ for review and approval.

## 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. Other NPDES-related programs 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, and
  - **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 control pollutants in wastewater discharges and monitoring 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.

The Department 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 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. The "General Permits" category includes discharge authorizations issued to groundwater remediation sites, storm water discharges, and dewatering/hydrostatic testing.

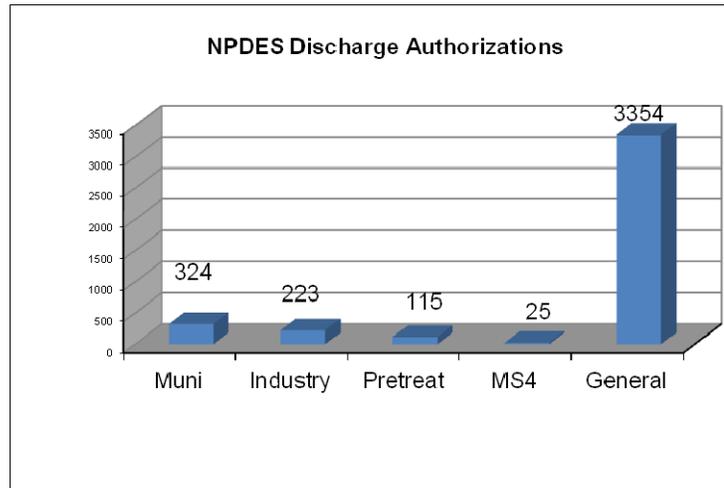
Most NPDES permits limit the discharge of pollutants by establishing effluent limitations for specific pollutants such as Carbonaceous Biochemical Oxygen Demand, total suspended solids, and ammonia among others. The permittee is then responsible for testing their wastewater discharge to ensure that the 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, 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 a total of 25 metropolitan areas and counties in Nebraska that have received MS4 permits. The Construction Storm Water General Permit was reissued January 1, 2008. A new Industrial Storm Water General Permit was issued on July 1, 2011 and allows 6 months for industrial activities regulated by the NPDES storm water program to apply.



There are 662 facilities with discharge authorizations under individual permits (municipal, industry and pretreatment), and 25 municipal storm water permits (MS4). There are 3354 active facilities authorized to discharge under other general permits. The graph titled "NPDES Discharge Authorizations" provides a summary of this information. The general permits include 1809 active authorizations under the construction general storm water permit, 159 dewatering/hydrostatic testing, 1335 industrial storm water, and 51 petroleum remediation sites.

**Municipal and Industrial Facilities**

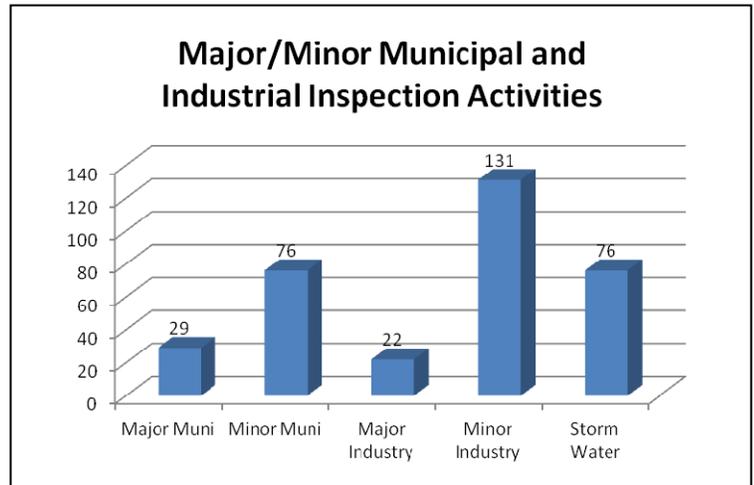
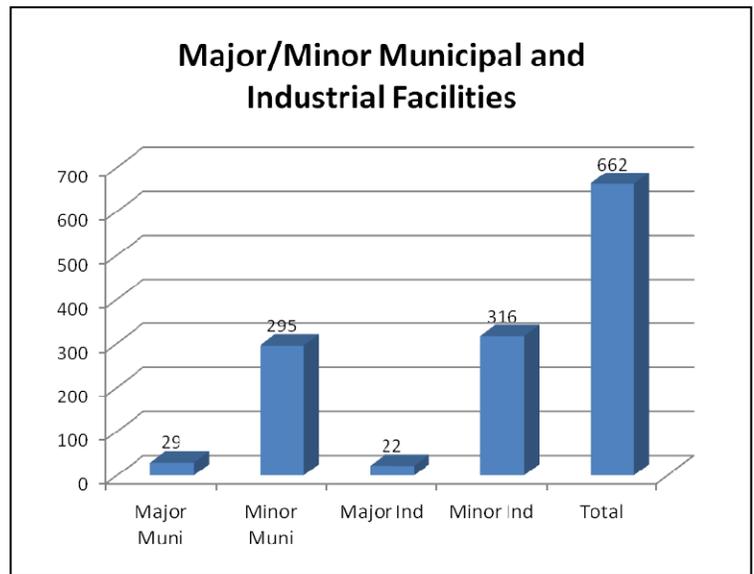
Industrial and municipal facilities are both grouped as major or minor facilities based upon their size and/or their potential to impact the receiving stream. The chart titled "Major/Minor Municipal and Industrial Facilities" provides a numeric break down of these types of facilities.

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 334 total inspections in Fiscal Year 2011. During effluent monitoring inspections effluent samples are collected and analyzed by the Department to compare with self-monitoring results. Facilities targeted for effluent monitoring inspections are chosen based upon pollution potential, past compliance or incident report histories, complaints, and/or Basin Management Approach priorities. Five facilities had effluent monitoring inspections in Fiscal Year 2011.

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 those municipalities that have combined storm water and wastewater sewer systems. These systems were built prior to the existence of secondary sanitary wastewater disposal standards. When storm or snow melt run-off 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 cities of Omaha and Plattsmouth have combined sewers that are subject to storm-induced bypasses.

The City of Omaha 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 requires Omaha to complete the long-term control plan projects by 2024. The projects included in the plan span 15 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.

The City of Plattsmouth has finalized and submitted the Long Term Control Plan for their CSO. Final schedules were included in the City's modified NPDES permit in 2009. Plattsmouth has committed to separating their storm and sanitary sewer lines. Separation projects began on July 1, 2010 and the City's re-issued permit, effective October 1, 2010, includes a schedule for completion of this work in the next five years.

Both the Cities of Omaha and Plattsmouth were severely impacted by the Missouri River Flood Event during the summer of 2011. This may impact the timing of CSO projects. Both cities are planning to send in revisions to schedules over the next 6 months.

### **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 Kansas City, KS; however, the Department regulates the disposal of municipal and industrial sludges, both through the use of NPDES permit

requirements and through the application of the NDEQ *Title 132 - Integrated Solid Waste Management Regulations*.

### **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. 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 for 2012. Dakota County, South Sioux City, and Dakota City will also be covered under this state wide permit when it becomes effective.

Nearly \$2.3 million in grant funds was awarded in FY2011 to MS4 permittees. This grant, established by Legislative Bill 1226 in 2006, is awarded annually to the development and 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, NER110000 was issued with change on January 1, 2008. The NPDES General Permit for Storm Water Discharges from Industrial Activity, NER900000, was issued July 1, 2011. Regulated industries have until December 31, 2011

to apply for coverage under this permit. The new permit requires benchmark monitoring for certain industrial activities. This monitoring must be in place by July 1, 2012.

### **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

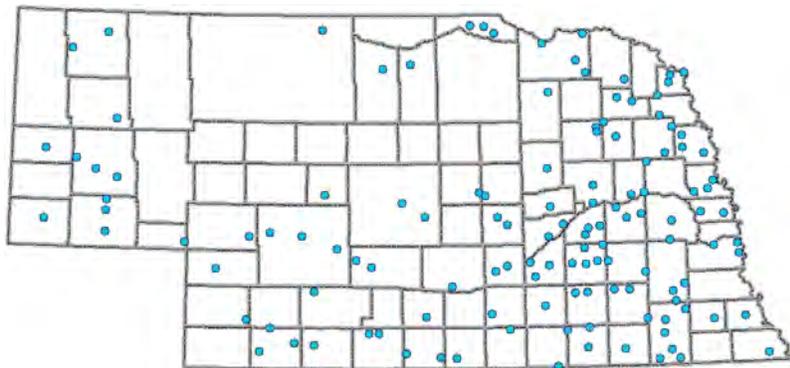
The Nebraska Clean Water State Revolving Loan Fund (CWSRF) program provides low interest loans and small community matching grants to municipalities for construction of wastewater treatment facilities and sanitary sewer collection systems to alleviate public health and environmental problems. The loan 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 22 years of activity, the Fund Net Asset has reached \$226 million. Since its inception, the program has made loans totaling \$368 million to 160 municipalities. The American Recovery and Reinvestment Act (ARRA or stimulus), passed by the federal government on February 17, 2009, provided \$20,045,000 extra funding for the CWSRF program during FY2009 and FY2010. The added stimulus funding did not require the 20% state match, but did require that 50% of the ARRA funds be provided as principal forgiveness (similar to the small community grants) and that 20% of the funds go to green infrastructure. All of the green infrastructure funds were allocated to land application facilities (a categorically qualified green infrastructure project). ARRA funds were fully obligated to projects before the February 17, 2010 deadline.

In FY2011, the CWSRF funded projects totaling \$47,258,725 in loans and \$3,795,934 in principal forgiveness and grant funds to the same projects.

The EPA awarded the 2010 capitalization grant, in the amount of \$10,422,000, in September 2010. A \$2,085,000 bond was used to match this federal grant.

The map below shows the locations of CWSRF projects over the 22 years of the loan program.



## Municipalities Receiving CWSRF Loans in FY2011

Municipality	Loan Date	Loan Amount	Principal Forgiveness and Small Community Grant Amount
Allen	8/13/2010	157,500	65,709
Aurora	6/29/2011	3,400,000	250,000
Blair	4/1/2011	400,000	76,000
Broken Bow (ARRA Amendment)	7/19/10	1,695,000	0
Brule	2/10/2011	125,000	62,500
Butler Co. SID #1 (Clear Lake)	10/7/2010	134,000	20,300
Carroll	4/1/2011	500,000	375,000
Cedar Bluffs (ARRA Amendment)	1/20/11	150,000	50,000
Clarkson (Green Project)	5/25/2011	750,000	250,000
Cozad	1/17/2011	2,075,000	250,000
Dorchester (ARRA Amendment)	4/4/11	5,355	1,785
Duncan (Green Project)	10/4/2010	493,000	159,600
Elm Creek (Green Project)	11/30/2010	415,000	195,880
Hartington	8/2/2010	155,000	67,797
Hayes Center (Green Project)	3/22/2011	306,000	250,000
Holdrege	1/19/2011	460,000	159,298
Kearney	9/30/2010	1,250,000	0
Lawrence	3/21/2011	160,000	80,000
Leigh & (Amendment #1)	7/9/2010 3/8/11	630,000	155,000
Lincoln	3/17/2011	17,000,000	0
Nebraska City	4/1/2011	5,000,000	110,135
Ogallala	12/28/2010	673,000	250,000
Osmond	8/18/2010	214,000	107,000
Paxton (Emergency Funding)	11/10/2010	68,000	34,000
Platte Center (ARRA Amendment)	3/2/11	9,384	6,566
Plattsmouth	7/28/2010	1,249,810	250,000
Polk Co. SID #1 (Duncan Lakes)	6/30/2011	2,212,847	221,796
Shelby	3/23/2011	365,625	0
Stuart	2/17/2011	125,000	62,500
Tekamah (ARRA Amendment – Green Project)	5/1/11	30,204	10,068
Wayne	10/25/2010	7,000,000	250,000
Wolbach	3/25/2011	50,000	25,000
<b>TOTAL</b>		<b>\$47,258,725</b>	<b>\$3,795,934</b>

Nineteen projects were under construction: Allen, Aurora, Blair, Brule, Butler Co. SID #1 (Clear Lake), Carroll, Cozad, Duncan, Elm Creek, Hartington, Holdrege, Kearney, Leigh, Ogallala, Osmond, Paxton, Plattsmouth, Stuart, and Wayne.

The following 24 SRF wastewater projects initiated operation in SFY2011: Allen, Brule, Butler Co. SID #1 (Clear Lake), Cedar Bluffs, Chadron, Dorchester, Duncan, Elm Creek, Filley, Guide Rock, Hartington, Holdrege, Indianola, Lincoln, Omaha, Paxton, Platte Center, Pleasanton, Red Cloud, Scottsbluff, Sidney, South Sioux City, Tekamah, and Verdigre (who had undertaken two projects simultaneously).

### **Construction Administration Fund Small Community Matching Grants**

In addition to and concurrent with loans, the CWSRF provides small community matching grants to financially distressed municipalities with population of 10,000 or less. This program has provided \$6.5 million in grant funding for 75 projects concurrent with a CWSRF loan during twenty years 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 FY2008, 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 FY2011, up to \$850,000 was available for small community grants, and any one community could receive a maximum of \$250,000. The program provided a total of \$788,636 in small community grants to the communities of Carroll, Cedar Bluffs, Dorchester, Hayes Center, Platte Center, Polk Co. SID #1 (Duncan Lakes), and Tekamah.

### **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 appropriations 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 the availability of loan forgiveness, and set-asides for program administration, technical assistance, wellhead protection, capacity development and operator certification. After 14 years of activity, the Fund capitalization level has reached \$149.6 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.

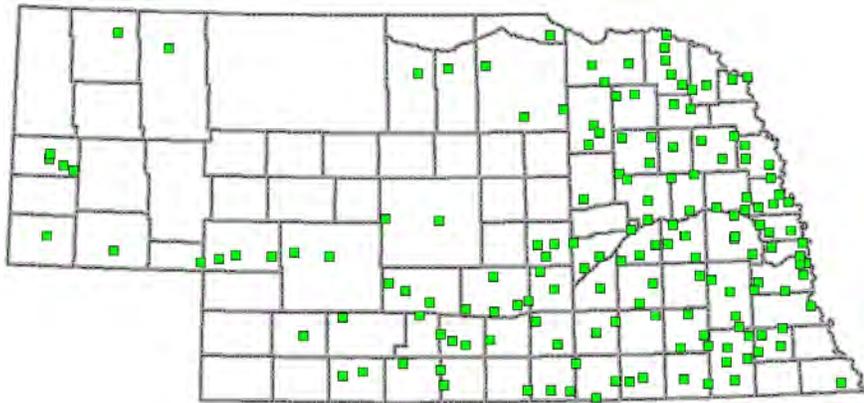
The Small System Technical Assistance set-aside (2%) provides technical assistance to Public Water Supply Systems serving 10,000 or fewer persons. This is accomplished through contracts with organizations with expertise in dealing with small systems and is coordinated by the NDHHS-DPH.

In FY2011, under the Source Water Protection Implementation set-aside (15%), NDEQ and NDHHS-DPH reserved \$125,000 for preliminary engineering reports, and \$100,000 for source water protection project grants. The Nebraska Environmental Partnerships Program administers the grants provided for preliminary engineering reports. The Department's Source Water Program oversees the source water protection grants.

The DHHS-DPH has determined eligibility for Public Water Supply program management, development and implementation of a capacity development strategy, and a water operator certification program set-aside of \$750,000. The state may use up to a total of 10 percent for this set-aside but must provide a one-to-one state match. DHHS-DPH has determined the set-aside eligibility by using program overmatch dollars for federal fiscal years 1993 to 1997. No additional state dollars are required for the set-aside amount.

The FY2011 DWSRF capitalization grant allocation totaled \$13.6 million. The program disbursed \$32 million for drinking water project construction.

The map below shows the locations of DWSRF projects over the 14 years of the loan program.



### Municipalities Receiving DWSRF Loans in FY2011

Municipality	Loan Date	Loan Amount	Principal Forgiveness and Loan Forgiveness
Albion	12/26/2010	352,500	70,500
Blair	8/12/2010	2,341,000	0
Bridgeport	7/7/2011	1,164,916	582,458
Cairo	8/10/2011	150,878	0
Carroll	4/13/11	154,440	30,888
Cedar Knox RWD	7/28/2010	134,090	66,978
Dorchester	8/18/2010	1,521,110	304,222
Hickman	7/1/2010	3,086,309	215,116
Holstein	4/12/2011	256,600	45,019
Humboldt	5/17/2011	2,570,500	514,100
Humphrey	6/27/2011	2,288,242	457,648
Kearney	9/30/2010	240,000	0
Osceola	3/30/2011	1,284,550	256,910
Pickrell	1/10/2011	228,377	45,675
Platte Center	8/9/2011	212,500	42,500
Rogers	12/11/2010	96,600	19,320
Shelby	8/3/2010	1,196,600	150,920
Stromsburg	8/13/2010	1,594,448	96,724
Wauneta	4/12/2011	352,000	70,400
Wausa	6/6/2011	307,000	61,400
<b>TOTAL</b>		<b>\$19,532,660</b>	<b>\$3,030,778</b>

The DWSRF funded projects totaling \$19,532,660 in loans and \$3,030,778 in grant funds to the same projects. Further, the capitalization grant required that a minimum of 30% (\$4,071,900) of the grant be reserved for additional subsidization (e.g., principal forgiveness) and 20% (\$2,714,600) for the Green Project Reserve (GPR) (e.g., water meters). Only 69% and 26% of these requirements were met before the end of the fiscal year, respectively. However, with several loan closings scheduled before September 2011, no problems are anticipated with meeting the required grant conditions.