CHAPTER 6:
Water Programs

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

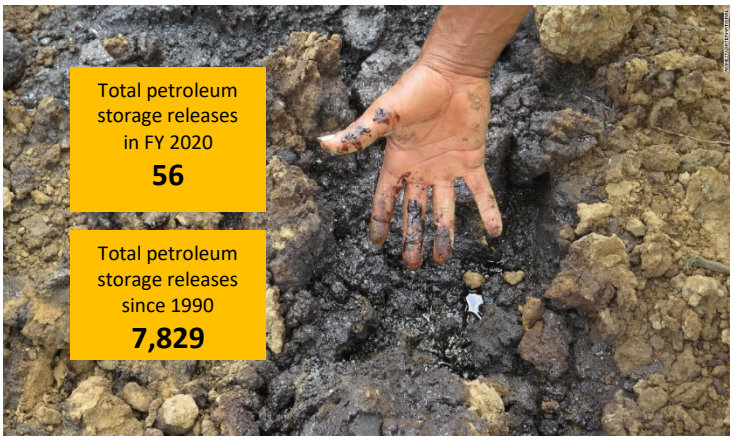
Petroleum Remediation Program

Activities regarding the Petroleum Remediation Program involve two interrelated areas:

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

Investigation and Cleanup

The first step in the Petroleum Remediation Program is the review of tank removal assessment reports or other documentation to determine whether contamination exists. If contamination is present, NDEE decides whether more investigation and cleanup are required. NDEE also 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, NDEE requires a detailed study of the affected groundwater and soil to discover the severity of the contamination, direction of groundwater flow, and potential water supplies or other points of exposure that may be impacted. Program staff review these reports to determine if cleanup is needed and issue a public notice of their decision. Staff members review remedial actions throughout the project and determine when sufficient cleanup has been accomplished.

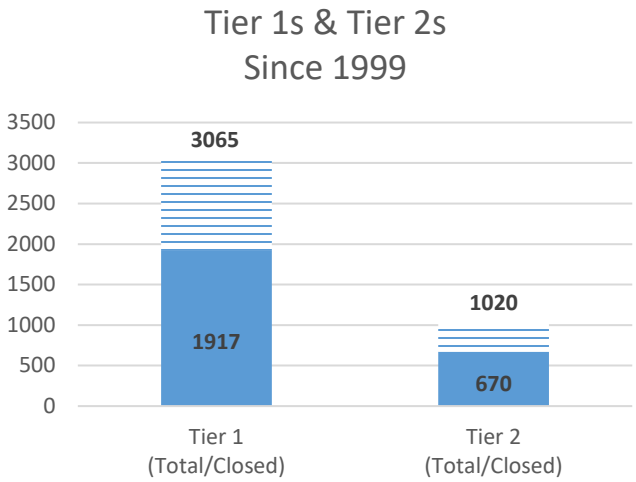
The program has incorporated Risk-Based Corrective Action (RBCA) procedures into regulations and accompanying guidance. The RBCA process allows for evaluation of all petroleum release sites based on the risks posed to human health and the environment. Those sites posing no significant risk

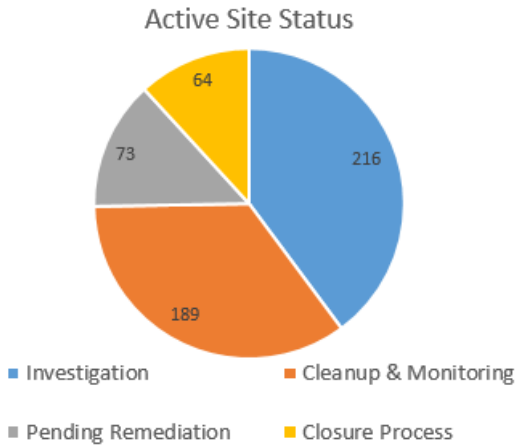
are closed; those posing significant risk are prioritized for further work. Since 1999, the program has collected site-specific information needed for Tier 1 investigations.

A Tier 1 investigation is the first step in the RBCA process, and involves gathering information related to site conditions and levels of contamination present in the soil and groundwater. After a Tier 1 investigation, sites are evaluated to determine if contamination levels warrant a more detailed investigation via Tier 2.

During a Tier 2 investigation, NDEE gathers additional information regarding the areas of concern only. After Tier 2 investigations, sites are evaluated to determine if cleanup is required. If sites fail Tier 2, they are normally scheduled for cleanup.

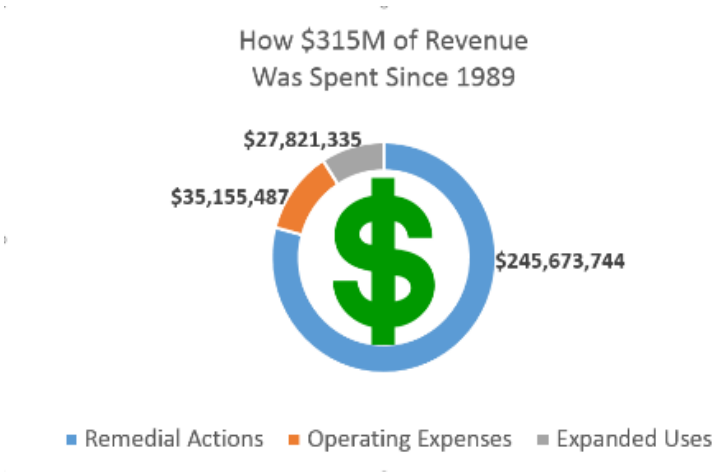
In FY20, NDEE initiated 92 Tier 1 investigations and nine Tier 2 investigations.





Financial Assistance – Petroleum Release Remedial Action Reimbursement Fund

When contamination has been found at a site and NDEE has determined that more investigation and/or cleanup is required, NDEE will also determine the "Responsible Person." This term refers primarily to those who owned or operated the tank or other source when the leak occurred. Those entities determined to be a Responsible Person may be eligible for reimbursement through the Petroleum Release Remedial Action Reimbursement Fund.



The Fund was created by the Legislature in order to help tank owners pay for the costs associated with assessing and cleaning up any petroleum releases from tanks as well as meet the $1 million financial responsibility requirement established for underground storage tanks. Costs for both underground and above-ground tank releases are eligible for reimbursement. The program's activities in this area include receiving and processing applications for reimbursement from the fund and subsequently issuing reimbursements for eligible costs. To assist applicants, the program developed a guideline entitled "Reasonable Rates Schedule and Reimbursement Guidance Manual," which is available on the NDEE website.

Revenue was just over $11.7 million in FY20. During the year, NDEE reimbursed about $3 million to Responsible Persons for work done at 158 different sites, and $6.1 million was spent to clean up orphan sites. An additional $700,881 of revenue was transferred to NDEE's Superfund program, as directed by legislation passed in 2017. As of June 30, 2020, over $245 million has been spent on site cleanups.

Responsible Person Sites

For the last several years, there have been hundreds of sites where the Responsible Person is known, but NDEE did not require work to begin. These were lower priority sites, and there was not sufficient funding to reimburse potential costs under the Reimbursement Fund. The sites were placed on a waiting list (backlogged) until funding was available. NDEE has worked steadily in the last several years to bring that list to zero. By November 2018, there were no more responsible person sites waiting on NDEE to require and approve work. Now when new spills are reported, NDEE works on them immediately, which helps speed property transactions and redevelopment.

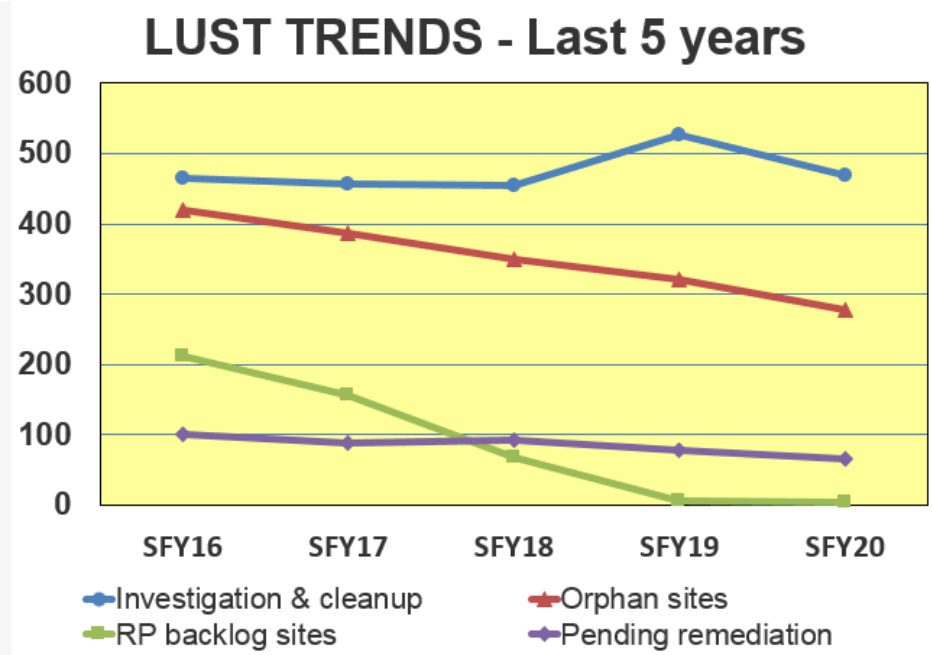
Active leak in Chadron

Orphan Sites

In situations involving "orphan" sites (sites where there is no viable Responsible Person), investigation and remediation costs are paid with federal and/or state funds. In FY20, 52 orphan sites were activated for investigation and/or cleanup using State contractors. At the end of FY20, there were 280 orphan sites backlogged and not yet investigated.

Leaking Underground Storage Tanks

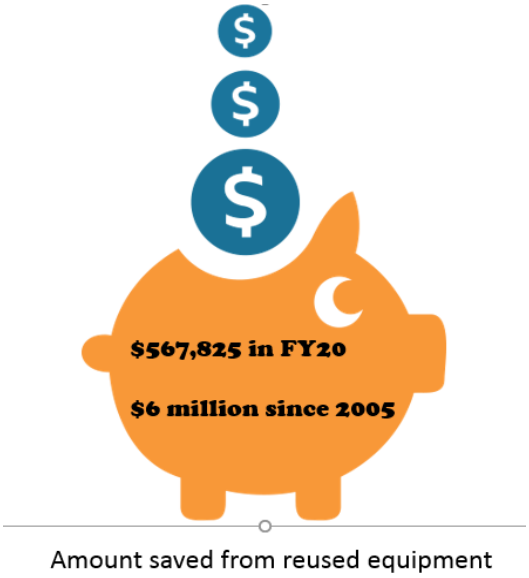
Another name for the entire program is the acronym **LUST**. Many states use this term for their state petroleum cleanup programs.



Equipment Reuse

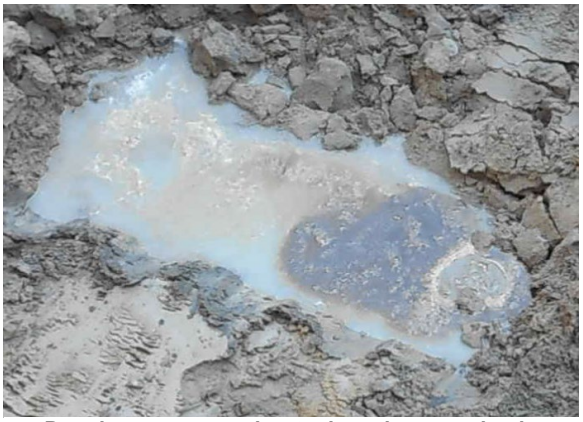
As sites are undergoing cleanup, NDEE pays for the purchase of remediation equipment. When sites are cleaned up and closed, NDEE seeks to reuse that equipment at other sites. Since June 2005, NDEE has reused hundreds of pieces of equipment, thus greatly reducing the need to buy new equipment. This reuse program has saved Nebraska taxpayers over $6 million in new equipment costs and allowed that money to be used for cleanup of additional sites.

Some of the inventory of remediation trailers waiting to be reused



Voluntary Remedial Action

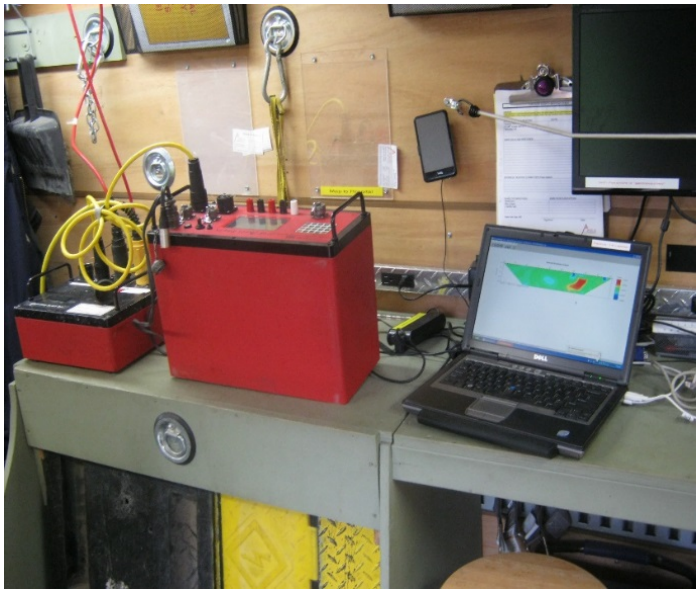
Responsible persons are able to perform voluntary remedial action prior to NDEE's approval of their plans and still be eligible for reimbursement consideration in the future. This allows sites to move forward on their own initiative. To date, 235 suspended or backlogged leaking underground storage tank sites have been closed based on voluntary submittals.



Petroleum on ground water in tank excavation in Lincoln's developing Telegraph District

New Technologies

NDEE has always considered and implemented new methods of identifying and remediating petroleum releases. Working with both the University of Nebraska-Lincoln (UNL) and private industry, the Department has tried many new technologies over the last 25 years. Currently, chemical injection and remote sensing are being tried throughout the state.

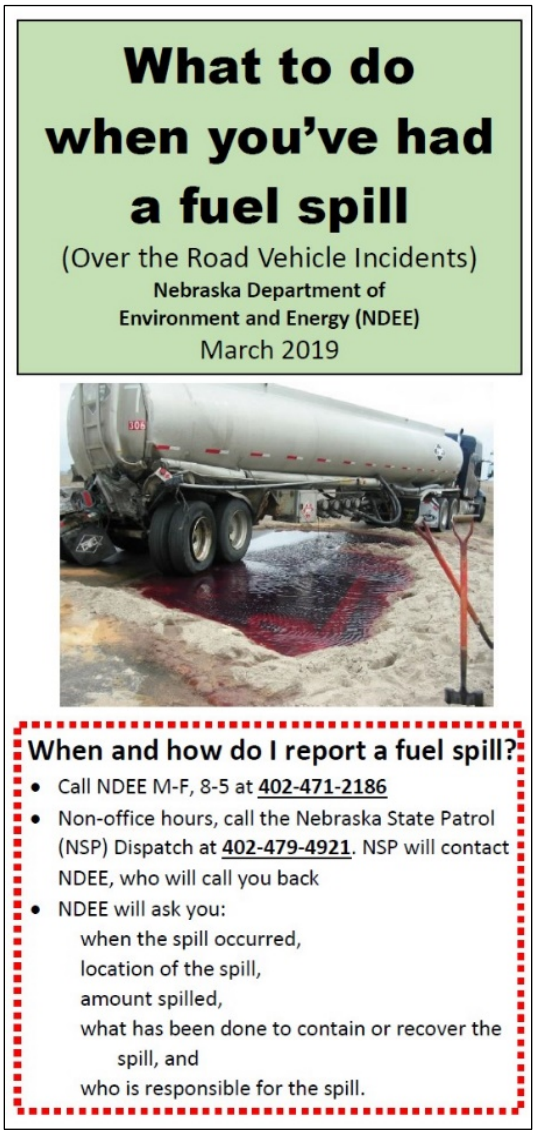


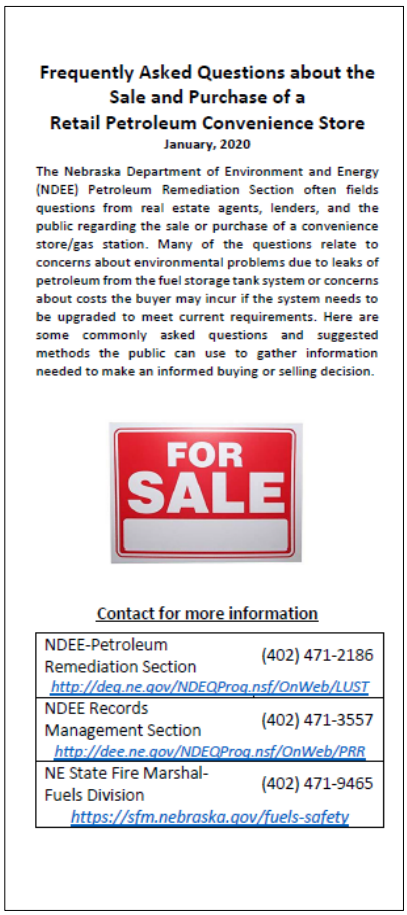
Surface Spills

Many trucking companies, petroleum distributors, emergency response managers, and law enforcement agencies are unaware of Nebraska regulations regarding response to a petroleum spill onto road surfaces and shoulders — especially when groundwater is threatened.

Therefore, the Petroleum Remediation Section developed a brochure for distribution throughout the state explaining NDEE regulations and recommendations for cleaning up after a spill. We have distributed the brochure to all Nebraska county emergency managers, many law enforcement entities, trucking companies, and private citizens.

The brochure and further information is also available on our website at http://dee.ne.gov/NDEQProg.nsf/OnWeb/PSS.





Frequently Asked Questions about the Sale and Purchase of a Retail Petroleum Convenience Store

January, 2020

The Nebraska Department of Environment and Energy (NDEE) Petroleum Remediation Section often fields questions from real estate agents, lenders, and the public regarding the sale or purchase of a convenience store/gas station. Many of the questions relate to concerns about environmental problems due to leaks of petroleum from the fuel storage tank system or concerns about costs the buyer may incur if the system needs to be upgraded to meet current requirements. Here are some commonly asked questions and suggested methods the public can use to gather information needed to make an informed buying or selling decision.

Contact for more information

NDEE-Petroleum Remediation Section http://deq.ne.gov/NDEQProg.nsf/OnWeb/LUST	(402) 471-2186
NDEE Records Management Section http://dee.ne.gov/NDEQProg.nsf/OnWeb/PRR	(402) 471-3557
NE State Fire Marshal-Fuels Division https://sfm.nebraska.gov/fuels-safety	(402) 471-9465

Sale & Purchase of Retail Petroleum Convenience Store

The Petroleum Remediation Section (PRS) often fields questions from real estate agents, lenders, and the public regarding the sale or purchase of a convenience store/gas station. Many of the questions relate to concerns about environmental problems due to leaks of petroleum from the fuel storage tank system or concerns about costs the buyer may incur if the system needs to be upgraded to meet current requirements.

As a response, PRS developed a brochure for distribution to the public containing some commonly asked questions and suggested methods the public can use to gather information needed to make an informed buying or selling decision.

More information is available on the Petroleum Remediation Section website at http://deq.ne.gov/NDEQProg.nsf/OnWeb/LUST.

Water Quality Monitoring and Assessment Programs

Surface Water Assessment Programs

Canoeing at Holmes Lake, Lincoln

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

Nebraska-Lincoln (UNL), Central District Health Department (CDHD), and United States Geological Survey (USGS).

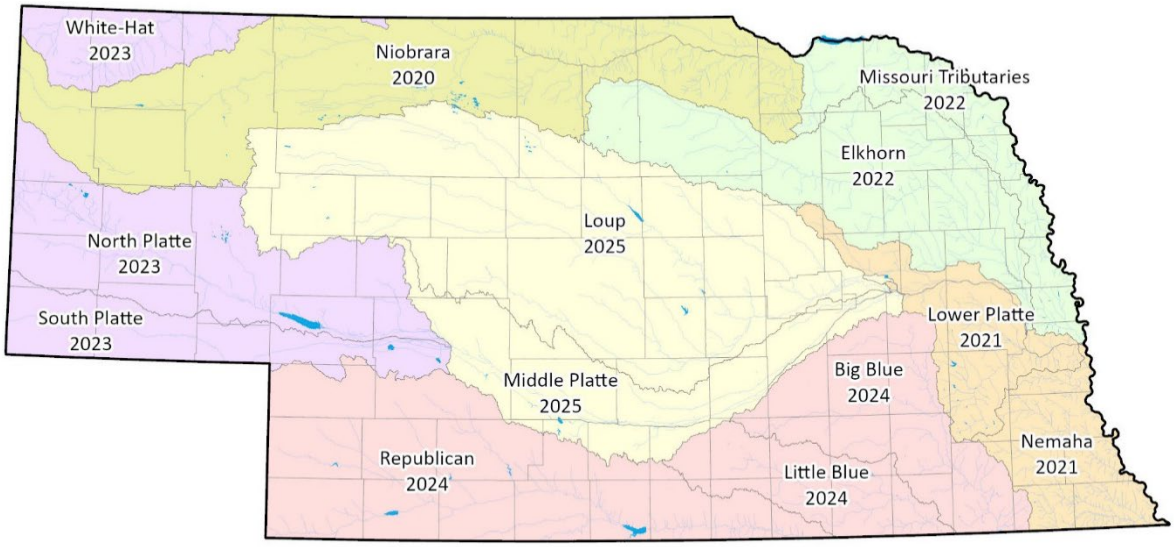
Each year, surface water samples are collected at hundreds of locations across the state, resulting in over 36,000 individual field measurements and laboratory analyses.

NDEE's surface water monitoring programs have different purposes. Brief descriptions of the basin monitoring strategy, as well as other water quality monitoring programs, are provided below. Additionally, a more detailed overview of the programs are provided in the Department's annual publication Water Quality Monitoring Programs Report available online.

Basin Rotation Monitoring Program

- Geographically focuses water quality sampling in one to three major river basins per year.
- Weekly monitoring of flowing waters (rivers and streams) May-September.
- In 2020, NDEE sampled 42 sites within the Niobrara River basin.

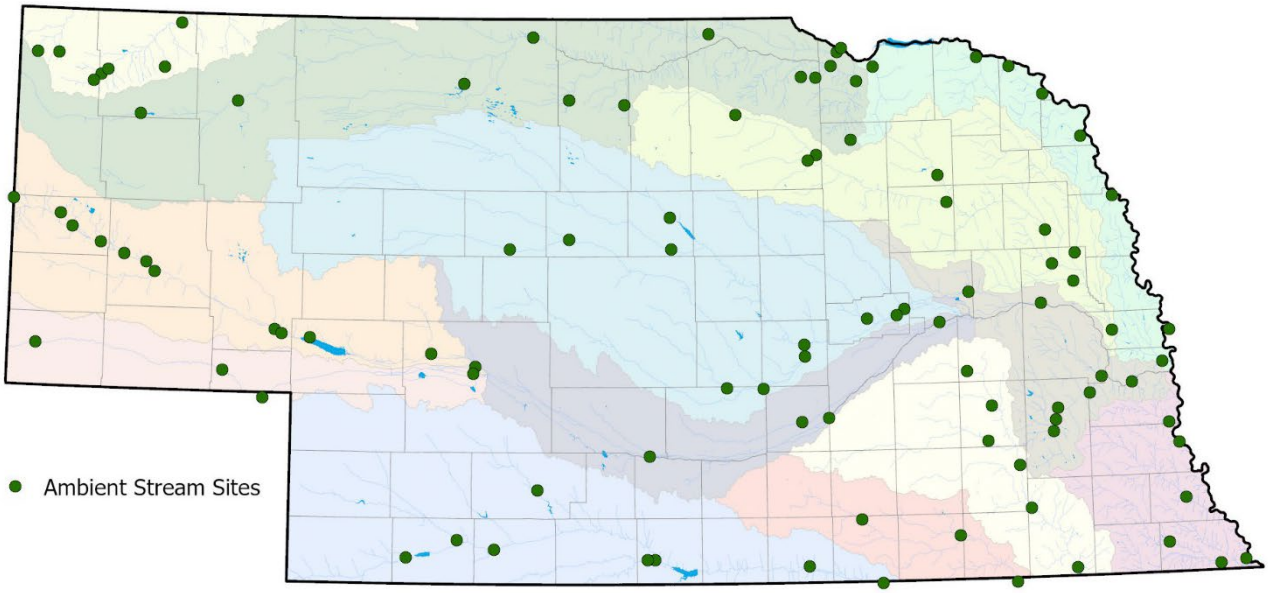
Six-year basin rotation monitoring schedule



Ambient Stream Monitoring Program

- Network of 101 fixed stations.
- Main stem and tributary streams.
- Thirty-four parameters analyzed at each network sampling location.
- Collected monthly, year round.

Locations of NDEE Ambient Stream Monitoring Program sites



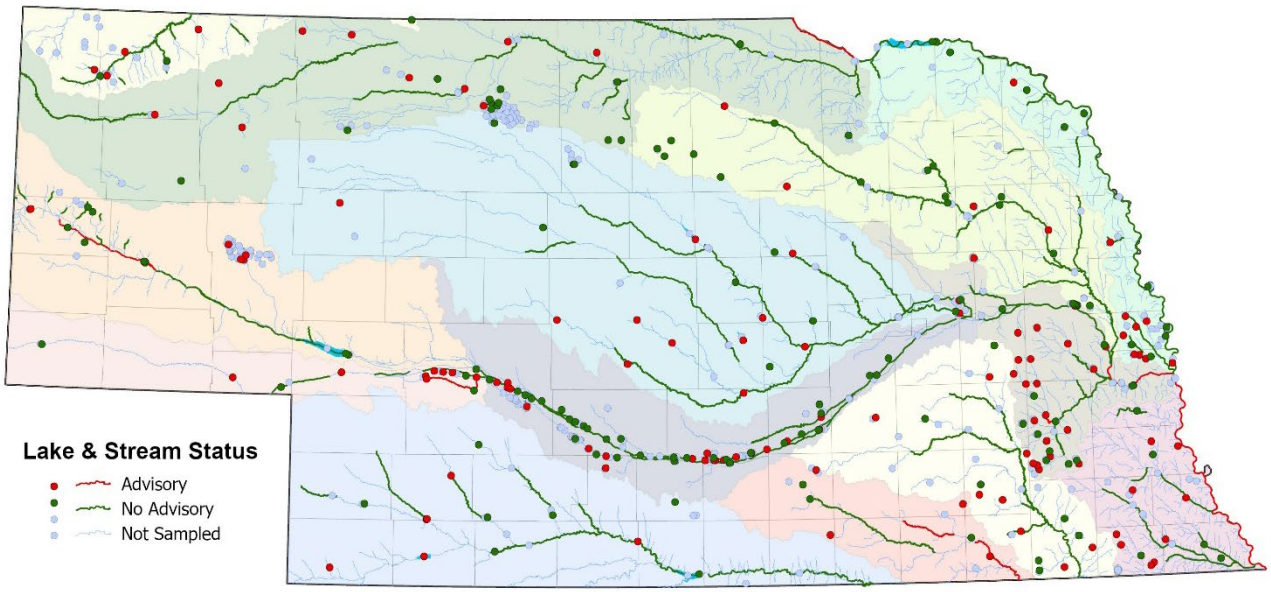
Public Beach Monitoring Program

- Nebraska is on the forefront of national sampling and public notification for events related to Harmful Algal Bloom (HAB), also known as blue-green algae.
- Up to 54 public beaches are sampled weekly during the summer months of May-September.
- Samples analyzed for *E. coli* bacteria and the microcystin toxin.
- Risks to humans come from external exposure (prolonged contact with skin) and from swallowing the water.
- Symptoms from ingestion can include headaches, nausea, muscular pains, central abdominal pain, diarrhea, and vomiting. Severe cases could include seizures, liver failure, and respiratory arrest. The severity of the illness is related to the amount of water ingested, and the concentrations of the toxins.
- Children, because of their smaller body size, are at risk for more intensive symptoms.
- Results and beach alerts are issued each week during the summer on the BeachWatch Listserv and NDEE's web site. Signs are posted at affected beaches. The weekly and past results are available online at https://deq-iis.ne.gov/zs/bw/. Directions to sign up for the Listserv are at the bottom of the BeachWatch web page.

Fish Tissue Monitoring Program

- Assess fish tissue for toxins, such as mercury and polychlorinated biphenyl compounds (PCBs).
- Current fish tissue consumption advisories at 139 locations.
- In 2020, 25 lakes and 11 river and stream locations were sampled within the Niobrara River basin.
- The most recent report is online.

Lake and Stream Fish Consumption Advisory Locations in Nebraska Through 2019



Stream Biological Monitoring Program

- Stream sites assessed for the overall health of the streams.
- Diversity and numbers of resident aquatic macroinvertebrate and fish communities evaluated.
- Sites chosen with a probabilistic sampling design within the framework of the Basin Rotation schedule.
- 48 sites (15 completed in partnership with Nebraska Game & Parks Commission) were sampled in 2020 within the Niobrara River basin.

Ambient Lake Monitoring Program

- Twenty-six lakes and reservoirs sampled monthly during May-September.
- Evaluate water quality suitability for fish and aquatic organisms to survive and reproduce.
- Long-term effects can be assessed.

Fish Kill and Citizen Complaint Investigations

- Dead fish and other surface water concerns are relayed to NDEE throughout the year.
- On-site investigations and water quality sampling performed at many of the complaints.
- Seven fish kills investigated from July 1, 2019 to June 30, 2020: six were from low dissolved oxygen levels and one resulted from an unknown cause.
- Sixty-three complaints were taken by the Surface Water Unit in the last year, many were forwarded to other NDEE programs or other agencies.

Stream Nutrient Assessment Pilot Study

- Assess the impacts of nutrients on the primary producers (algae and other materials that form on surfaces and within the water column) of Nebraska's streams, and determine if local degradation occurs due to elevated nutrient loads.
- Streams chosen are also sampled as part of the Basin Rotation Monitoring Program.
- Eight streams in the Niobrara River basin were sampled for this study in 2020.

Integrated Report —States are required by the federal Clean Water Act to prepare a biennial water quality report called the Integrated Report. The Integrated Report provides a comprehensive summary of the status and trends of surface water quality in Nebraska, and includes a list of impaired surface waters that do not support their assigned beneficial uses. The 2018 Water Quality Integrated Report, which was approved by the EPA in April 2018, is available on NDEE's web site at http://deq.ne.gov/Publica.nsf/Pages/WAT234. Work on the 2020 Integrated Report is underway and expected to be completed by the end of calendar year 2020.

Groundwater Assessment Programs

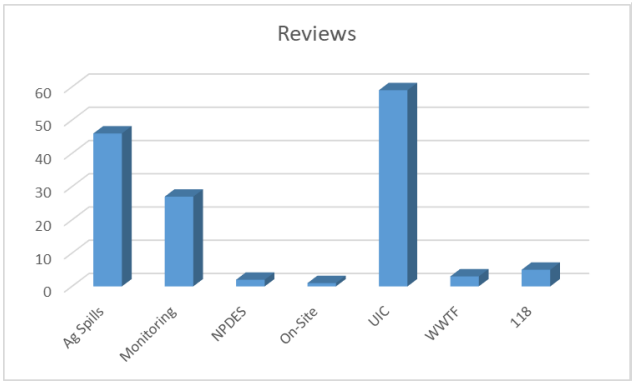
Groundwater Quality Monitoring Report

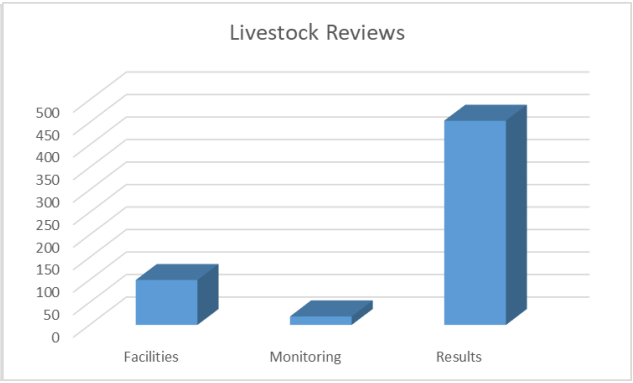
The Groundwater Quality Monitoring Report summarizes the water quality monitoring efforts of the Natural Resources Districts, NDEE, and other state, local and federal agencies. The 2019 Groundwater Quality Monitoring Report can be accessed on the NDEE website at http://deq.ne.gov/publica.nsf/PubsForm.xsp?documentId=7AA33E82AAC4119C862584C400682884&action=openDocument. Statistics and maps showing nitrate-nitrogen groundwater monitoring results as well as statistics for three of the 241 agricultural chemicals detected in the state are presented. The report uses data from the Quality-Assessed Agrichemical Contaminant Database for Nebraska Groundwater, developed cooperatively by the Nebraska Department of Agriculture, University of Nebraska-Lincoln, and NDEE. These data are accessible to the public on the Nebraska Department of Natural Resources website, https://dnr.nebraska.gov.

Hydrogeologic Studies and Reviews

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

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





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. There are six classes of injection wells:

- Class I injection wells are for the injection of wastewater below the lowermost underground source of drinking water.
- Class II wells are associated with oil and gas production, and are regulated by the Nebraska Oil and Gas Conservation Commission.
- Class III wells are used to inject fluids for the purpose of extracting minerals.
- Class IV wells are associated with the injection of hazardous waste, are illegal, and have never been allowed in Nebraska.
- Class V injection wells are any wells not included in the other specific classes.

Common examples of Class V wells include open loop heat pump systems, large capacity septic systems, and subsurface drip irrigation systems. Class VI wells are associated with the injection of carbon dioxide for permanent disposal. This class of wells is currently regulated by the EPA.

Currently the State of Nebraska has four permitted Class I wells. Two of these are issued to Crow Butte Resources, Inc., a uranium facility near Crawford. The other two are issued to the City of McCook and Kugler Oil Company in Culbertson. The only Class III wells in the state are at the Crow Butte Resources, Inc. Class V wells are located throughout the state and make up the majority of Nebraska UIC wells.

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 NAC *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.

Wellhead Protection

The State Wellhead Protection (WHP) program is a voluntary program, which assists communities and other public water suppliers in preventing contamination of their water supplies. State WHP 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. One hundred eighteen community water supplies have approved Wellhead Protection plans as of August 31, 2020.

In 2019, NDEE began using the Groundwater Evaluation Tool (GET) to model WHP areas for Nebraska's Community Drinking Water Systems. GET is a web-based subscription service which utilizes seven regional numeric groundwater models to run reverse particle tracking, which creates time-of-travel capture zones. Statewide models cover 511 of the 522 community groundwater Public Water Systems (PWS) that produce their own water. This tool has allowed NDEE to become more efficient in updating WHP areas throughout the state while increasing the quality of models and reports it produces for Nebraska

communities. GET can also be used to assist communities in understanding the water quality in areas where new wells may be placed.

Source Water Assessment and Protection

Source Water Protection (SWP) funds have been distributed to complete 100 separate Source Water Protection projects throughout the state since 2004. In SFY2020, Source Water Protection funds were distributed to the following public water systems: Ashland, Creighton, Dodge, Plainview, and West Knox Rural Water System. The total amount available to award was $150,000.

The Source Water Protection program coordinates closely with the CWA 319 program to engage Nebraska's communities and producers and develop Drinking Water Protection Management Plans (DWPMP) that proactively address nonpoint source contamination. SWP grant funds (from Drinking Water State Revolving Fund set-asides) are used to develop the plans, encourage community involvement through stakeholder groups, and put on public meetings to promote the projects. The plans are alternative 9-element watershed management plans that, when accepted by EPA, make communities eligible for CWA 319 funding. 9-Element Watershed Management Plans are developed and implemented to address nonpoint source pollution issues that affect water quality. They are non-regulatory, community-based plans with the main goal to remove impaired waterbodies from the 303(d) list. Approved 9-element watershed management plans allow project sponsors to apply for nonpoint source pollution program (319) grants from NDEE. This funding pool provides more funding and longer term grants (five years) that the Source Water Protection Grants are not able to do. These plans bring together NRDs, NRCS, and local stakeholders to increase on-the-ground agricultural best management practices and increase outreach and education efforts in Nebraska's communities. The first Drinking Water Protection Management Plan in the nation was accepted by EPA in the summer of 2018 for the Bazile Creek area in northeastern Nebraska. One additional plan has been accepted and six are in various states of development.

The 2018 Farm Bill dedicated 10% of total funds available for conservation programs (with the exception of Conservation Reserve Funds) each year, to be used for source water protection. NDEE is working with NRCS to develop the priority areas in Nebraska where funds will be focused. This effort is meant to address excessive nutrients and other impairments of drinking water. For Nebraska, this effort will primarily focus on groundwater as it is the predominant source for drinking water in the state. The highest priority areas include community public water systems WHP areas and phase 2, 3, and 4 groundwater management areas that include WHP areas. Best management practices incentive payments will go to the NRCS - EQIP eligible owner/operators of agricultural land who install conservation practices relating to water quality and quantity.

NRDs each define their own groundwater management areas separately based on water quality and quantity. Since they vary between NRDs, there is not a state-wide definition for them. NDEE works primarily with NRDs on groundwater quality issues and in general, a Phase I area covers the entire NRD district. In specific areas within an NRD where nitrate reaches a determined thresholds, they may move into Phase II, III or IV areas. Some NRDs only define areas as I - III, while others go from I - IV. Each NRD determines the 'trigger' (or contaminant level) that would move a Phase area into the next level. Each Phase level has requirements for landowners/producers to follow. Moving from a Phase I to a Phase II level often means that they need to complete an educational requirement

such as nutrient management or fertilizer application training. Phase II-IV may also require that certain BMPs may be required such as split application of fertilizer, cover crops, or not applying fertilizer in the fall for example.

The importance of this change in the farm bill cannot be understated. Many Nebraska communities don't have the staff, time, or money to enact Drinking Water Protection Management Plans, and the priority in funding from NRCS may ensure that all community public water systems have on-the-ground practices that work to reduce nitrates in source water protection areas.

Water Well Standards and Contractors' Licensing Program

In July 2018, the Water Well Standards program was brought to the NDEE through a Memorandum of Agreement with the Nebraska Department of Health and Human Services. Program personnel include three inspectors and one administrative assistant. This program is tasked with inspecting all domestic wells and 25% of all other wells drilled in the previous calendar year. This year was an exception to the rule as the program was short one inspector and there were no inspections for three months due to COVID-19. That being said, the two remaining inspectors completed almost 900 inspections throughout the entire state.

The program is also responsible for licensing and regulating over 800 licensed water well professionals which includes administering examinations on a quarterly basis. In addition, the program answers various questions and complaints from both the public and the regulated community.

Overseeing the program is the Water Well Standards and Contractors Licensing Board. The board is comprised of five government representatives (including NDEE, DHHS, Nebraska Resources Districts and Nebraska Department of Natural Resources) and five non-government entities (including pump installation contractors, irrigation water well contractors and equipment suppliers/manufacturers). Board members meet quarterly to make decisions related to issues such as application fees, rules and regulations, continuing education units and disciplinary action.

Water Quality Planning

Surface Water Quality Standards

NDEE develops surface water quality standards which are found in NAC *Title 117 – Nebraska Surface Water Quality Standards*. The state's waterbodies have been assigned beneficial uses in one of the following categories:

- Public water supply,
- Aquatic life,
- Agriculture,
- Industry,
- Recreation, and
- Aesthetics.

Each beneficial use has water quality criteria for chemical and physical parameters that are developed to be protective of that use. For example, criteria for nitrogen are different for waters assigned to public water supply use than those which have an industrial beneficial use. These criteria form the basis of water quality protection for all surface water quality programs conducted by NDEE. The federal Clean Water Act (CWA) specifies that states review their water quality standards and revise where appropriate once every three years (triennial review).

Nebraska's triennial review was last revised in 2019 with the Governor's signature to Title 117 on June 24, 2019, and approval by EPA on September 5, 2019. The updated standards are available on NDEE's website. In addition to developing the standards, staff develop and implement procedures for applying the standards to surface water quality programs, such as NPDES permits.

Impaired Waters and Total Maximum Daily Loads (TMDLs)

The Federal CWA, Section 303(d), requires states to prepare a list of impaired surface waters – waters that do not support the assigned beneficial uses as listed in NAC *Title 117 - Nebraska Surface Water Quality Standards*. From this list, states are to prepare TMDLs that include the pollution control goals and strategies necessary to improve the quality of these waters and remove the identified impairments so these waters may meet their assigned beneficial uses.

As in previous years, NDEE 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 (IR). The 2018 Integrated Report was approved by EPA in April 2018 and is available on NDEE's web site.

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

IR Category	TMDL/5-alt Name	# of Waterbodies	Pollutant	Status
4a				
	Republican River Basin	26	*E. coli*	NDEE Developing Draft
5-alt[1]				
	Willow Creek Reservoir	1	TN/TP	Final submission under review by NDEE, EPA Region 7

IR Category	TMDL/5-alt Name	# of Waterbodies	Pollutant	Status
	Nemaha River Basin WMP	7	*E. coli*	Final submission under review by NDEE, EPA Region 7
	White River Basin WMP	5	*E. coli*	Final submission under review by NDEE, EPA Region 7
	Lewis and Clark NRD WMP	7	*E. coli*	Final submission under review by NDEE, EPA Region 7
	Lower Platte South NRD WMP	10	*E. coli*	Final submission under review by NDEE, EPA Region 7

[1]In 2015, NDEQ (now NDEE) and EPA created the "5-alt" alternative to developing TMDLs for impaired waterbodies in order to address missing TMDLs in areas where project sponsors have targeted restoration work. As of 2020, EPA and NDEE are revising the submission process for 5-alt plans. Completion of the listed 5-alts is pending the conclusion of these revisions.

Nonpoint Source Pollution Management Program

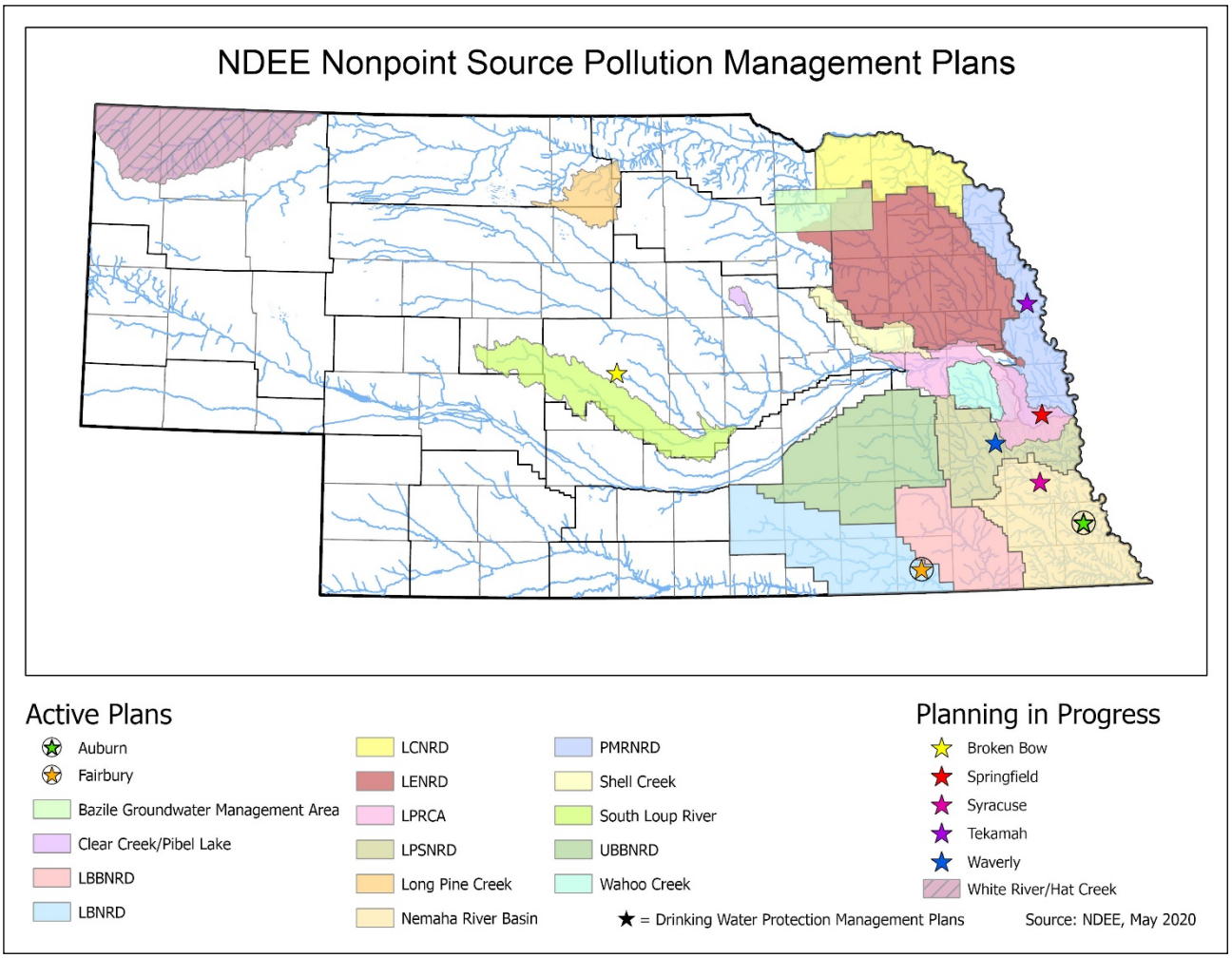
The goal of the Nebraska Nonpoint Source Pollution Management Program is to protect and improve water quality impacted by nonpoint source pollution through an integrated statewide effort. The program is of particular significance because nonpoint source pollution is the most prevalent, widespread cause of water quality degradation in Nebraska and is associated with runoff and percolation from agricultural and urban areas. The program is largely funded by the Environmental Protection Agency (EPA) through Section 319 of the federal CWA and involves key federal, state, and local partners.

State nonpoint source problems and priorities are defined in the Nonpoint Source Management Plan: "Strategic Plan and Guidance for Implementing the Nebraska Nonpoint Source Management Program 2015-2030," available at http://deq.ne.gov/publica.nsf/pages/WAT119. The program emphasizes watershed and groundwater management area planning, targeting of 303(d)-listed impaired waters, and community participation in water quality management plan development.

Stormwater infrastructure tour, Omaha

Projects emphasize implementation of 9-Element watershed management plans or Alternative to 9-Element plans in the case of groundwater quality plans.

Included in the major program highlights this year is the acceptance by EPA of three 9-Element watershed management plans: Upper Big Blue NRD Water Quality Management Plan (WQMP), Nemaha WQMP, and Lewis and Clark NRD WQMP. In addition, the NPS program has continued to emphasize groundwater quality planning through development of Drinking Water Protection Management Plans (DWPMPs) as Alternative to 9-Element plans with the communities of Broken Bow, Fairbury, Springfield, Syracuse, Tekamah, and Waverly. In the past year, both Auburn and Fairbury DWPMPs were accepted by EPA. Once DWPMPs are accepted by EPA, these communities are be eligible to apply for 319 project funds for plan implementation.



Water Quality Data Handling and Storage

NDEE continues adding Nebraska surface water quality information to the EPA's Water Quality Exchange (WQX) electronic storage system for water quality data. This will make Nebraska surface water quality information available to anyone who has an internet connection. The website for this information is https://www.epa.gov/waterdata. During FY2020, NDEE continued to add surface water monitoring results to the WQX database. NDEE has developed a new internal database application which has increased the efficiency of processing surface water monitoring data, resulting in significant time savings.

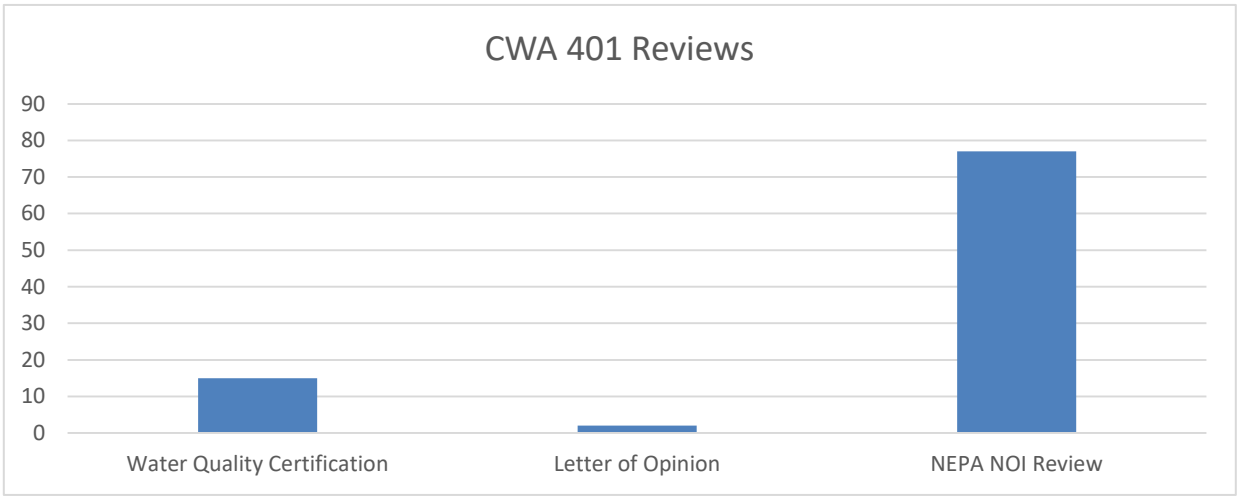
Clean Water Act Section 404 Assumption Review

Dredge and Fill Permits

The Water Division CWA 404 Section was created in 2019 in response to LB302, which allowed the Department to investigate the process and cost to assume Clean Water Act (CWA) 404 permitting authority from the U.S. Army Corps of Engineers for activities in and around waters of the U.S. The section is investigating the assumable workload for all waters of the U.S. outside of CWA Section 10 waters and waters within Tribal lands which will be retained by the Corps. In addition, the 2020 Navigable Waters Rule clarified ephemeral streams, ditches, and isolated wetlands are not waters of the U.S. The Department has conducted a desktop analysis to determine what impact this new rule has on the assumable workload. This information is being utilized to estimate staffing needs and develop sustainable funding scenarios. The Department will submit a separate report summarizing these findings to the legislature. The Department is actively working and meeting bi-monthly with both EPA and the Corps and will make a complete report of findings in the near future.

CWA Section 401 Water Quality Certification

The Water Division CWA 404 Section administers the Water Quality Certification Program in accordance with Section 401 of the CWA. This program evaluates applications for federal permits and licenses that involve a discharge to Waters of the U.S. and determines whether the proposed activity complies with Nebraska Surface Water Quality Standards. If the activity is likely to violate the standards, conditions for complying with the standards will be issued with the certification, or certification will be denied. The U.S. Army Corps of Engineers Section 404 Dredge and Fill Permits and Federal Energy Regulatory Commission licenses are examples of federal regulatory programs that require State Water Quality Certification before federal permits or licenses can be issued. NDEE reviews approximately 20 individual Section 404 permit applications annually.



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

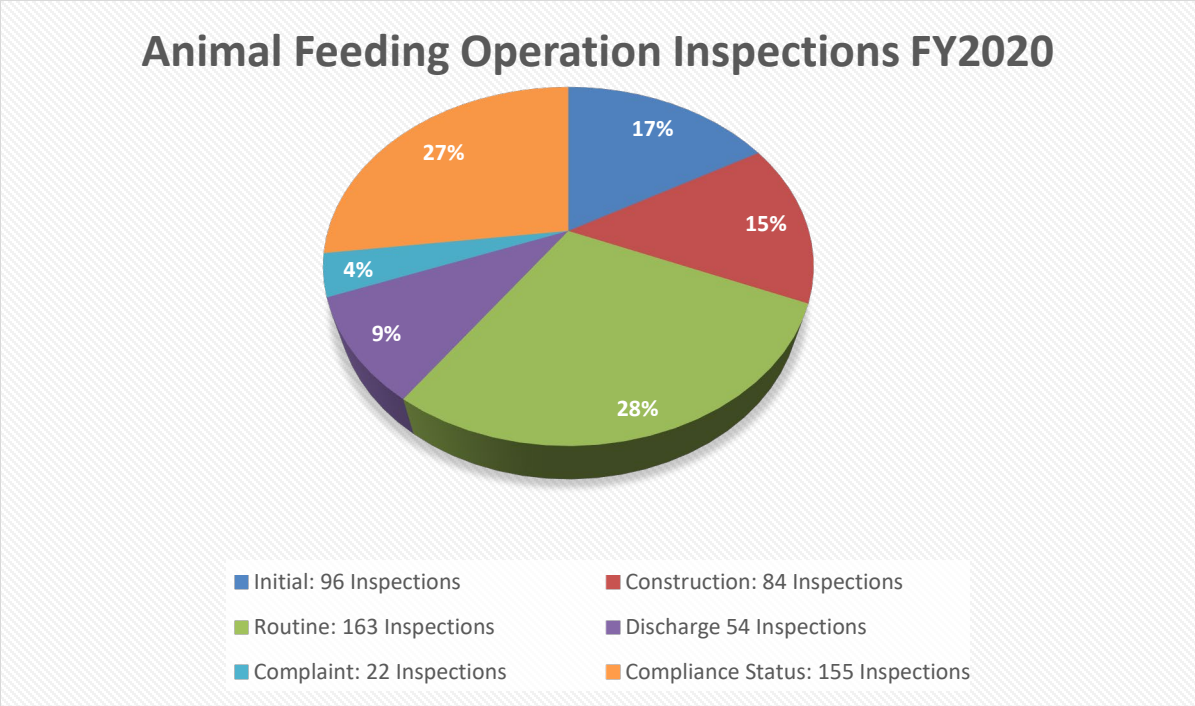
Overview

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 NAC *Title 130 - Livestock Waste Control Regulations*. The LWC Program primarily focuses on the 1,237 active large Concentrated Animal Feeding Operations (CAFOs) required to have permits, but also works with approximately 2,183 Medium AFOs. The LWC Program uses inspections, permitting, and periodic monitoring to fulfill this responsibility. The program also implements the National Pollutant Discharge Elimination System (NPDES) program for CAFOs.

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

Inspections



The LWC Program staff conducted a total of 574 livestock waste control inspections and investigations in FY2020 (including complaint and discharge investigations). The chart above illustrates the breakdown by type of inspection or investigation. A concerted effort was made during the fiscal year to revisit many medium-sized operations to ensure that they were in compliance with Title 130 and the EPA CAFO Rule.

COVID-19 caused an interruption of inspections for about four months of the year. The amount of inspections were 209 fewer than the Department conducted in FY2019. The program was still able to conduct desktop initial and post-construction inspections. This ensured the producers could continue with their expansions with minimal disruption. On-site inspections resumed in SFY2021 where social distancing practices can be maintained. With fewer inspections being conducted, more focus was placed on issuance of NPDES permits.

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

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

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

Routine Inspections: Once a CAFO or an AFO has received a permit, and the Department has approved operation of the LWCF, program staff will conduct periodic, routine inspections to monitor operation of the livestock waste control facilities, management of the operation's livestock waste, and the records these CAFOs and AFOs are required to maintain. Routine inspections are regularly scheduled at an AFO, involving a detailed, extensive review of the operation's recordkeeping and waste management at the operation.

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

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

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.

State Permitting

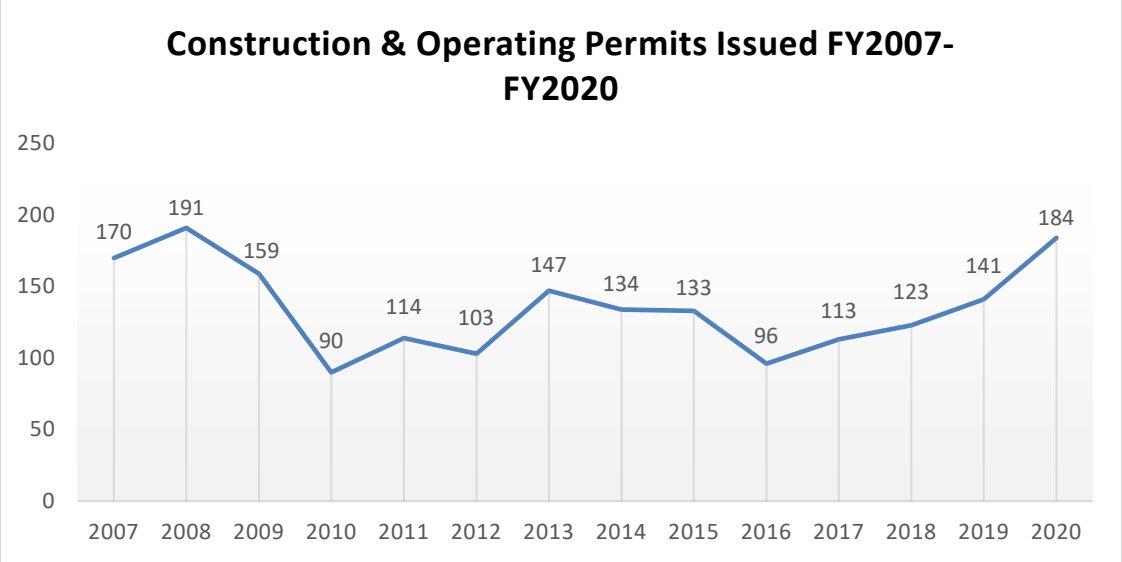
After conducting an initial inspection, the Department may require the AFO to submit an application for a Construction and Operating Permit – the state permitting process for livestock waste control facilities – prior to construction of livestock waste control facilities.

The Department received a total of 157 permit applications and issued 184 permits during FY2020, as shown in the table to the right.

Construction and Operating Permits – FY2020

Type of Application or Permit	Applications Received	Permits Issued
New permits	64	68
Modified permits	52	73
Transfer permits	41	43
TOTAL	**157**	**184**

The chart below shows the total number of state permits issued annually for livestock waste control facilities since FY2007. The Department updated some existing Construction Permits, Construction Approvals and Operating Permits to Construction and Operating Permits if the AFOs updated their nutrient management plans (NMP) to current Title 130 standards. The NMP updates were mainly in conjunction with NPDES Permit renewals or transferred permits.



Once a permitted AFO has completed its construction project, the Department conducts a post-construction inspection. If the post-construction inspection shows the construction was completed as approved, the Department notifies the AFO that operation of the new livestock waste control facility is approved. In FY2020, the Department gave approval to 103 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 an NPDES General Permit for Concentrated Animal Feeding Operations Confining Cattle. Both permits expire every five years, and permittees are required to submit a reissuance application to continue NPDES permit coverage.

The table below summarizes the number of NPDES applications received and permits issued for livestock waste control facilities in FY2020. More than double the permits were issued in FY2020 than in FY2019.

NPDES PERMITS – FY2020

Type of NPDES Application/Permit	Applications Received	Permits Issued
GENERAL PERMIT FOR CAFOS CONFINING CATTLE		
New Coverage	6	16
Modified or Transferred	17	20
Reissued	95	118
SUBTOTAL GENERAL PERMIT:	**118**	**154**
INDIVIDUAL PERMITS		
New Coverage	1	8
Modified or Transferred	5	4
Reissued	1	12
SUBTOTAL INDIVIDUAL PERMIT:	**7**	**24**
NPDES TOTALS:	**125**	**178**

Fees

The annual fee is assessed on all permitted Large CAFOs and all CAFOs covered under an NPDES permit. The fee is determined based upon the number of head of livestock for which the operation has a permit. The fees provide 20% of the Department's costs to administer the livestock waste control program, as required by statute. The Department received $280,257 in annual permit fees. In addition, the Department received $31,400 in initial inspection fees, $43,100 in permit application fees, $20,000 in late payment fees, and $14,651 in investment income for a total of $389,408 in fees and revenue.

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

Chemigation Program

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

Since 1987, the NRDs have inspected irrigation systems used for chemigation for functioning safety equipment and issued site permits. Chemigation permits are issued annually, and are reported to the Department on a calendar year basis. The 26,951 chemigation permits issued in 2020 constituted a 3% decrease in permits issued compared to 2019 (27,727 permits).

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

In calendar year 2020, 1,187 applicators have been trained, tested, and certified, bringing the current number of certified chemigation applicators to 5,554. Information about chemigation applicator training dates and certified applicators is available after January 1 of each year at http://dee.ne.gov/NDEQProg.nsf/%24%24OpenDominoDocument.xsp?documentId=D884FD6EE633A0AA86257CAE0077CC9D&action=openDocument. Title 195 was updated on April 19, 2020.

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 NAC *Title 198 - Rules and Regulations Pertaining to Agricultural Chemical Containment*.

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

The Department and the Nebraska Department of Agriculture have a cooperative agreement that outlines the procedure for coordinating inspection activities between the two agencies. The agreement enhances the communication between the agencies and provides specific protocols to be followed when investigating Agricultural Chemical Containment complaints. Title 198 was updated on April 25, 2020.

Water Permitting and Certification Programs

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

- **Onsite Wastewater Treatment Facilities Program** – This program administers system design, professional certification, and system registration requirements that affect mostly smaller wastewater treatment or storage systems, such as septic systems, household lagoons, and holding tanks, and anyone doing work on these types of facilities.

- **Wastewater Treatment Facility Operator Certification Program** – This program administers the certification program for wastewater treatment facility operators to ensure proper operation and maintenance of these facilities.

- **Sanitarian Program** – The Sanitation Program inspects the following types of facilities: public swimming pools, recreational camps, and mobile home parks. The Sanitation Program also performs well and septic inspections upon request for property transfers. The DHHS has a Memorandum of Understanding with the Nebraska Department of Agriculture to perform food inspections at the following facilities: schools, college food service (room and board for students), senior centers, and child care centers (upon referral from the DHHS Licensure Unit).

- **Wastewater Engineering Program** – The wastewater engineering program reviews and issues permits for commercial, industrial, and municipal wastewater facilities that are planned for construction. The program also maintains regulations for the operation and maintenance of wastewater facilities and for the proper abandonment of facilities when they are removed from service.

- **Drinking Water Engineering Program** – The drinking water engineering program provides engineering plan review; issuance of construction permits; inspection of newly constructed projects for issuance of approvals for placement into service; and technical assistance and advisory contacts with owners/operators of public water systems, consulting engineers, state, federal and local officials, organizations, and the general public in matters relating to siting, design, construction, maintenance, and operation of public water systems. In addition to public water systems, the program provides similar services for all new and substantially modified public swimming pools and spas.

- **The National Pollutant Discharge Elimination System (NPDES) Program** – This program is responsible for regulating discharges of pollutants to Waters of the State to maintain and protect the water quality of Nebraska's streams, lakes, rivers, and groundwater.

- **The Nebraska Pretreatment Program** – This program functions to protect municipal wastewater collection and treatment systems from damage or overloading by industries.

Onsite Wastewater, Sanitation and Operator Certification Program Accomplishments and Challenges

In 2019, the Section launched the online system registration process, and to date, 174 systems have been registered using this option. Each year the Section processes roughly 1,500 paper registrations and related applicable fees. The new system allows certified professionals to register

systems online and pay via credit card, or print a receipt and pay with a traditional check, which greatly speeds up the registration process and frees up resources for other priorities.

Additionally, program staff attended and presented at the annual Nebraska Onsite Waste Water Association Annual Convention. The annual convention, which is held each year in February in Kearney, is the best opportunity to discuss changes in the industry with certified installers, manufacturers, and other regulators.

Soon after the annual convention, the majority of the Department, including the Onsite Wastewater Section, began working from home due to the COVID-19 pandemic. While traditional inspections were not performed during this time, the Section was able to utilize technology to perform some inspections virtually, and to perform all administrative tasks, such as compliance assistance, administering onsite wastewater certified professional exams, renewing professional certifications, and issuing permits.

Onsite Wastewater Treatment Facilities Program Overview

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

The Private Onsite Wastewater Treatment System Contractors Certification and System Registration Act (the 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 to provide for application fees for permits and subdivision approvals as well as waiving fees for government inspectors. A certification by examination is required for professionals to obtain initial certification. Currently, 458 people hold onsite wastewater certificates. Some professionals obtain certification in multiple categories. The categories of certification are: Installer (Master and Journeyman), Pumper (Master and Journeyman), Inspector, and Soil Evaluator. Current certificates expire December 31, 2021, and may be renewed via continuing education requirements or re-examination. Certificates must be renewed every two years.

The registration requirement for onsite wastewater systems provides a statewide inventory of new or modified onsite systems. Since registrations began in 2004, over 25,000 systems have been registered, with 1,643 systems registered in FY2020.

The Section receives a large number of complaints. There were 82 new onsite-related complaints in FY2020 and program staff resolved a total of 57 complaints, which includes both old and new complaints. Typical types of complaints that are investigated include: failed systems that have a surface discharge, and which may pose a threat to public health or the environment, and systems installed by individuals who are not certified by NDEE. In addition, the Section fields approximately 4,000 calls annually seeking compliance assistance.

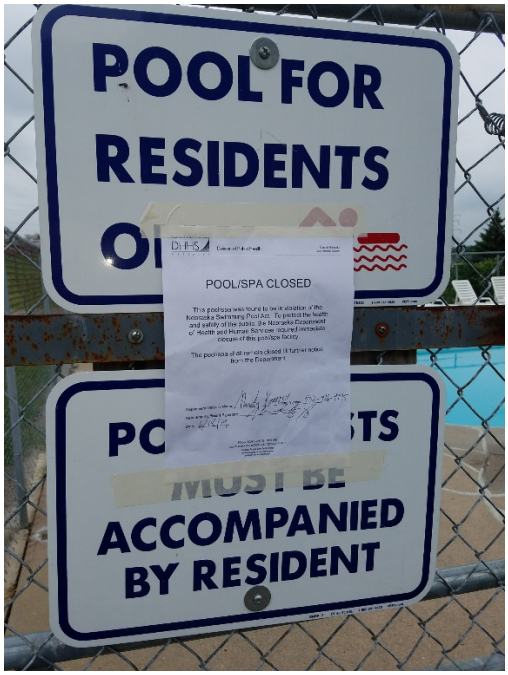
The regulations set minimum design standards for all onsite wastewater treatment systems and include an “Authorization by Rule” provision which allows for the installation of typical onsite systems by a certified professional and subsequent operation by the owner without a site-specific construction

or operating permit. These standard conforming systems constitute the vast majority of all new and replacement onsite systems.

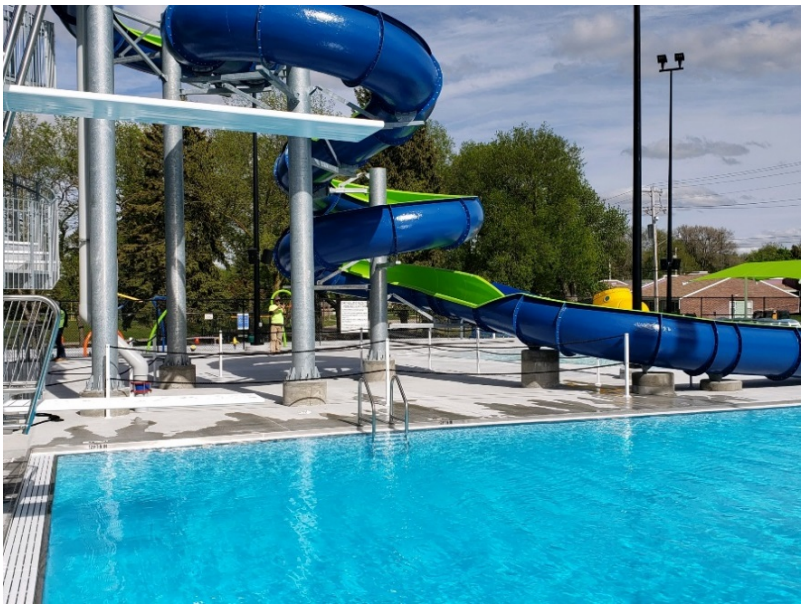
NAC *Title 124 - Rules And Regulations For The Design, Operation And Maintenance of Onsite Wastewater Treatment Systems* requires Department approval prior to construction of any subdivision with any lot less than three acres where onsite wastewater treatment is proposed, or if design standards cannot be achieved. Common examples are if a system cannot meet setback distances or the 4-foot groundwater separation distance prescribed in the regulation. Department engineers review construction/operating permit applications. In FY2020, the program received 46 applications for construction/operating permits and 16 applications for subdivision review and approval.

Sanitarian Program

The Sanitarian Program staff inspect all public swimming pools/spas located at hotels, apartments, municipalities, and recreational facilities. During inspections staff check water chemistry, safety equipment, personnel training, and mechanical areas. Recreation camps and mobile home parks are inspected to assure conditions are safe, sanitary, and comply with NAC *Title 178 - Environmental Health*. The DHHS has a Memorandum of Understanding with the Nebraska Department of Agriculture to perform food inspections at the following facilities: schools, college food service (room and board for students), senior centers, and child care centers (upon referral from the DHHS Licensure Unit). Lastly, sanitarians conduct evaluations of domestic water supplies and onsite wastewater treatment systems at the request of home owners, purchasers, or mortgage lending institutions. Many lenders require an inspection of the onsite water and wastewater treatment systems for compliance with applicable State of Nebraska regulations prior to granting a loan. During the evaluation, staff visually inspect the water well and the onsite wastewater treatment system and collect water samples to test for bacteria and nitrates.

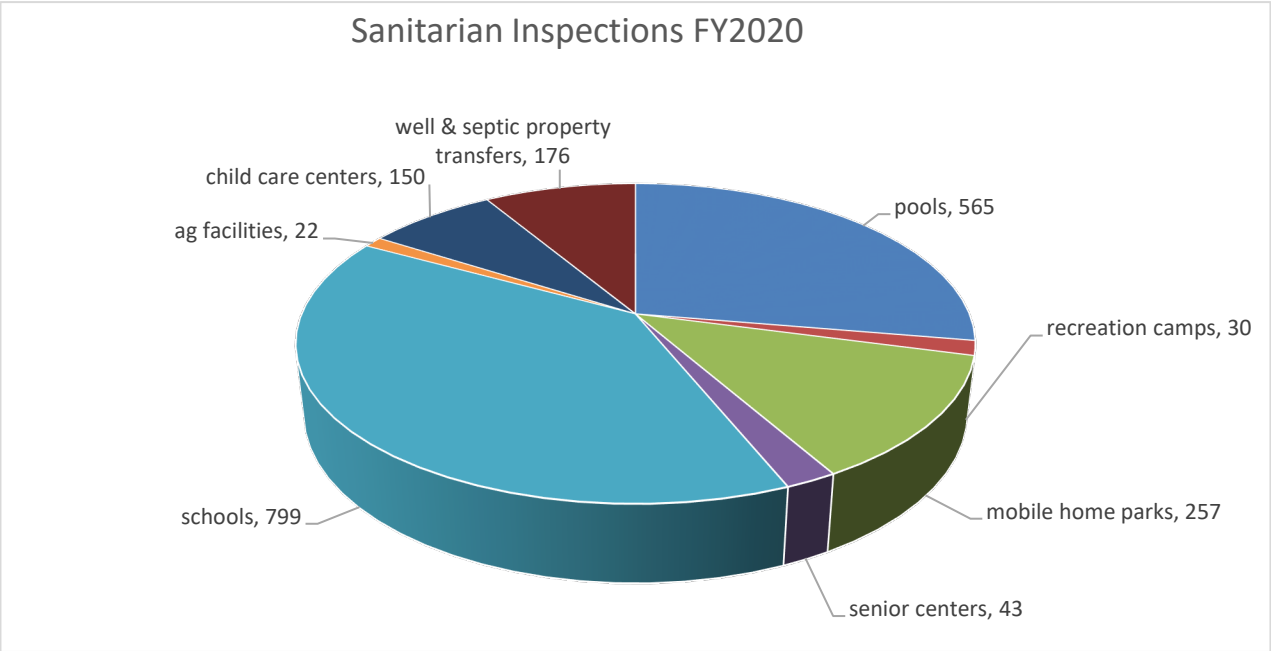


Sign temporarily closing an apartment pool


Ord Community Pool

The DHHS has partnerships with Douglas County Health Department, Lincoln-Lancaster County Health Department, Central District Health Department and the City of Norfolk to perform inspections at public swimming pools in their jurisdictions.

During FY2020, the seven sanitarian program staff completed 1,866 inspections at 1,789 pools, camps, parks, child care and senior centers, and schools. There were an additional 176 well and septic evaluations completed for property transfers. Inspections were down from FY2019 due to the COVID-19 pandemic resulting in many facilities being closed during the season. The chart below shows a breakdown of FY2020 inspections:



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

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

Industrial I, Industrial II, Industrial III, and Industrial IV, according to the type of facility and its point rating.

The Wastewater Operator Certification Program currently has 796 operators with municipal/ compatible certificates. In addition, there are currently 91 certified operators with industrial certificates.

This photo shows a Wastewater Treatment Facility for Lincoln.

NDEE 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 2020. NDEE has contacted approximately 300 facilities potentially eligible for the exemption and, of these, issued four-year operator exemptions to 216 facilities.

The Department contracts with the Association of Boards of Certification (ABC) for testing services for the Operator Certification Program. Starting in 2019 ABC issued a new exam series for Class I through V. Since the Department began using this exam series, the pass rate for exams has declined sharply. The Department is evaluating this issue and is working with ABC and our education providers to find the cause of the decline in pass rate. The COVID-19 pandemic caused a disruption in our ability to administer the ABC exams for a few months during FY2020. Beginning in early September 2020, the Department has utilized satellite testing centers across the state where the certification exams will be administered.

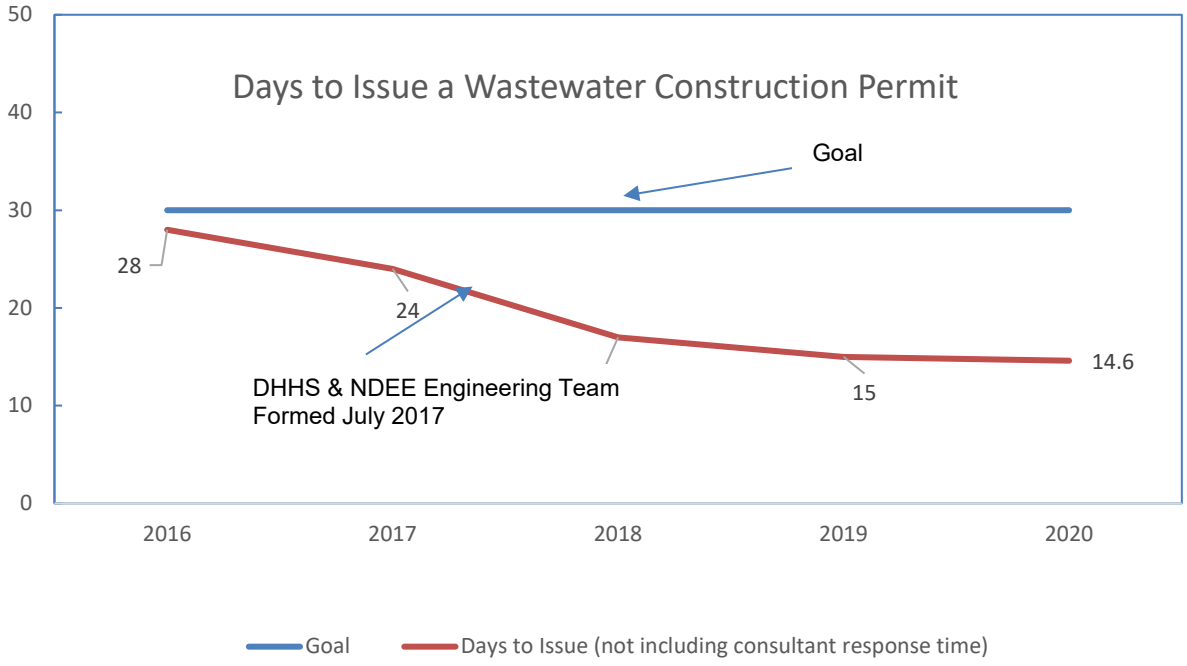
Engineering Programs

In July 2017, NDEE and the Nebraska Department of Health and Human Services (DHHS) announced a Memorandum of Agreement to improve coordination of Safe Drinking Water Act and Clean Water Act programs. Through the agreement, eight DHHS staff in the engineering program were moved to a shared office space with NDEE wastewater engineering staff. The goal is to have the two engineering programs integrate into a team to better serve the communities and citizens of the state. The focus of this relocation of the Drinking Water engineering staff has been to enhance communication and integrate the state's services to communities. Locating staff together better serves Nebraska communities in addressing their water and wastewater infrastructure needs by enhancing state agency coordination. The agencies have focused on cross-training staff between the NDEE and DHHS engineering programs to build resiliency and ensure complete and timely review of applications and coordinated site assistance. As a result of the cross-training, we now have an efficient engineering group that is capable of reviewing wastewater, drinking water, onsite, swimming pool, mobile home park projects, and feedlot projects.

Wastewater Engineering

The engineers in the wastewater division administer Nebraska's construction permit program for wastewater facilities built in the state. Industries, commercial facilities, and municipal utilities are required to submit the plans and specifications for their projects to NDEE for review and approval. The construction documents are reviewed to make sure that the collection systems and treatment facilities will function properly, are able to meet treatment standards as well as meet discharge limits,

and protect the public and the environment from adverse effects. During FY2020, the division received 231 applications for wastewater projects and approved 237 projects. There was one application withdrawn. The cross-training between NDEE and DHHS engineers has improved timeliness of wastewater construction permits as shown in the graph below:



Nebraska's design standards for wastewater facilities are found in NAC *Title 123 -- Rules and Regulations for the Design, Operation and Maintenance of Wastewater Works*. These standards are updated periodically to keep Nebraska in agreement with regional standards. The state's design standards are written to encourage the use of proven technologies, but have also allowed the use of innovative designs where they are appropriate. In June 2019, the NDEE proposed updates to Title 123 to the Environmental Quality Council. The majority of the proposed changes were to eliminate duplicative language and provide clarity to the reader. One exemption that was removed did not require a construction permit for pretreatment facilities if the facility discharged to a public owned treatment works in another state. The proposed updates were approved by the Council and later adopted into regulations which became effective on September 4, 2019.

Drinking Water Engineering

The Drinking Water Engineering Section provides engineering plan review; issuance of construction permits; inspection of newly constructed projects for issuance of approvals for placement into service; and technical assistance and advisory contacts with owners/operators of public water systems, consulting engineers, state, federal and local officials, organizations, and the general public in matters relating to siting, design, construction, maintenance, and operation of public water systems. In addition to

Alliance water tower

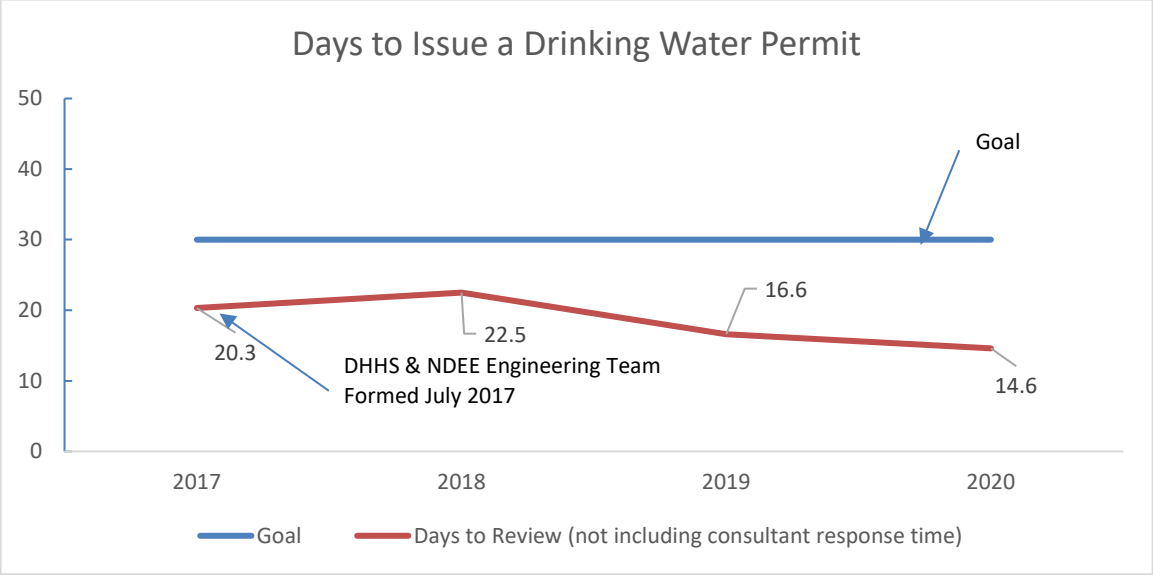
public water systems, the program provides similar services for all new and substantially modified public swimming pools and spas.

On April 4, 2010, NAC *Title 179, Chapter 7: Siting, Design, and Construction of Public Water Systems* became effective. As a result, public water systems can enter into a three-year agreement to construct water distribution main projects without having to submit plans and specifications to DHHS for review and approval. These systems are subject to an annual audit by the Drinking Water Engineering Section as a condition of the agreement. As of June 30, 2020, a total of 23 public water systems had entered into a three-year agreement with the DHHS. NAC NAC *Title 178, Chapter 2: Design Construction, Operation, and Maintenance of Public Swimming Pools* was a combination of Title 178 chapters 2 and 4, effective July 27, 2020.

The following table details the drinking water engineering activities for FY2020:

Drinking Water Engineering Activities	Number
Water Projects Received for Review and Approval	177
Water Projects Inspected	119
Engineering Reports for Water System Improvements Evaluated	14
New Water Well Sites Evaluated	5
Three-Year Agreements for Distribution Main Projects—Annual Audits Completed	13
New/Modified Swimming Pool/Spa Projects Received for Review and Approval	72
Pool/Spa Construction Projects Inspected	48

As with the wastewater engineering program, the drinking water engineering program has experienced improved timeliness as a result of the cross-training between NDEE and DHHS engineers:



National Pollutant Discharge Elimination System (NPDES) and Related Programs

The Water Permits Division 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 in order to maintain and protect the water quality of Nebraska's streams, lakes, rivers, and groundwater. NPDES programs also include:
    - **Combined Sewer Overflows**, which addresses those municipalities that have combined storm water and wastewater sewer systems. Currently, the City of Omaha is the only municipality operating a combined sewer in the state.
    - **Wastewater Treatment Sludge and Bio-solids Disposal**, which are requirements for treatment and disposal of municipal and industrial wastewater sludges and bio-solids.
    - **Storm Water Permit Program**, which 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** functions to protect communities' collection and treatment system assets from damage or overloading by industries**.**

Activities include issuing permits to minimize, monitor, and limit pollutants in wastewater and storm water discharges, and evaluate compliance with the permits and other applicable regulatory requirements of the programs and provide assistance to the regulated community.

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.

NDEE is responsible for developing and issuing NPDES permits, and for ensuring that permitted facilities comply with permit requirements. The regulatory basis for this program is through an Environmental Protection Agency (EPA) delegation agreement with the Department and NAC *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 (CSO); and construction, industrial, and municipal storm water discharges. Graphs on the next page show distribution of permits issued to various types of NPDES dischargers. Livestock NPDES permits may be found in the previous Agriculture section.

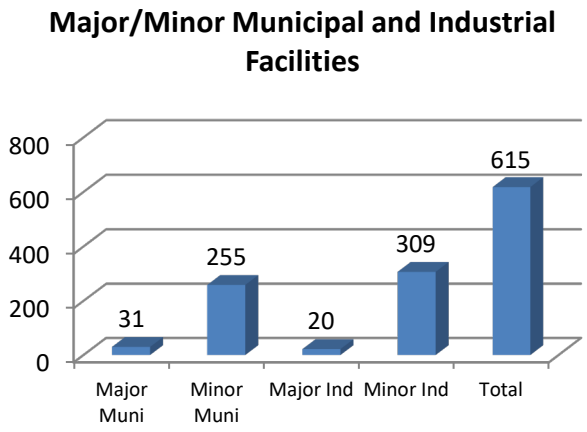
Most NPDES permits limit the discharge of pollutants by establishing effluent limitations for specific pollutants such as carbonaceous biochemical oxygen demand, total suspended solids, and ammonia, among others. The permittee is then responsible for testing their wastewater discharge to ensure that 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). Permits may also require development of Best Management Practice Plans to minimize 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. NDEE 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 NAC *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 NAC *Title 118 - Groundwater Quality Standards and Use Classification*.

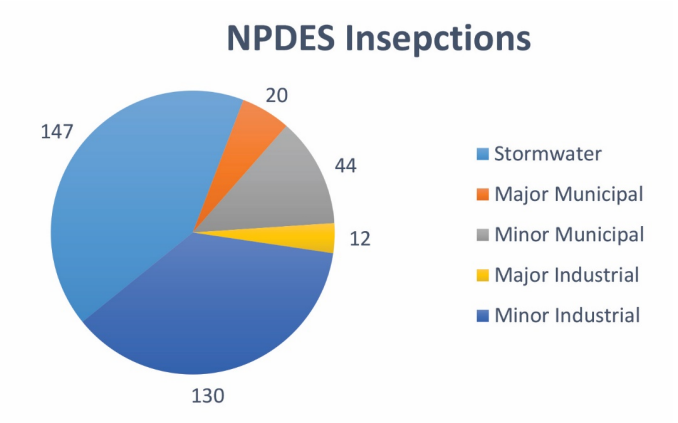
Permits may be developed and issued on an individual site-specific basis, or they may be developed and issued to apply to facilities with similar activities or effluent characteristics. These two types of permits are respectively referred to as individual permits and general permits. To date, the department has developed and issued general permits for the following activity categories: hydrostatic testing, dewatering, land application of concrete grooving/grinding slurry, pesticides applications to, over, and near Waters of the State, gasoline contaminated groundwater remediation projects, petroleum product contaminated groundwater remediation projects, construction site storm water, and industrial site storm water. Municipal Separate Storm Sewer System (MS4) permits have been issued to entities, including metropolitan areas and counties that meet the criteria of the NPDES Storm Water Program.

There are 615 facilities with discharge authorizations under individual permits (municipal, industrial, and pretreatment), and 26 municipal storm water permits (MS4). There are nearly 2,874 active authorized discharges under other general permits. The general permits include 1,630 active authorizations under the construction general storm water permit, 217 dewatering including Omaha, 68 hydrostatic testing, 919 industrial storm water, 20 pesticide, and 20 Treated Ground Water Remediation Discharge sites.



Municipal and Industrial Facilities

Industrial and municipal facilities are both grouped as major or minor facilities based upon their size and/or their potential to impact the receiving stream. The chart titled "Major/Minor Municipal and Industrial Facilities" provides a numeric breakdown 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 NDEE, typically 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. Inspections are planned and conducted to align with the federal fiscal year.

During on-site inspections, section personnel walk through the facility and review operational procedures and records. Major industrial, major municipal, and pretreatment facilities receive annual on-site inspections. The priority of minor facilities inspections is based on discharge compliance histories, incident reports and complaints. Minor facilities are inspected once every five years at a minimum. Inspectors performed 353 NPDES inspections in Fiscal Year 2020. This is down 97 inspections from FY2019 due to the COVID-19 pandemic. A breakdown of those inspections is provided in the chart above. The minor industrial inspections include 100 pretreatment inspections. During selected effluent monitoring inspections, effluent samples are collected and analyzed by the Department to compare with self-monitoring results. Facilities selected for effluent monitoring inspections are chosen based upon pollution potential, past compliance or incident report histories, complaints, and/or Basin Management Approach priorities.

Data generated by facility monitoring and NDEE 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.

In addition to inspections, NDEE provides permit assistance visits to help permittees better understand the requirements in their permits and help identify problems before they become significant noncompliance. These visits can be requested by the permittee or offered by NDEE. NDEE conducted 20 assistance visits in the 2020 Fiscal Year.

Combined Sewer Overflow Program

The City of Omaha has combined sewers that are subject to storm-induced bypasses of untreated wastewater. Many of Omaha's systems were built prior to the existence of secondary sanitary wastewater disposal standards. When storm or snow melt runoff is occurring, these systems may become hydraulically overloaded and excess water flows bypass the treatment system. Untreated wastewater is discharged into the receiving stream when bypasses occur.

The City and the Department work within the framework of the Clean Water Act, a consent Order initiated in 2007, and the City's Long Term Control Plan (LTCP). The projects included in the LTCP span through 2037 and are estimated to cost over $2 billion. The goal of the projects is to reduce or eliminate combined sewer overflows and comply with State and Federal regulations. The City has completed 36 of the projects identified in the LTCP. The order was amended in January 2018 to allow for evaluation of existing and future CSO improvements. The evaluation will help determine what efforts have been the most or least effective meeting permit requirements, provide socio-economic value to neighborhoods, improve the bid process, and improve value engineering for projects.

The City of Omaha and NDEE continue to work cooperatively on evaluating and implementing long-term solutions to protect water quality, comply with the CSO requirements of the Clean Water Act, and minimize the financial impacts to the most vulnerable citizens in the community. The key elements of this process are evaluating the success of completed efforts, maximize the effectiveness and value of future efforts, and balance these achievements with other infrastructure needs.

The City provides updates and encourages public involvement with its CSO program. This can be viewed on the City's website at http://omahacso.com/.

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 through the land application of biosolids, is an effective management tool.

On Feb. 19, 1993, the EPA published the federal sludge regulations under 40 CFR 503. Under these regulations, an estimated 330 municipal facilities in the state have sludge monitoring requirements. These requirements include metal and nutrient content analyses; improved records for tracking the amount of sludge and metals applied to each disposal site, and cumulative disposal limits. The Department has not sought delegation of this program from the EPA. The program is managed out of the EPA Region 7 office in Lenexa, Kansas. NDEE provides guidance for municipalities, approves land application sites, and provides permit language to assist with biosolids program compliance.

Storm Water Programs

In compliance with federal regulations, the NPDES Storm Water Programs regulate the discharge of pollutants in storm water from certain construction sites, industrial facilities, and municipal storm sewers. Federal Storm Water regulations determine the threshold for coverage of construction sites at one acre or more; or sites that are less than one acre if they are part of a common plan of development or sale. Industrial facilities 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 determine the number of municipalities and urban areas that are subject to the NPDES program for storm water discharges.

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. Since FY2017, an online application processes is utilized for the Construction Storm Water General Permit that streamlines the issuance of coverage to applicants. This online process coordinates with the Nebraska Game and Parks Commission and facilitates endangered and threatened species reviews, reducing the time and paperwork needed. The City of Lincoln now shares a construction storm water permitting and records system with the NDEE. This increases communication and efficiency with the state, city, and permitted community.

Urbanized areas are subject to the Municipal Separate Storm Sewer System (MS4) Program. Currently, permitted urbanized areas in Nebraska include the cities of Lincoln and Omaha; Douglas, Sarpy, and Dakota Counties; and the communities of Beatrice, Columbus, Fremont, Grand Island, Hastings, Kearney, Lexington, Norfolk, North Platte and Scottsbluff. The program also requires coverage for the University of Nebraska's campuses in Lincoln and Omaha; the Nebraska Department of Transportation; and Offutt Air Force Base. The NDEE works with individual permittees and organizations, like Nebraska H2O and the Nebraska Floodplain & Stormwater Managers Association, to conduct outreach. The NDEE also evaluates the individual storm water management plans provided by permittees and communicates if these plans meet requirements. This can also include site visits throughout the year to evaluate implementation of the plans.

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 NAC 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 NAC 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 the national database, 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 NDEE, and assist in permit development by reviewing draft permits. The NDEE 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 Permits 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 below-market financing 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 bonds that are issued annually and to make new loans. An administrative fee is assessed to each loan made through the CWSRF. These funds pay for program operating costs including day-to-day program management activities. Also included are other costs associated with debt issuance, financial management, consulting, and support services necessary to provide a complete program.

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. The EPA awarded the 2019 capitalization grant, in the amount of $8,109,000, in July 2019. The required match of $1,640,000 was provided through bonds and cash. In State Fiscal Year (SFY) 2020, the CWSRF funded projects totaling $68,026,200 in loans and $1,110,250 in loan forgiveness and grant funds.

Additional Subsidy Awards

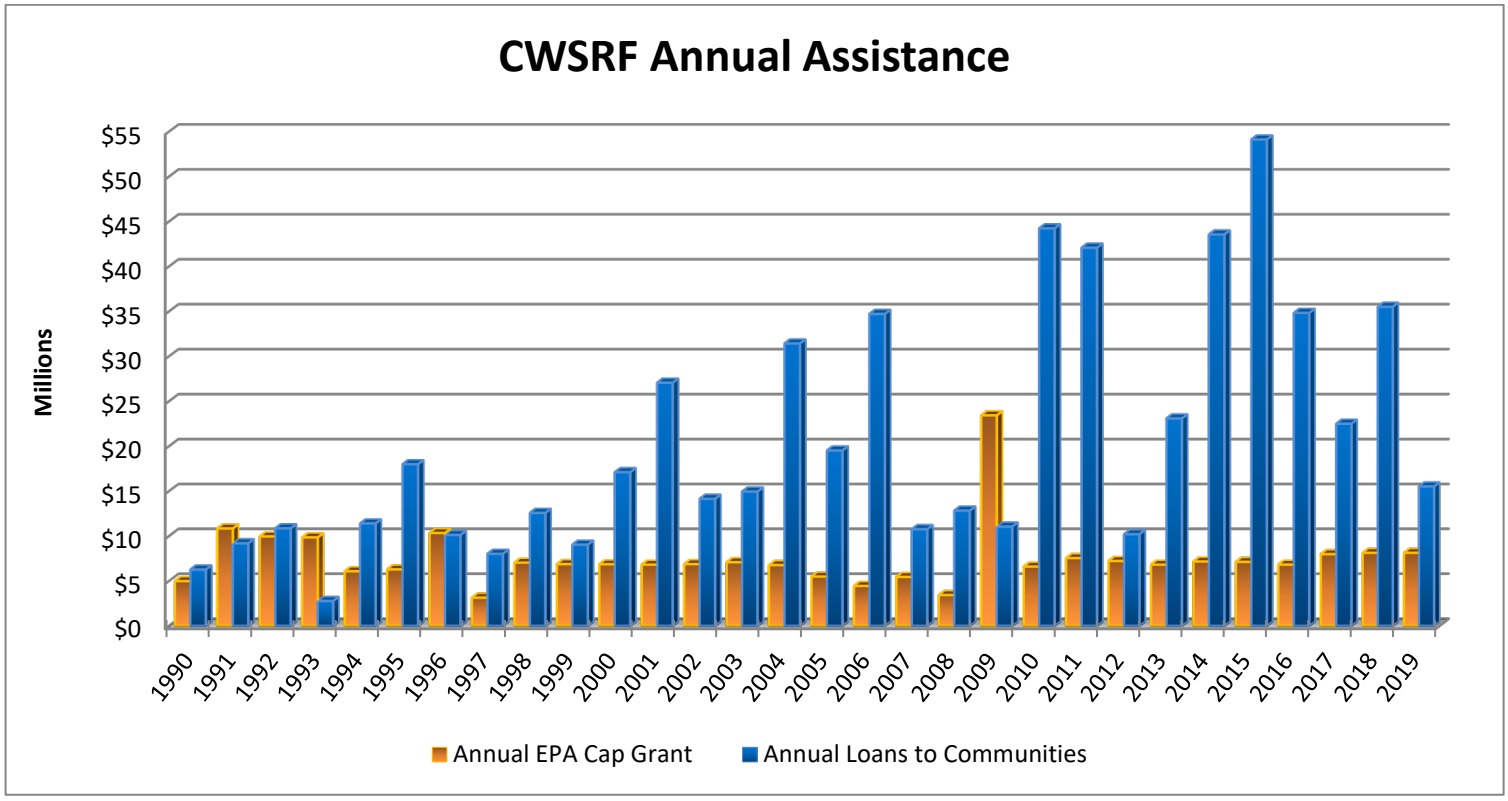
Many small municipalities find that the development and construction of needed projects are too costly without the additional grant subsidy provided concurrently with the CWSRF loan. To assists those communities with project costs, the CWSRF provides additional subsidy awards to financially distressed municipalities with a population of 10,000 or less. One available grant is the Project Planning Activities and Report Grant (PPAR). This grant is funded through the Administrative Cash Fund and awarded to small communities to identified wastewater treatment facility project needs. After the project is identified, there is another grant available to communities concurrently with a construction loan called the Small Town Grant (STG). This grant is also funded through the Administration Cash Fund and can provide subsidy of the project cost of up to $250,000 per project. This grant has provided $9.98 million in grant funding for 83 projects simultaneous with a CWSRF loan since the start of the program.

Loan forgiveness is another form of subsidy that is funded through the CWSRF program by reserving up to 10% of the capitalization grant with a maximum award of $150,000 per project. Similar to the PPAR and STG, borrowers must show financial hardship to be eligible for this grant.

Total CWSRF Assistance Provided

After 30 years of activity, the Fund's Net Assets have reached $337.6 million. Since its inception, the CWSRF has provided loans for 323 projects with a cumulative loan award amount of $641.3 million.

The following graph provides the total assistance provided by the Clean Water program per year since inception.



Drinking Water State Revolving Loan Fund

The Nebraska Drinking Water State Revolving Loan Fund (DWSRF) program provides below-market loans and grants to owners of public water systems. Similar to the CWSRF loan program, loan principal repayments go into new loans, and interest earnings on the Fund are used for revenue bonds purchased for state match, a requirement of the capitalization grant, and to make new loans. There is also a small administration fee charged to each loan of the DWSRF that goes to program management activities.

The DWSRF differs from the CWSRF in that there is an agreement between the NDEE and the Nebraska Department of Health and Human Services, Division of Public Health (NDHHS-DPH), to operate the program and administer the DWSRF funds. In addition, the DWSRF is also unique in that loans may be awarded to privately owned public water supplies. Other program differences include set-asides for program administration, technical assistance, wellhead protection, capacity development, and operator certification. After 23 years of activity, the Fund's Net Assets have reached $219.4 million.

DWSRF Set-Aside Funds

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

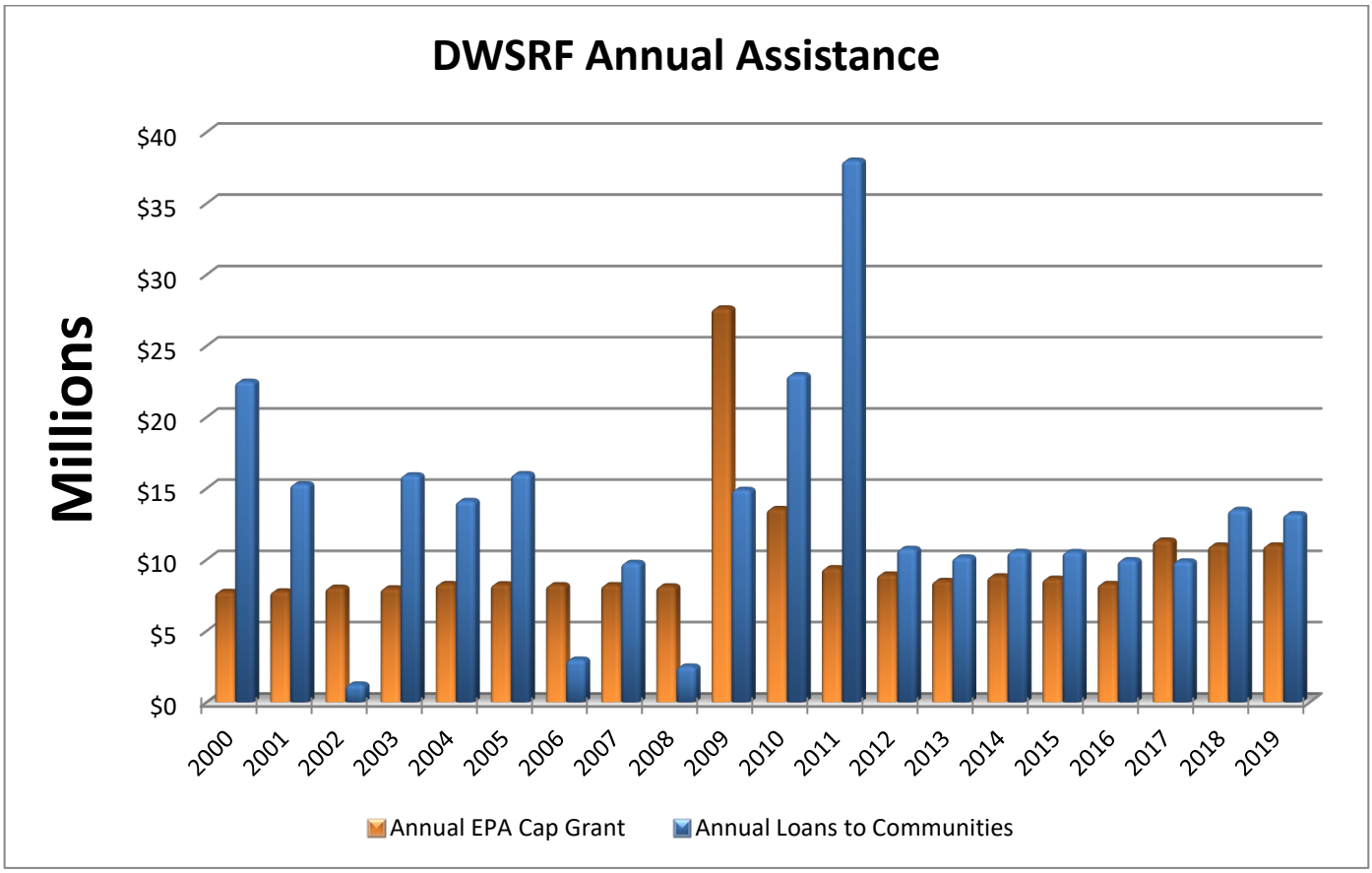
In SFY2020, under the Local Assistance and Other State Programs set-aside (15%), two agreements for preliminary engineering reports totaling $30,000 were awarded to high priority communities to address public health issues associated with public water supplies. In addition, the communities of Ashland, Creighton, Dodge, Plainview, and West Knox Rural Water District were selected to receive Source Water Grants totaling approximately $150,000 from the 2019 Capitalization Grant.

The state may use up to a total of 10% of the Capitalization Grant for the PWS Program Administration set-aside. NDHHS-DPH used $1,234,500 from the Federal Fiscal Year (FFY) 2019 Capitalization Grant to administer Nebraska's Public Water Supply Program during SFY 2020. That amount included $134,100 of authority that had been previously reserved from past capitalization grants.

The 2019 DWSRF capitalization grant allocation totaled $11,004,000. In SFY 2020, the DWSRF entered into 21 binding commitments to communities, including one amendment to already existing loans. These are commitments to provide financial assistance to PWS, with projects totaling $34,215,931. Of that amount, disadvantaged communities received $4,674,530 in forgiveness funding. The FFY 2019 capitalization grant required that a minimum of 20% of the grant be reserved for additional subsidization (e.g., principal forgiveness).

In addition, from the FFY 2019 capitalization grant, $2,009,500 was allocated to the 10% ($1,234,500), and 15% ($775,000) set-asides, and the authority reserved for the 2% set-aside. More details on the programs associated with these set-asides can be found in the Drinking Water State Revolving Fund Annual Report for SFY 2020 at http://deq.ne.gov/Publica.nsf/Pubs_DWSRLF.xsp.

The following graph reflects the cumulative loan assistance of DWSRF over the past 20 years.



State Revolving Loan Assistance by Legislative District as of August 2020

	CWSRF Assistance			DWSRF Assistance			Total SRF Assistance		
District	Below Market Interest Loan	CWSRF Grant Assistance	CWSRF Total Assistance	Below Market Interest Loan	DWSRF Grant Assistance	DWSRF Total Assistance	Total Below Market Loan	Total Grant Assistance	Total Assistance
1	$8,583,858	$926,436	**$9,510,294**	$13,042,084	$2,898,203	**$15,940,287**	$21,625,942	$3,824,639	**$25,450,581**
2	$13,173,808	$650,919	**$13,824,727**	$9,574,715	$540,935	**$10,115,650**	$22,748,523	$1,191,854	**$23,940,377**
3	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
4	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
5	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
6	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
7	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
8	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
9*	$140,619,110	$1,908,000	**$142,527,110**	$6,552,655	$1,272,182	**$7,824,837**	$147,171,765	$3,180,182	**$150,351,947**
10	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
11	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
12	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
13	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
14	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
15	$3,874,588	$120,577	**$3,995,165**	$2,984,156	$772,916	**$3,757,072**	$6,858,744	$893,493	**$7,752,237**
16	$15,528,483	$2,008,079	**$17,536,562**	$17,422,618	$1,340,896	**$18,763,514**	$32,951,101	$3,348,975	**$36,300,076**
17	$22,367,736	$1,523,766	**$23,891,502**	$6,962,528	$557,664	**$7,520,192**	$29,330,264	$2,081,430	**$31,411,694**
18	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
19	$11,663,750	$189,394	**$11,853,144**	$2,273,161	$125,000	**$2,398,161**	$13,936,911	$314,394	**$14,251,305**
20	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
21	$750,000	$250,000	**$1,000,000**	$0	$0	**$0**	$750,000	$250,000	**$1,000,000**
22	$4,327,139	$1,086,404	**$5,413,543**	$5,537,187	$1,614,846	**$7,152,033**	$9,864,326	$2,701,250	**$12,565,576**
23	$25,826,664	$833,963	**$26,660,627**	$4,049,050	$814,955	**$4,864,005**	$29,875,714	$1,648,918	**$31,524,632**
24	$27,798,199	$524,400	**$28,322,599**	$15,759,160	$4,025,420	**$19,784,580**	$43,557,359	$4,549,820	**$48,107,179**
25	$0	$0	**$0**	$2,056,127	$0	**$2,056,127**	$2,056,127	$0	**$2,056,127**
26	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
27	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
28	$0	$0	**$0**	$14,977,829	$0	**$14,977,829**	$14,977,829	$0	**$14,977,829**
29	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
30	$5,274,475	$334,478	**$5,608,953**	$9,916,128	$1,905,104	**$11,821,232**	$15,190,603	$2,239,582	**$17,430,185**
31	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
32	$7,322,713	$1,502,949	**$8,825,662**	$6,226,189	$1,468,291	**$7,694,480**	$13,548,902	$2,971,240	**$16,520,142**
33	$9,693,048	$75,989	**$9,769,037**	$1,663,361	$289,293	**$1,952,654**	$11,356,409	$365,282	**$11,721,691**
34	$13,352,041	$757,551	**$14,109,592**	$6,109,170	$1,360,906	**$7,470,076**	$19,461,211	$2,118,457	**$21,579,668**
35	$37,338,756	$0	**$37,338,756**	$0	$0	**$0**	$37,338,756	$0	**$37,338,756**
36	$13,355,804	$2,611,798	**$15,967,602**	$6,559,816	$660,564	**$7,220,380**	$19,915,620	$3,272,362	**$23,187,982**
37	$29,389,328	$0	**$29,389,328**	$15,318,375	$223,869	**$15,542,244**	$44,707,703	$223,869	**$44,931,572**
38	$9,818,320	$1,697,932	**$11,516,252**	$2,046,701	$318,126	**$2,364,827**	$11,865,021	$2,016,058	**$13,881,079**
39	$7,450,784	$100,000	**$7,550,784**	$859,653	$186,578	**$1,046,231**	$8,310,437	$286,578	**$8,597,015**
40	$8,038,867	$2,291,297	**$10,330,164**	$8,953,930	$2,387,352	**$11,341,282**	$16,992,797	$4,678,649	**$21,671,446**
41	$7,697,064	$1,213,004	**$8,910,068**	$6,933,602	$2,191,300	**$9,124,902**	$14,630,666	$3,404,304	**$18,034,970**
42	$18,064,666	$40,484	**$18,105,150**	$10,750,175	$737,046	**$11,487,221**	$28,814,841	$777,530	**$29,592,371**
43	$23,522,145	$2,314,344	**$25,836,489**	$7,791,151	$1,397,958	**$9,189,109**	$31,313,296	$3,712,302	**$35,025,598**
44	$28,069,565	$1,886,650	**$29,956,215**	$19,739,097	$1,694,631	**$21,433,728**	$47,808,662	$3,581,281	**$51,389,943**
45	$6,985,901	$0	**$6,985,901**	$0	$0	**$0**	$6,985,901	$0	**$6,985,901**
46*	$34,847,644	$1,250,000	**$36,097,644**	$0	$0	**$0**	$34,847,644	$1,250,000	**$36,097,644**
47	$14,392,211	$2,392,483	**$16,784,694**	$24,399,184	$3,843,862	**$28,243,046**	$38,791,395	$6,236,345	**$45,027,740**
48	$14,142,244	$991,959	**$15,134,203**	$7,688,598	$2,550,340	**$10,238,938**	$21,830,842	$3,542,299	**$25,373,141**
49	$12,160,210	$0	**$12,160,210**	$1,476,413	$0	**$1,476,413**	$13,636,623	$0	**$13,636,623**

**The data collected is from loan obligations and grants awarded to communities for SRF related projects. Grants include Loan Forgiveness, Small Town Grant (CW only), and Planning Grants.*

***For the cities of Omaha and Lincoln, which have multiple districts in the area, District 9 was selected for Omaha projects and District 46 was used for Lincoln area projects*

Public Water Systems

Information presented for the rest of this chapter reflects calendar year activities as published in the Nebraska 2019 *Public Water System Annual Report*, issued in June 2020.

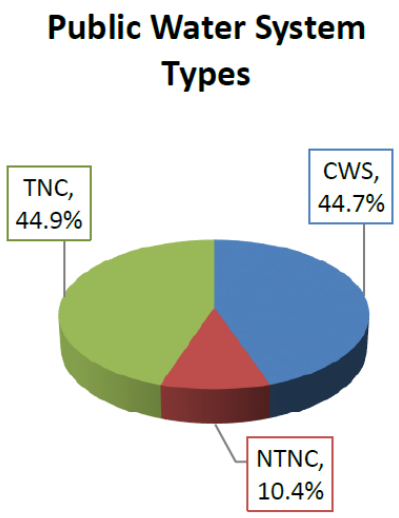
Population and Type of System

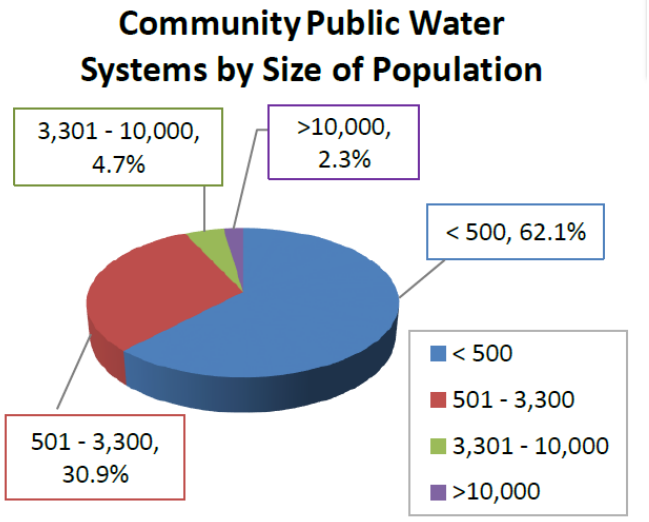
Nebraska Public Water Systems (PWSs) can be broken down into categories based on the size of the population served and/or the type of population served.

Population	CWS	NTNC	TNC	Total Systems	Percentage*
< 101	105	75	511	691	51.6%
101-500	267	46	86	399	29.8%
501-1000	97	8	5	110	8.2%
1001-3300	88	8	0	96	7.2%
3301-10000	28	2	0	30	2.2%
10001-50000	11	0	0	11	0.8%
>50000	3	0	0	3	0.2%
TOTAL	599	139	602	1340	100.00%

**Based on approximate population*

CWS = Community ..... 599 systems
NTNC = Non-transient, non-community ..... 139 systems
TNC = Transient, non-community ..... 602 systems



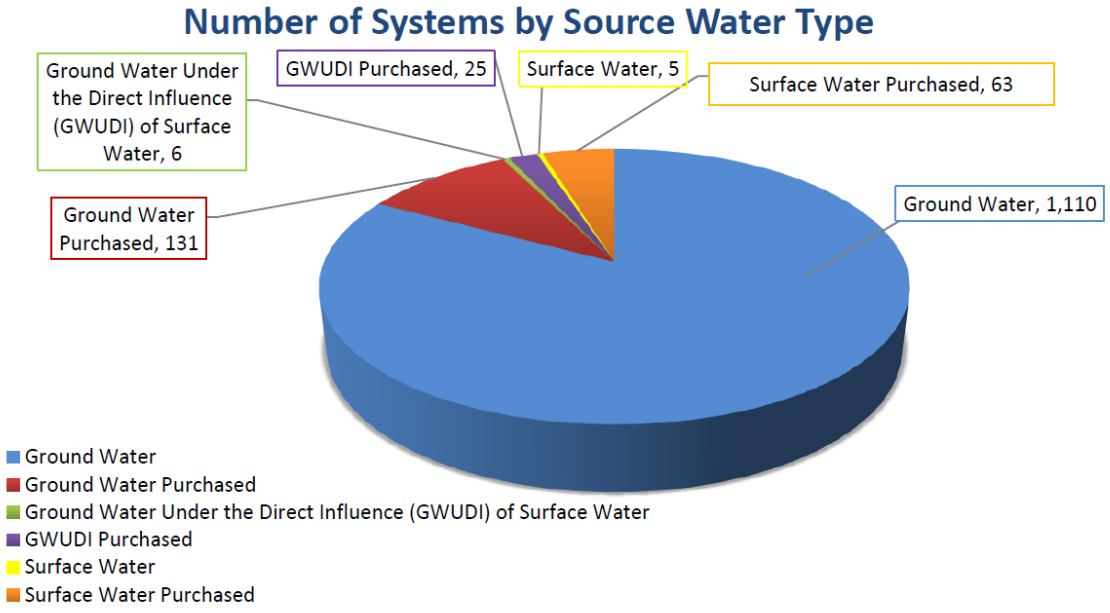


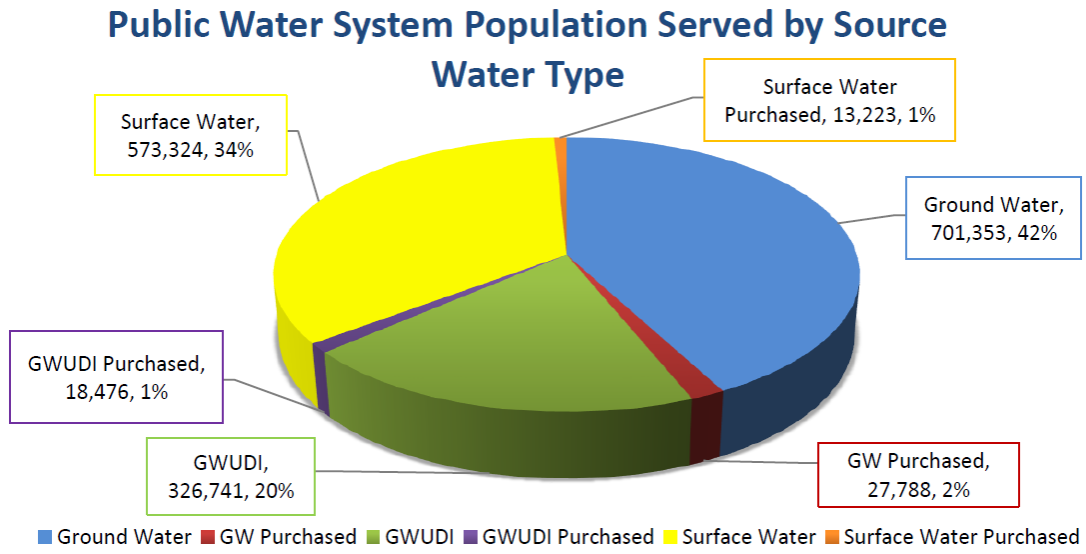
Over 60% of Nebraska's CWSs serve populations less than 500 people. Water systems with populations below 3,300 are considered to be "small systems" by the EPA. This makes Nebraska a predominantly small system state with 93% of all of the State's CWSs serving 3,300 or fewer people.

Public Water in Nebraska

The Drinking Water Division administers the State's regulations governing PWSs, Nebraska Administrative Code *Title 179*, Chapters 2 through 26, promulgated under the State's SDWA pursuant to and in accordance with the federal Safe Drinking Water Act (SDWA). EPA promulgates rules and sets standards in accordance with the federal SDWA, originally passed in 1974 and later amended in 1986 and 1996.

PWSs provide water to approximately 80% of the people of Nebraska. Private domestic wells provide water for the other 20% of Nebraskans. Most of the water Nebraskans drink is ground water and only five public water systems in the state obtain their drinking water from surface water. Another 64 systems purchase water from these five systems. In addition, six systems utilize ground water under the influence of surface water (GWUDI), and 27 additional systems purchase water from those six systems. The remaining 1,125 systems use ground water, and an additional 147 systems purchase their water from another ground water system.





**Percentages rounded to nearest 1%*

Drinking Water Division Activities

In July 2017, the Nebraska Department of Health and Human Services (DHHS) and the Nebraska Department of Environmental Quality (now the Nebraska Department of Environment & Energy (NDEE)), entered into a Memorandum of Agreement (MOA), with the purpose of enhancing the protection of public health and the environment through improved customer service, and increased efficiency. The Drinking Water Division staff continue to administer the PWSS program under the supervision of NDEE.

The Drinking Water Division has 27 full time equivalent positions (FTEs). The Monitoring and Compliance Section has seven, the Engineering Section has seven, the Field Services and Training Section has nine, and four FTEs contribute to the administration of the program.

Drinking Water Field Services and Training Section

The Field Services and Training (FS&T) Section encompasses four separate but related areas of responsibility:

1) Field services (inspections, operator assistance, etc.),
2) Training,
3) Capacity development, and
4) Water system security.

FS&T staff include a supervisor, eight field representatives, a training coordinator, a capacity development coordinator, and a staff assistant. FS&T staff conduct sanitary surveys, train public water system operators, attend and present information at continuing education programs for water operators, assist public water systems (PWSs) with Level 1 and Level 2 assessments during emergency situations, and help PWSs achieve or maintain adequate technical, financial, and managerial capacity. There are eight field areas with locations in North Platte, Grand Island, Norfolk, Blair, Nelson, Chadron, and Lincoln to provide close contact and timely assistance to Nebraska's PWSs. The Norfolk office serves two field areas.

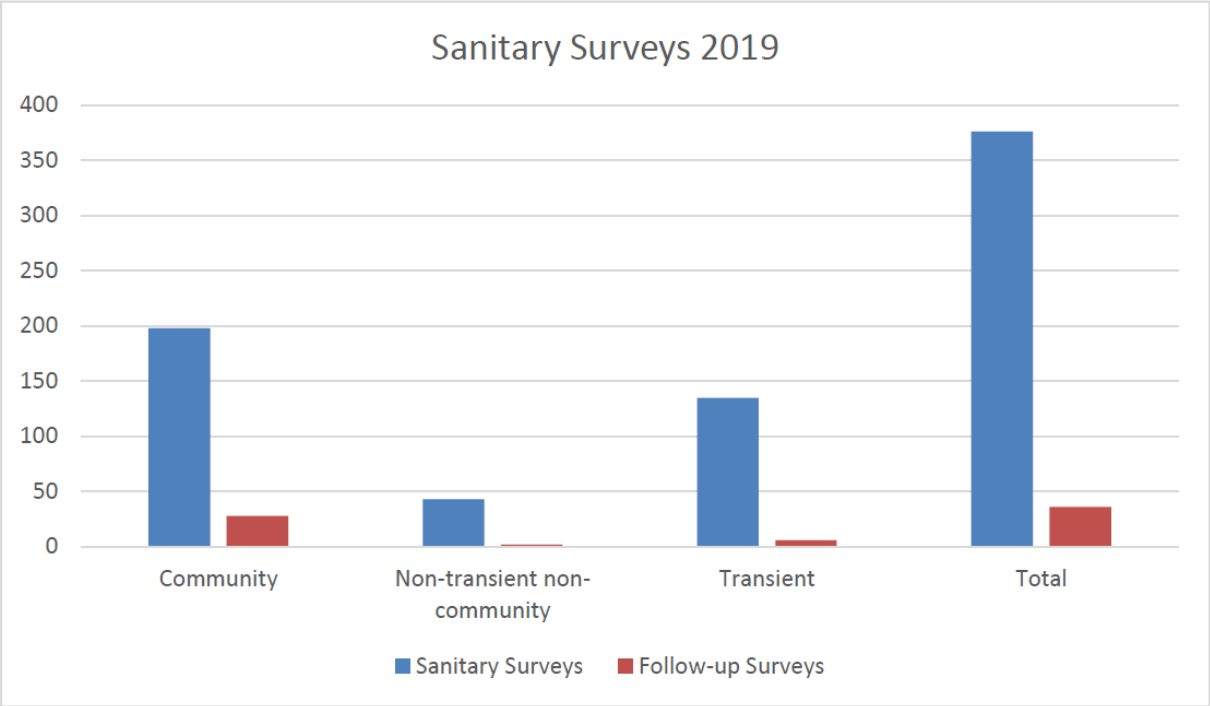
Field Services

Sanitary Surveys

Routine sanitary surveys are conducted once every three years for community water systems (CWS) and non-transient non-community (NTNC) public water systems and once every five years for transient non-community (TNC) PWSs. A sanitary survey helps to ensure that a water system is operating properly by working with their licensed water operator(s) to evaluate records, review their emergency plan and cross-connection control program, and inspect components of the water system.

In 2019, field personnel conducted 376 sanitary surveys (198 community, 43 non-transient non-community, and 135 transient public water systems) and 36 follow-up surveys (28 community, two non-transient non-community, and six transient public water systems). A total of 729 deficiencies were found in 2019. This reflects an overall deficiency rate of 1.9 deficiencies per sanitary survey in 2019. No deficiencies were found in 122 (32%) of the sanitary surveys completed in 2019. The average number of deficiencies found in Nebraska's public water systems remained stable from 2018 to 2019, highlighting the great work of water operators in our state.

Outside of sanitary surveys, field staff conduct site inspections for the location of new public wells and assist engineering services personnel in conducting construction inspections of public water system projects (such as the drilling of wells, the construction of treatment plants, and the erection of water towers). Field services staff provide necessary response to emergency situations associated with natural disasters, water service interruption, and/or contamination of a public water system.



Level 1 & Level 2 Assessments

When public water systems have a confirmed presence of coliform bacteria, the Revised Total Coliform Rule (RTCR) requires that an assessment of the system be conducted. An assessment helps to identify the likely reason for the presence of coliform bacteria in the system. Any identified defects are required to be corrected.

A Level 1 assessment is triggered by the confirmed presence of total coliform bacteria in a public water system. The public water system is responsible for completing a Level 1 assessment. Then field staff are responsible for completing a review of this assessment.

A Level 2 assessment is triggered by either multiple Level 1 assessments within a running 12-month period, or by the confirmed presence of *E. coli* bacteria in the system. A Level 2 assessment is conducted by field staff and provides a much more detailed evaluation of the public water system.

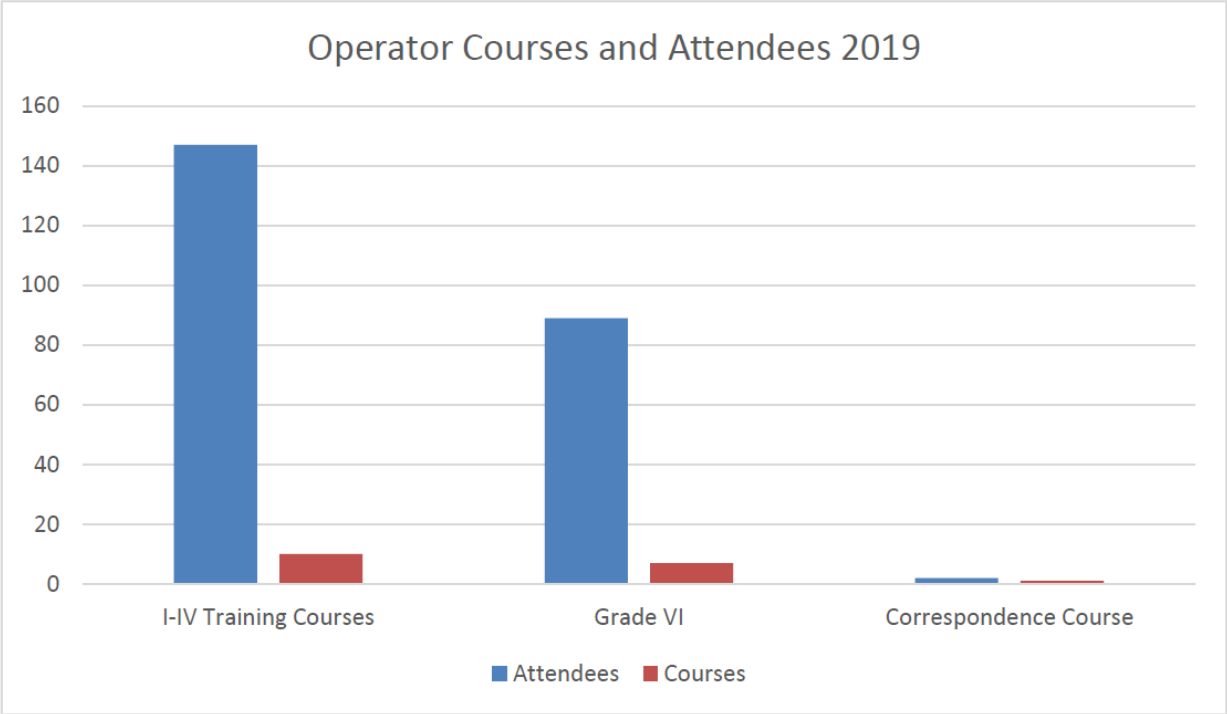
Natural Disasters Impacting PWS

The spring of 2019 brought historic flooding to the region. Forty-four water systems were impacted, but with the hard work of local utility workers and the staff of the Drinking Water Division, 92% of those systems have returned to normal operations. There were 22 community water systems that were damaged and 16 of those have made all repairs. Two community water systems were inactivated due to the condemnation of homes. There were also 22 non-community water systems that were damaged. Nineteen of those have been repaired and have returned to normal operation. Three non-community systems were inactivated and have not reopened.

The Department partnered with EPA to help private homeowners get analysis kits for coliform and *E. coli*. Several drop-off sites were set up in areas that were the most impacted and the most accessible to the largest populations. Citizens could come to one of those sites, receive a sample kit, collect a drinking water sample from their residence, and return it to the drop-off site for transportation back to the State of Nebraska Public Health Laboratory for analysis. There were no costs to the citizens for the tests conducted. Having a reliable drinking water source is critical to help meet the goals of public health, and while the Drinking Water Division only regulates public water systems, the Division felt it was necessary to work with private well owners to help them determine if the water from their wells were safe for consumption.

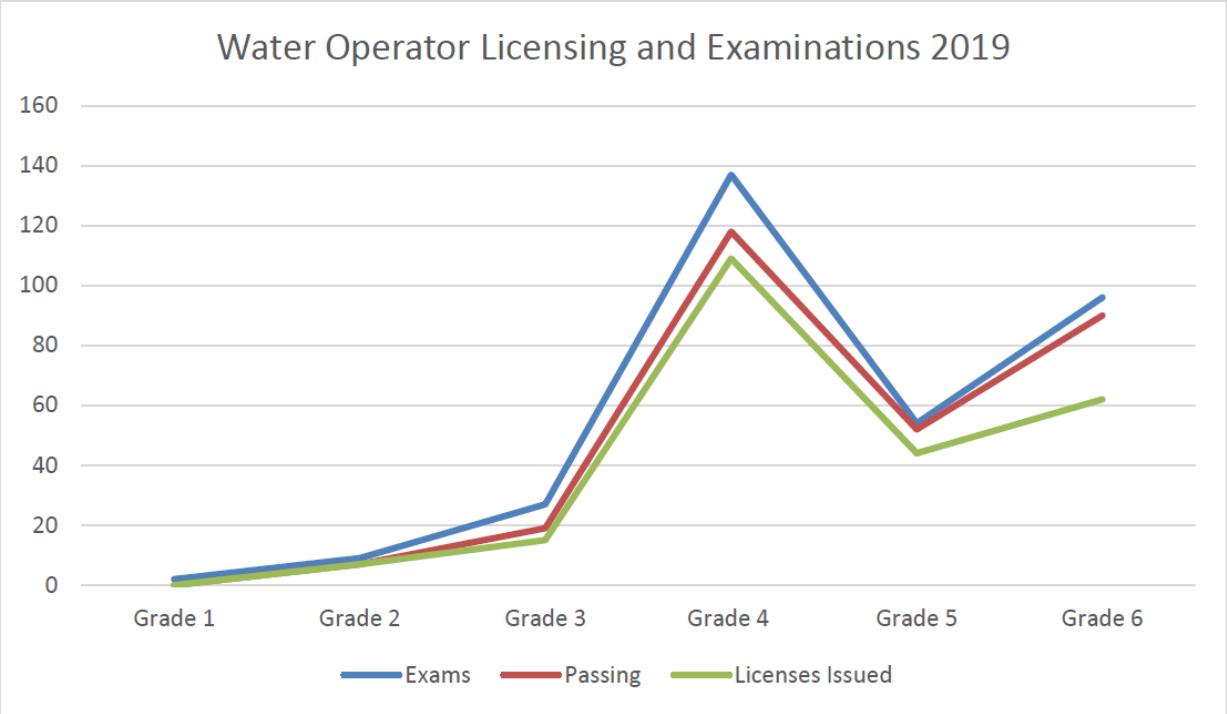
Training

In 2019, FS&T program personnel conducted 10 water operator training courses, Grades I through IV, with a total of 147 attendees. An additional two individuals completed the correspondence course that is also offered to prepare for the Grade IV licensure examination. For Grade VI licensure (backflow preventer testing and repair), seven courses were offered with a total of 89 attendees. For Grade V operators (transient systems only), there are no classroom courses. Training is obtained through a self-study process. Water operators are licensed only after successfully passing an exam. Examinations are offered following each training course and can also be scheduled individually.



The following table breaks down the number of initial licenses issued and examinations conducted at each grade level during 2019.

Grade	Examinations	Passing	Number of Licenses Issued
I	2	0	0
II	9	7	7
III	27	19	15
IV	137	118	109
V	54	52	44
VI	96	90	62



Water Operator Licensing and Examinations 2019

The Drinking Water Division and other training providers offered continuing education opportunities for water operators in 2019. Coordinated by the program, a group informally known as the Water Operator Training Coalition met to identify training needs and to assist with scheduling training opportunities. Members include the Nebraska Rural Water Association, the League of Nebraska Municipalities, the Midwest Assistance Program, Central Community College, and the Nebraska Section of the American Water Works Association. In 2019, as in past years, the Coalition produced a calendar identifying dates and locations of continuing education opportunities for distribution to licensed water operators.

A total of 133 workshops/seminars/conferences were offered in Nebraska in 2019 for water operator continuing education. Of these, 53 focused primarily on backflow prevention continuing education for Grade VI operators.

Capacity Development

Capacity development is a proactive approach for water systems to acquire and maintain adequate technical, managerial, and financial capabilities, enabling them to provide safe drinking water to Nebraskans. The Capacity Development Coordinator oversees the program's activities to bolster water systems' capacity.

Additional support is provided by the 2% Team, which consist of the same members as the Water Operator Training Coalition. The name comes from the 2% set-aside from the Drinking Water State Revolving Fund (DWSRF).

DWSRF 2% Set-Aside Funds

Funds from the 2% Set-Aside of the DWSRF are used to provide assistance to public water systems to develop and maintain technical, managerial, and financial capacity. DHHS works with contractors to provide on-site technical assistance, capacity assessment, and board/council trainings.

On-Site Assistance: The Department, along with the 2% Team, prioritize water systems in need of assistance. Technical assistance providers then work with water systems and assist with applications for funding, capacity development training, and manuals and provide mentorship. Technical assistance providers made 319 in-person or phone contact visits with systems in 2019.

Capacity Assessment: Assessments of a system's managerial and financial capacity are conducted at water systems that receive loans through the DWSRF. An assessment is completed before the funded project begins, and again after it is complete, to determine the impact of the project on the system's capacity.

Board/Council Training: Information sessions are held to advise board/council members about the legal and fiduciary responsibilities they have as owners of a public water system, and their role in maintaining an adequate, safe supply of water for their customers. A total of 72 board/council members, representing 15 community water systems, attended sessions in 2019.

Education and Outreach

The Capacity Development Coordinator worked with the Water Operator Training Coalition partners to provide capacity development training for water operators with a focus on their role in developing and maintaining adequate capacity for their water systems. Included in this focus was emphasis on the importance of maintaining an up-to-date emergency response plan and training all individuals who have a role in the plan. The Capacity Development Coordinator provided this training at 10 conferences and workshops in 2019.

Drinking Water Engineering Section

The Nebraska Safe Drinking Water Act, and regulations adopted thereunder, require that plans and specifications for all major construction related to public water systems be prepared by a registered professional engineer and be approved by the Department before construction begins. The law defines major construction as structural changes that affect the source of the water supply, treatment processes, or transmission of water to service areas, but it does not include the extension of service mains within an established service area.

Plan Reviews and Inspections

The Drinking Water Engineering Section provides engineering plan reviews; issues construction permits; inspects newly constructed projects for issuance of approvals for placement into service; and technical assistance and advice to owners/operators of PWSs, consulting engineers, state, federal and local officials, organizations, and the general public in matters relating to siting, design, construction, maintenance, and operation of PWSs.

Water system plan review was incorporated into state law to increase assurance that water source development, treatment, storage, and distribution facilities would be constructed or expanded in a manner contributing to the ability of the system to deliver safe drinking water. Emphasis is placed on encouraging long-term benefits from capital investment as opposed to temporary actions designed to eliminate an emergency situation.

In 2019, DHHS received 172 sets of plans and specifications for the construction of water projects for review and approval. In addition, engineering staff conducted 129 inspections constructed water projects.

Annual Audits

On April 4, 2010, state regulations – NAC *Title 179, Chapter 7: Siting, Design and Construction of Public Water Systems* -- became effective. As a result, public water systems can enter into a three-

year agreement to construct water distribution main projects without having to submit plans and specifications to DHHS for review and approval. These systems are subject to an annual audit by the Drinking Water Engineering Section as a condition of the agreement. In 2019, 13 annual audits were completed and as of December 31, 2019, a total of 23 public water systems have entered into three-year agreements with the DHHS.

Drinking Water State Revolving Fund

The engineering staff also participates in the common pre-application review processes for federal and state agencies' loans; grant programs for water and wastewater projects; and the Drinking Water State Revolving Fund (DWSRF) program activities. In late 2019, a Kaizen process was completed to assess the performance of the DWSRF program with the goal of improving and streamlining processes.

The annual DWSRF infrastructure needs survey was sent out to all public water systems in 2018. The surveys identified 378 eligible projects with just over $1 billion in infrastructure needs. A ranking system developed by DHHS was used to prioritize and establish the funding order for infrastructure projects that could be funded by the DWSRF. The DWSRF provided 14 loans in 2019 for a total of $20,326,631, with $3,038,205 of that provided in forgiveness assistance.

Each year the Clean Water State Revolving Fund (CWSRF) and DWSRF publish an Intended Use Plan (IUP), which explains how the SRF programs will use capitalization grants received annually from the federal government, annual state matching funds, and current program funds to meet Nebraska's communities' needs and funding requirements for the State Fiscal Year (SFY), July 1 to June 30. IUPs also include a priority funding list for CWSRF and DWSRF projects that lists and prioritizes projects that are submitted to the program by the communities. Every year, IUPs undergo a public hearing and comment period that are presented to the Environmental Quality Council (EQC) for review and approval.

Other Engineering Activities

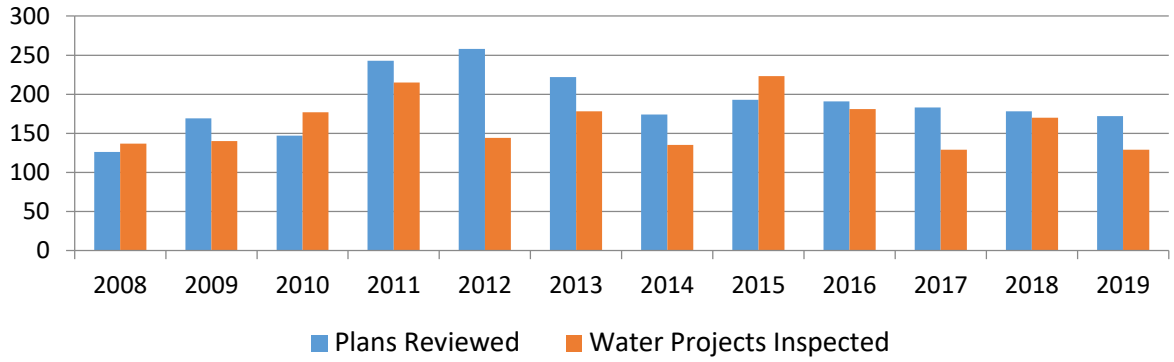
The Drinking Water Engineering Section staff also reviews and evaluates justifications provided by professional engineers for any new well siting that does not meet the setback distances identified in NAC *Title 179*, *Chapter 7*. In 2019, a total of five new well site justifications were reviewed and approved. In addition, the engineering staff worked with NDEE and city officials to evaluate encroachment issues that may be of concern to existing public drinking water wells. Six encroachment issues were evaluated and resolved.

Summary of the Drinking Water Engineering Section Activities

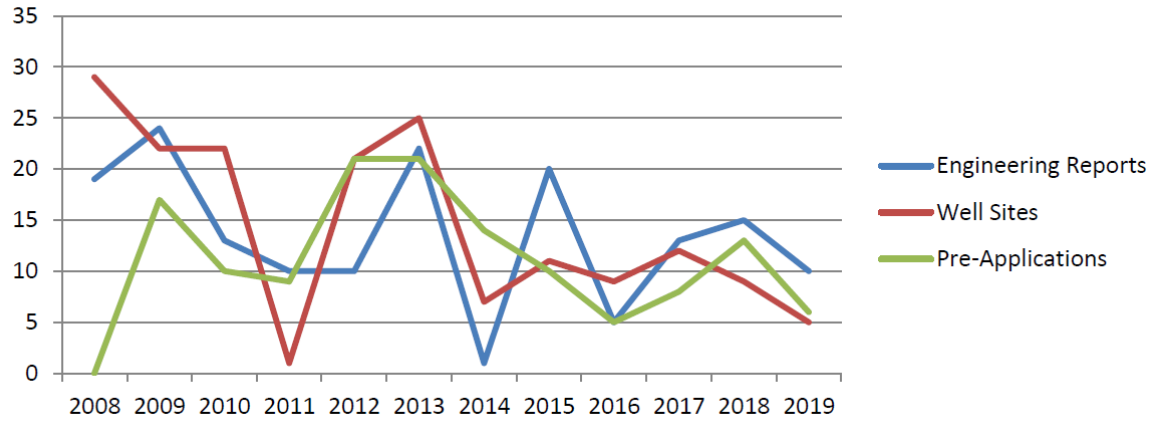
January 1, 2019 to December 31, 2019

Activities	Number
Water Projects Received for Review and Approval	172
Water Projects Inspected	129
Engineering Reports for Water System Improvements Evaluated	10
New Water Well Sites Evaluated	5
Common Pre-Applications for Water/Wastewater Projects for Federal and State Financial Assistance Reviewed	6
Operation and Maintenance Manuals for Drinking Water State Revolving Loan Funded Projects Reviewed	2
Three-Year Agreements for Distribution Main Projects—Annual Audits Completed	13
Encroachment Issues	6

Engineering Plans Reviewed/ Water Projects Inspected



Engineering Evaluations



Monitoring and Compliance Section

The Monitoring and Compliance (M&C) Section of the Drinking Water Division establishes monitoring schedules and reviews analytical results for contaminants in drinking water. In this review of analytical results, M&C personnel determine compliance with Maximum Contaminate Levels (MCLs) and issue appropriate enforcement actions, when necessary, to help a PWS return to compliance.

Safe Drinking Water Information System

The Safe Drinking Water Information System (SDWIS) is a database developed by EPA for states to report water quality data test results, violations, compliance assistance, enforcement, compliance schedules, water operator licensure, and PWS operating permits. SDWIS receives electronic data from the State of Nebraska Environmental Health Laboratory and four contract laboratories (Midwest Lab, Hall County, American Ag, and Enviro Services) that perform water analyses for DHHS.

The Drinking Water Division is preparing for transition to cloud-based software called SDWIS PRIME. This transition includes staff training, implementing routine quality assurance and quality control measures, and implementing standard data entry and reporting methods.

Monitoring and MCL Violations and Assessments

A public water system is required to monitor for the presence of 83 different contaminants. If a contaminant is present in the water, the system must verify that it does not exceed the maximum contaminant level (MCL).

In 2019, only nine of 83 contaminants for which community public water systems monitor were found in quantities above the MCL. That means 74 contaminants for which monitoring was conducted were not found above the MCL in ***any*** community water system in Nebraska.

Monitoring & Compliance enforces nine different federal monitoring rules. Each rule contains a group of similar contaminants. Below is a list of the rules:

1. Revised Total Coliform Rule
2. Disinfections Byproducts
3. Groundwater
4. Lead & Copper
5. Inorganic Chemicals
6. Radionuclides
7. Synthetic Organic Chemicals
8. Surface Water Treatment
9. Volatile Organic Chemicals

A major monitoring violation occurs when a system fails to collect any samples during a compliance period. Significant monitoring violations are defined as any major monitoring violation that has occurred during a specified reporting period, which differs for each contaminant.
There were a total of 265 violations from 175 public water systems in 2019 for exceeding an MCL or failing to properly monitor. More detailed information on each of the monitoring rules follow the summary table on the following pages.

Revised Total Coliform Rule (RTCR)

The objective of the Revised Total Coliform Rule (RTCR) is to reduce potential pathways of entry for fecal contamination into distribution systems. The rule established an MCL for *E. coli*, a type of pathogenic coliform bacteria than can be associated with fecal contamination. All public water systems are required to monitor for the presence of coliform bacteria and routine monitoring is based on the system type and size. RTCR assessments and corrective actions are required based on these monitoring results. A system is required to issue a Public Notice (PN) if they fail to monitor for bacteria, if *E.coli* bacteria are found, or if they fail to complete an assessment or corrective action.

A Level 1 Assessment is triggered when total coliform is found in the system. The public water system conducts the Level 1 Assessment and it is reviewed by the Drinking Water Division. Identified deficiencies noted in the Assessment are required to be corrected in a timely manner.

A Level 2 Assessment is triggered when a system incurs more than one Level 1 Assessment in a running 12-month period, or if a system has a confirmed *E. coli* bacteria presence within their system. The Level 2 Assessment is conducted by the Drinking Water Division with a representative of the public water system. Level 2 paperwork is completed and identified deficiencies are noted and the system is responsible for correcting deficiencies in a timely manner.

Significant deficiencies must be corrected within 120 days and minor deficiencies must be corrected within 12 months.

RTCR Assessments 2019

Type of RTCR Assessment	Number of Assessments Triggered	Number of Systems	% of Systems with Assessments
Level 1, Multiple TC +	132	132	9.8%
Level 2, 2nd Level 1 triggered	96	63	4.7%
Level 2, *E. coli* MCL triggered	14	14	1.0%

RTCR Violations 2019

Type of RTCR Violation	Number of Violations Issued	Number of Systems	% of Systems with Violations
Treatment Technique, Level 1 requirements not met	0	0	0%
Treatment Technique, Level 2 requirements not met	0	0	0%
MCL – *E. coli* +	13	13	1.0%
Monitoring, Additional Routine, Major Routine	162	121	9.0%

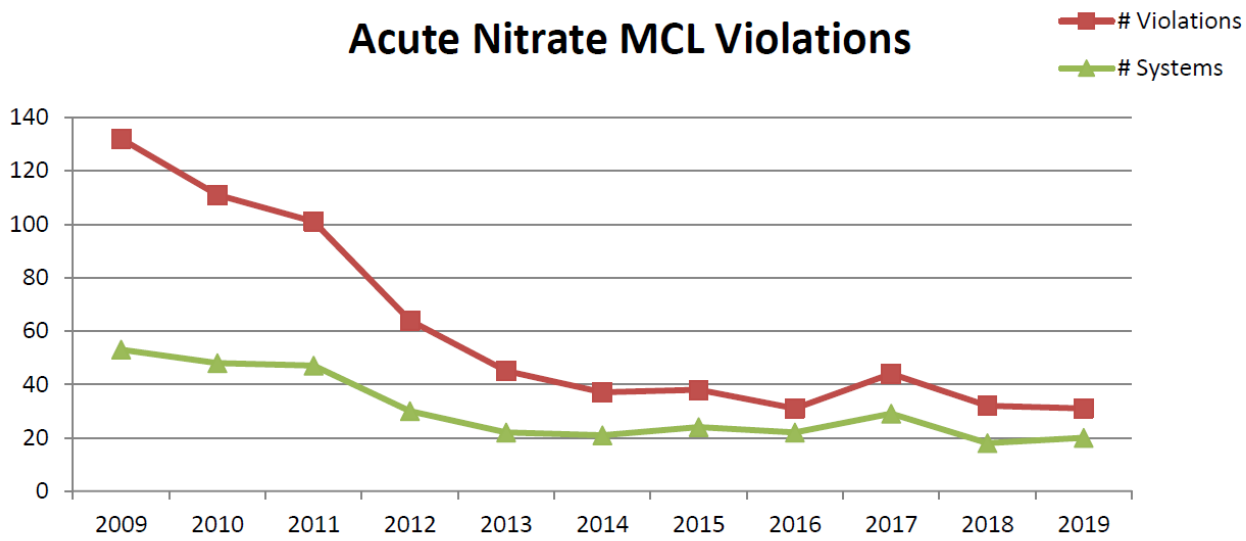
Nitrate-Nitrite Rule

All public water systems monitor for nitrate-nitrite. Adverse health effects can be experienced when high levels of nitrate or nitrite, above their respective MCLs, are consumed by pregnant women, infants under six months of age, and nursing mothers. A system is out of compliance when it receives one monitoring or MCL violation. A system is issued an Administrative Order (AO) to correct a nitrate contamination problem if two nitrate-nitrite violations are issued within a consecutive three-quarter period.

A summary of the 2019 nitrate-nitrite violations is presented below along with historic data. Nitrate MCL violations have decreased significantly in Nebraska since 2009.

Nitrate-Nitrate Violations 2019

Violation	Number of Violations	Number of Systems	% of Systems with Violations
MCL – 10 mg/l	31	20	1.5%
Monitoring	17	16	1.1%



Public Notification Rule 2019

Public Notification is required if a PWS receives an MCL, monitoring, or acute violation. There were no systems in violation of the PN Rule.

Rule	Number of Violations	Number of Systems
Public Notification Rule	9	7

Consumer Confidence Rule 2019

The Consumer Confidence Rule requires all community water systems to prepare and distribute a brief annual water quality report summarizing information regarding source water, detected contaminants, compliance, and educational information. There were no systems in violation of the Rule.

Rule	Number of Violations	Number of Systems
Consumer Confidence Rule	0	0

MCL Violations for Chronic Contaminants

All maximum contaminant level violations other than total coliform and nitrate are considered to be chronic in nature, i.e., the adverse health effects are evident only after exposure over a long period of time. These contaminants are listed at the end of this report. When a chronic contaminant is detected, the PWS must monitor quarterly for that contaminant. If the level decreases below the MCL, the monitoring frequency may be reduced. A public water system is issued an AO to correct a chronic

contamination issue after three quarterly MCL violations are issued in a rolling 12-month period. An AO is issued immediately if detected levels pose a health risk. Below are a list of tables that outline the type of contaminants and the number of violations issued for each.

Volatile Organic Chemical (VOC) Violations 2019

(Only Community and Non-transient, non-community systems monitor for VOCs.)

VOC Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems	Systems with Violations
1,1-Dichloroethylene	0	0	0	0.0%
1,1,1-Trichloroethane	0	0	0	0.0%
1,1,2-Trichloroethane	0	0	0	0.0%
1,2-Dichloroethane	0	0	0	0.0%
1,2-Dichloropropane	0	0	0	0.0%
1,2,4-Trichlorobenzene	0	0	0	0.0%
Aldrin	0	0	0	0.0%
Benzene	0	0	0	0.0%
Carbon tetrachloride	0	0	0	0.0%
cis-1,2-Dichloroethylene	0	0	0	0.0%
Dicamba	0	0	0	0.0%
Dichloromethane	0	0	0	0.0%
Metribuzin	0	0	0	0.0%
Monochlorobenzene	0	0	0	0.0%
o-Dichlorobenzene	0	0	0	0.0%
para-Dichlorobenzene	0	0	0	0.0%
Styrene	0	0	0	0.0%
Tetrachloro-ethylene	0	0	0	0.0%
Toluene	0	0	0	0.0%
trans-1,2-Dichloroethylene	0	0	0	0.0%
Trichloroethylene	0	0	0	0.0%
Vinyl chloride	0	0	0	0.0%
Xylenes (total)	0	0	0	0.0%

Inorganic Chemical (IOC) Contaminant Violations 2019

(Only Community and Non-transient, non-community systems monitor for Inorganic Chemicals.)

Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems	Systems with MCL Violations
Antimony	0	0	0	0%
Asbestos	0	0	0	0%
Arsenic	8	8	6	0.4%
Barium	0	0	0	0%
Beryllium	0	0	0	0%
Cadmium	0	0	0	0%
Chromium total	0	0	0	0%
Cyanide (as free cyanide)	0	0	0	0%
Fluoride	0	0	0	0%
Mercury	0	0	0	0%
Nickel	0	0	0	0%
Selenium	0	0	0	0%
Sodium	0	0	0	0%
Thallium	0	0	0	0%

Non-Volatile Synthetic Organic Chemical (SOC) Contaminants 2019

(Only Community and Non-transient, non-community systems monitor for Non-Volatile Synthetic Organic Chemicals.)

Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems	Systems with Violations
2,3,7,8-TCDD (Dioxin)	0	0	0	0%
2,4-D	0	0	0	0%
2,4,5-TP	0	0	0	0%
Alachlor (Lasso)	0	0	0	0%
Atrazine	0	0	0	0%
Benzo[a]pyrene	0	0	0	0%
Butachlor	0	0	0	0%
Carbaryl	0	0	0	0%
Carbofuran	0	0	0	0%
Chlordane	0	0	0	0%
Dalapon	0	0	0	0%
Di(2-ethylhexyl)adipate	0	0	0	0%

Di(2-ethylhexyl)phthalate	0	0	0	0%
Dibromochloropropane	0	0	0	0%
Dieldrin	0	0	0	0%
Dinoseb	0	0	0	0%
Diquat	0	0	0	0%
Endothall	0	0	0	0%
Endrin	0	0	0	0%
Ethylene dibromide	0	0	0	0%
Glyphosate	0	0	0	0%
Heptachlor	0	0	0	0%
Heptachlor epoxide	0	0	0	0%
Hexachlorobenzene	0	0	0	0%
Hexachlorocyclopentadiene	0	0	0	0%
Lindane	0	0	0	0%
Methomyl	0	0	0	0%
Methoxychlor	0	0	0	0%
Oxamyl (Vydate)	0	0	0	0%
Pentachlorophenol	0	0	0	0%
Picloram	0	0	0	0%
Polychlorinated biphenyls	0	0	0	0%
Propachlor	0	0	0	0%
Simazine	0	0	0	0%
Toxaphene	0	0	0	0%

Radionuclide Violations 2019

(Only Community water systems monitor for Radionuclides.)

Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems	Systems with Violations
Gross Alpha Including Radon and Uranium	0	0	0	0%
Uranium Mass Combined Uranium	5	0	2	0.15%
Combined Radium (Radium -226 and Radium -228	1	0	1	0.07%

Disinfection Byproduct Violations 2019

(Only water systems that disinfect their water, monitor for Disinfection Byproducts and Disinfectant Residuals.)

Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems
Total Trihalomethanes	1	0	1
Total Haloacetic Acids	0	0	0

Disinfection Byproducts Stage 1 Monitoring

Violation	# Violations	# Systems
Qualified Operator Failure	0	0

Disinfection Byproducts Monitoring

	# Violations	# Systems
Monitoring	1	1

Disinfectant Residual

MRDL	Treatment Technique # Violations	Treatment Technique # Systems	Monitoring # Violations	Monitoring # Systems
0	1	1	1	1

Lead and Copper Rule 2019

(Only Community and Non-transient, non-community water systems monitor for Lead and Copper.)

Contaminant	Number of Monitoring Violations	Number of Systems	Systems with Violations
Lead and Copper	2	2	0.15%

Surface Water Treatment Rule 2019

Type of Violation	Number of Violations	Number of Systems
Treatment Technique	3	2
Monitoring	0	0
Record Keeping	0	0

Ground Water Rule 2019

(All water systems who use ground water as their source water have to monitor for the Ground Water Rule.)

Type of Violation	Number of Violations	Number of Systems
Sanitary Survey – Failure to Address Deficiency	0	0
Sanitary Survey – Failure to Consult	0	0
Treatment Technique	0	0
Monitoring/Reporting/Recordkeeping	0	0

Administrative Orders 2019

The Drinking Water Division issues an Administrative Order (AO) when a public water system is significantly out of compliance. (Each contaminant has different parameters that indicate what constitutes “significantly out of compliance.”) Once an AO is issued, MCL violations continue to be issued until the system returns to compliance. Failure to comply with the terms of an AO can result in administrative action or revoking the system’s permit to operate.

	Total Coliform Monitoring	Nitrate	Arsenic	DBP
Number of Orders	0	0	0	1
Population Affected	0	0	0	2405

Variances and Exemptions

No variances or exemptions were issued in 2019.

MCL Violations other than Total Coliform/RTCR and Nitrate

Population Affected by Various Contaminants

Contaminant	Population
Arsenic	25,254
Uranium Mass	139
Nitrate/Nitrite	3,579