CHAPTER 6:
Water Programs

The goal of the Water Programs is to protect the surface water and groundwater resources for all purposes in Nebraska. This chapter describes the programs administered by the Water programs, 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.

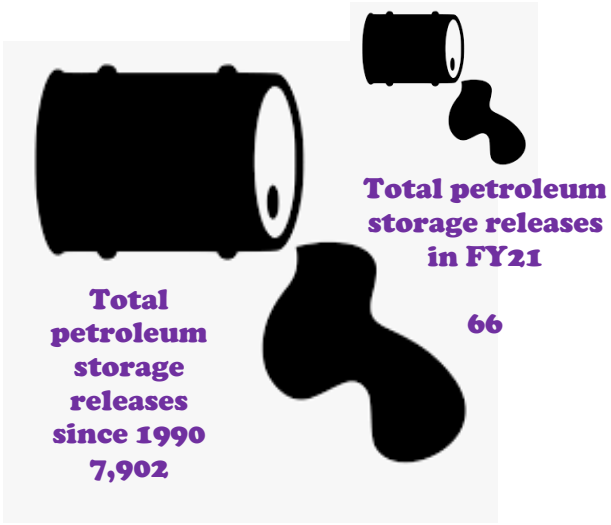
Petroleum Remediation Program

Activities regarding the Petroleum Remediation Program involve two interrelated areas:

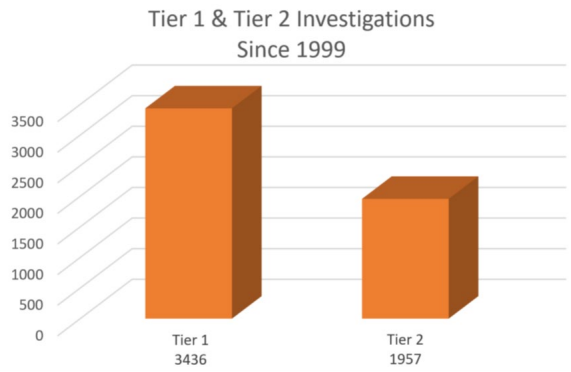
1. Overseeing the **investigation and cleanup** of petroleum contamination resulting from leaking above ground and underground storage tanks as well as other sources such as pipeline leaks and transportation spills; and
2. Administering a **financial assistance program** for persons responsible for investigation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

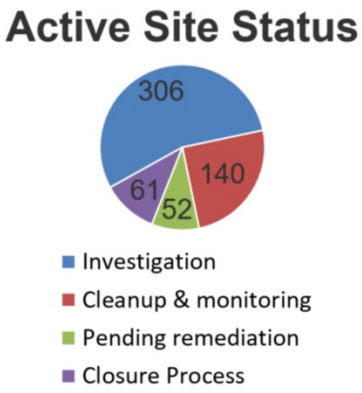
Investigation and Cleanup

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.



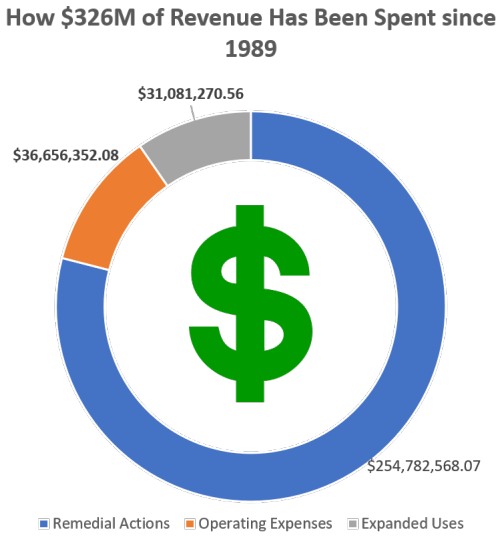
The program has incorporated Risk-Based Corrective Action (RBCA) procedures into regulations and accompanying guidance. The RBCA process allows for the evaluation of all petroleum release sites based on the risk they pose to human health and the environment. Those that pose no significant risk are closed; those that pose significant risk are prioritized for further work. Since 1999, the program has been collecting site-specific information needed for Tier 1, the first step in the RBCA process. Sites that fail Tier 1 are activated for Tier 2, which is a more detailed investigation and the next step in the RBCA process. In FY 2021, 102 Tier 1 investigations and 15 Tier 2 investigations were initiated. If sites fail Tier 2, they are normally scheduled for cleanup.





Financial Assistance – Petroleum Release Remedial Action Reimbursement Fund

When contamination has been found at a site and 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.



Moving a surplus remediation system

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 web site.

NDEE trailer containing a remediation system

Revenue was just over $11.3 million in FY21. During the year, NDEE reimbursed about $3.2 million to Responsible Persons for work done at 139 different sites, and $5.8 million was spent to clean up orphan sites. An additional $563,445.29 of revenue was transferred to NDEE's Superfund program, as directed by legislation passed in 2017. As of June 30, 2021, over $254 million total 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, they are worked on immediately with no waiting required. This helps speed property transactions and redevelopment.

Direct push technology collecting soil or groundwater samples

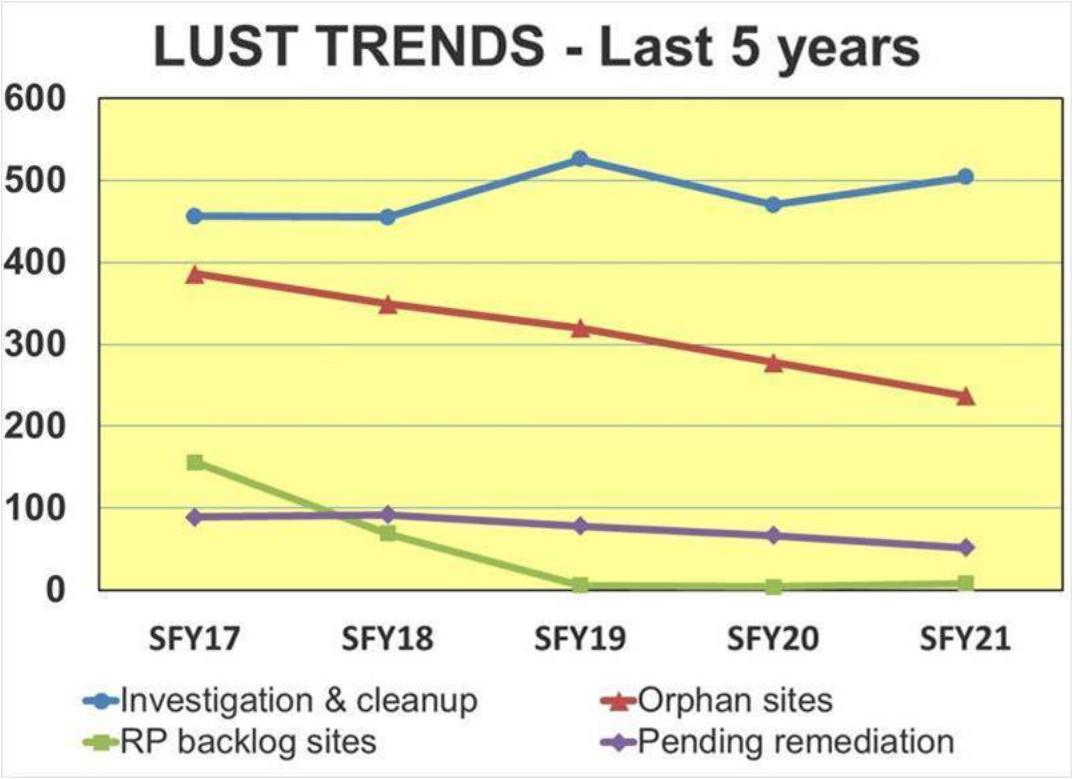
Tank excavation

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 FY 2021, 60 orphan sites were activated for investigation and/or cleanup using State contractors. At the end of FY 2021, there were 243 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

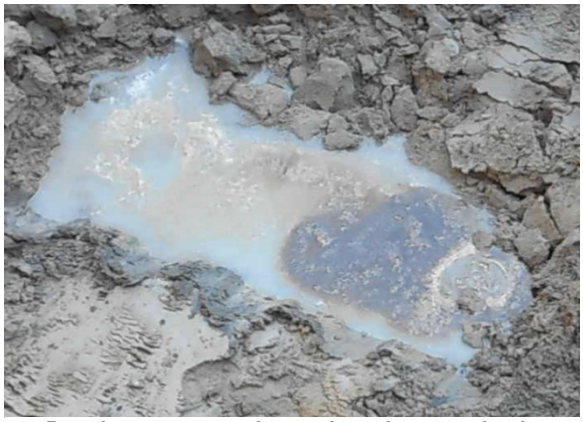
As sites are undergoing cleanup, NDEE pays for the purchase of remediation equipment. When sites are cleaned up and closed, NDEE seeks to reuse that equipment at other sites. Since June 2005, NDEE has reused hundreds of pieces of equipment, thus greatly reducing the need to buy new equipment. This reuse program has saved Nebraska taxpayers over $6.5 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

Amount saved from reused equipment

Voluntary Remedial Action

Tank owners can 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 evaluated and implemented new methods of identifying and remediating petroleum releases. Working with both the University of Nebraska-Lincoln and private industry, we have tried many new technologies over the last 25 years. Currently, chemical injection and remote sensing are being tried throughout the State.

Remote sensing equipment

Surface Spills

We have long been aware that 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, as well as many 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.

What to do when you've had a fuel spill

(Over the Road Vehicle Incidents)

Nebraska Department of Environment and Energy (NDEE)

March 2019

When and how do I report a fuel spill?

- Call NDEE M-F, 8-5 at 402-471-2186
- Non-office hours, call the Nebraska State Patrol (NSP) Dispatch at 402-479-4921. NSP will contact NDEE, who will call you back
- NDEE will ask you:
  - when the spill occurred,
  - location of the spill,
  - amount spilled,
  - what has been done to contain or recover the spill, and
  - who is responsible for the spill.

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 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://dee.ne.gov/NDEQProg.nsf/OnWeb/LUST.

Excavation of a petroleum release

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 six-year 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, public drinking water supply, and National Discharge Elimination System (NPDES) permit limits), 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), United States Geological Survey (USGS) and United States Environmental Protection Agency (USEPA).

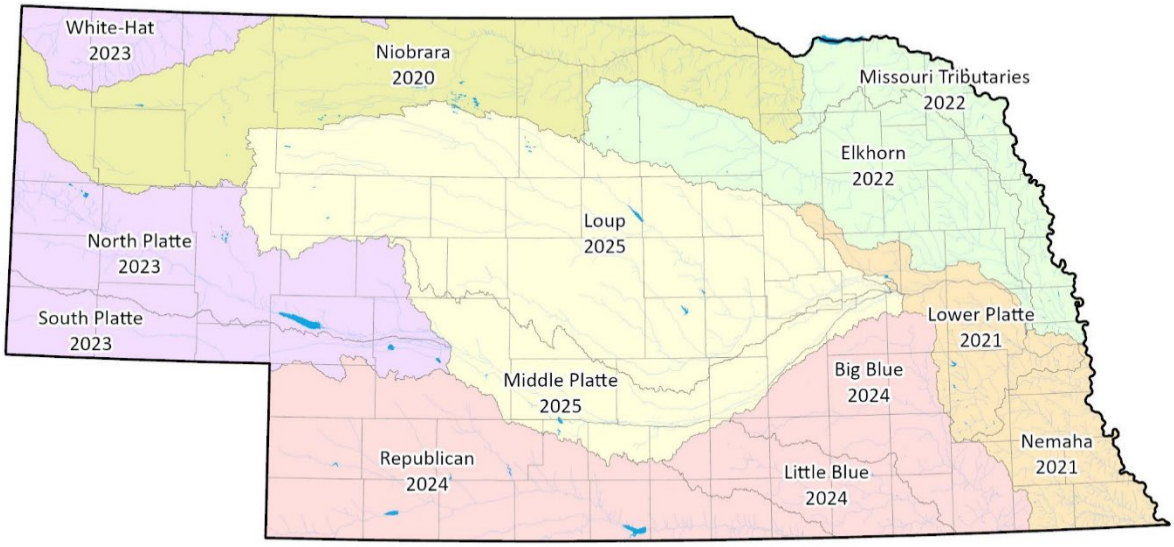
Each year, surface water samples are collected at hundreds of locations across the state, resulting in over 36,000 individual field measurements and laboratory analyses.

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 is provided in the Department's annual publication Water Quality Monitoring Programs Report available online. http://dee.ne.gov/Publica.nsf/pages/WAT344

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.
- 14 parameters analyzed at each sampling location.
- In 2021, NDEE sampled 42 sites within the Lower Platte and Nemaha River basins.

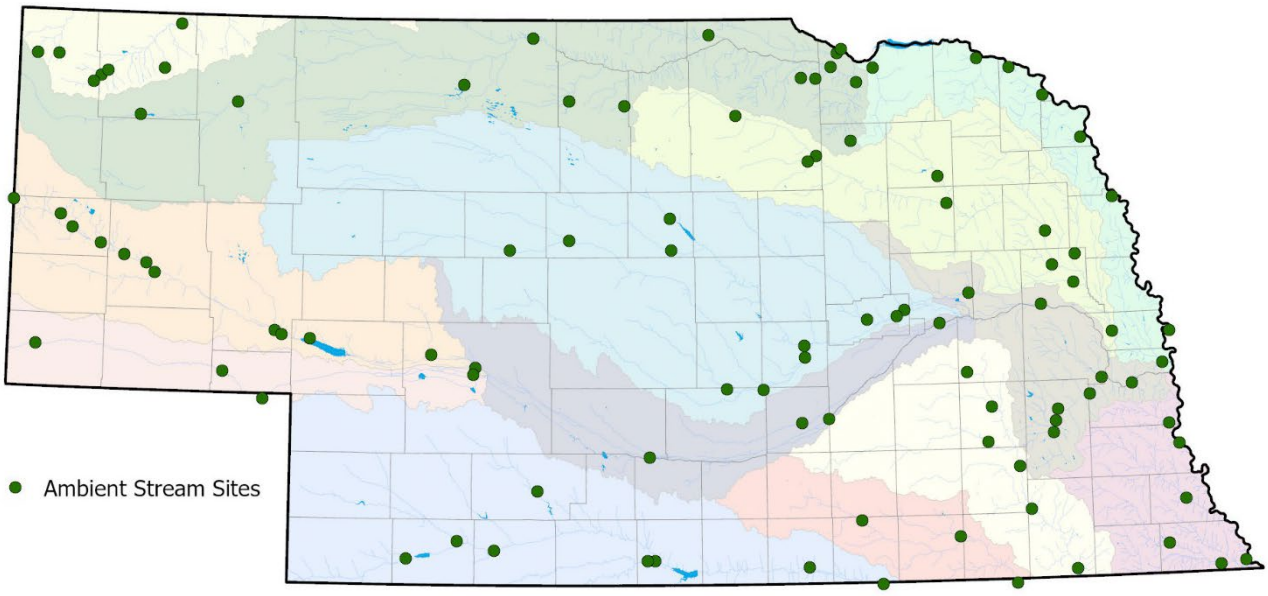
Six-year basin rotation monitoring schedule



Ambient Stream Monitoring Program

- Network of 101 fixed stations.
- Main stem and tributary streams.
- Thirty-four parameters analyzed at each sampling location.
- Samples are 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.

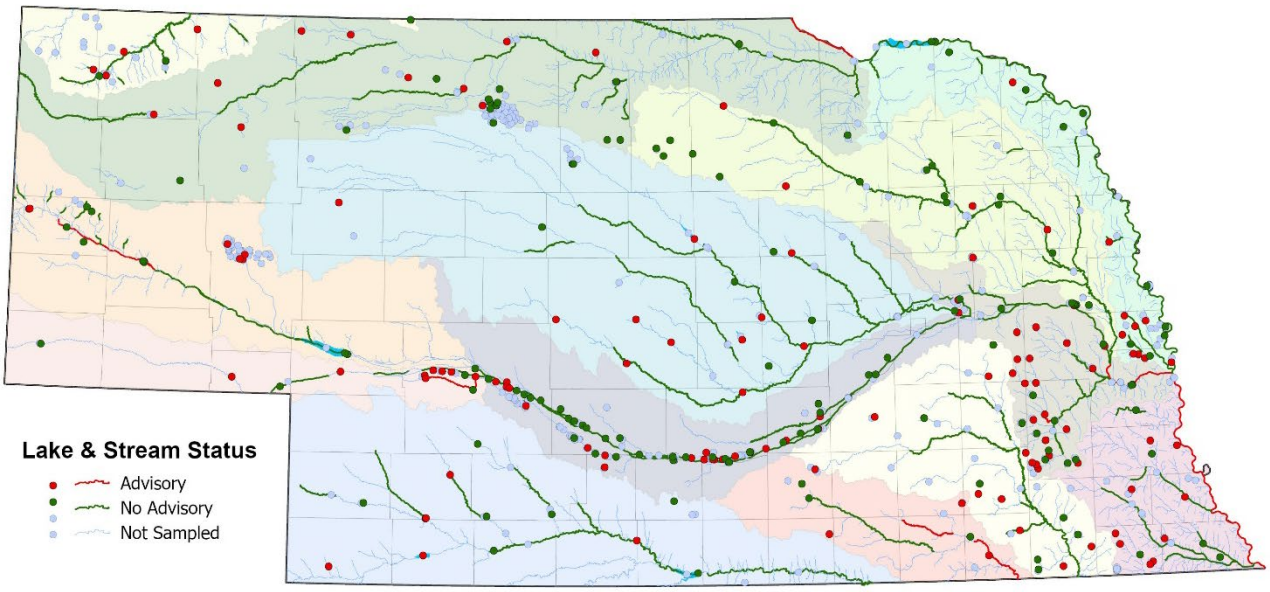
Stream Biological Monitoring Program

- Diversity and numbers of resident aquatic macroinvertebrate and fish communities are evaluated to assess the overall health of streams.
- Sites are chosen with a probabilistic sampling design within the framework of the basin rotation schedule.
- 45 sites (10 completed in partnership with NGPC) were sampled in 2021 within the Lower Platte and Nemaha River basins.

Fish Tissue Monitoring Program

- Assess fish tissue for toxins, such as mercury and polychlorinated biphenyl compounds (PCBs).
- Current fish tissue consumption advisories at 136 locations (127 lakes and 9 river/stream segments).
- In 2021, 52 lakes and 12 river and stream locations were sampled within the Lower Platte and Nemaha River basins.
- The most recent report is online at http://dee.ne.gov/publica.nsf/pages/WAT341

Lake and Stream Fish Consumption Advisory Locations in Nebraska Through 2020



Ambient Lake Monitoring Program

- Data from 24 trend lakes (sampled every year) and 13 basin lakes (sampled according to basin rotation schedule) were collected monthly during May-September in 2021.

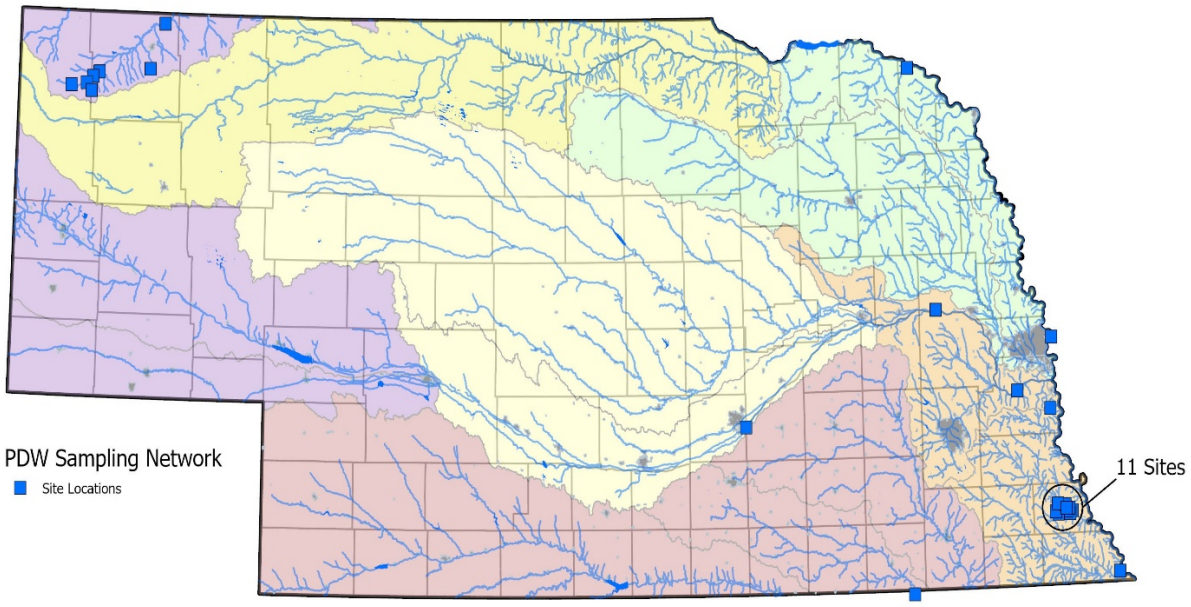
- 19 additional trend lakes are sampled for this program by staff from the USACE and the Lower Loup and Nemaha NRD's.
- 14 parameters analyzed at each lake.
- Depth profile data are taken at deep water and mid-lake locations.
- Data are used to evaluate water quality suitability for fish and aquatic organisms to survive and reproduce.
- Long-term changes to water quality 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 sites of many of the complaints.
- 11 fish kills investigated from July 1, 2020 to June 30, 2021: 6 were from low dissolved oxygen levels, 3 from disease/parasite issues, 1 from a pollutant spill and one resulted from an unknown cause.
- 90 complaints of surface water pollution were taken by the Monitoring Section in the last year, many were forwarded to other NDEE programs.

Public Drinking Water Special Study

- Title 117 – Nebraska Surface Water Quality Standards (NSWQS) defines the Public Drinking Water (PDW) designation as “These are surface waters which serve as a public drinking water supply. These waters must be treated (e.g., coagulation, sedimentation, filtration, chlorination) before the water is suitable for human consumption. After treatment, these waters are suitable for drinking water, food processing, and similar uses.”
- The goal of the study is to develop a dataset that will allow NDEE to assess all stream segments that have the PDW designation. This will ensure sufficient data is collected to determine if a stream segment is impaired by pollution, as well as potentially identify whether the pollution source is from groundwater or surface water.
- Atrazine, nitrate/nitrite, arsenic, manganese, uranium and selenium are monitored monthly with the collection of surface water samples at 26 stream location sites statewide.



NRD Watershed Special Studies

- NDEE has partnered with several NRDs on Watershed Special Studies with strategic plans to monitor the sources and quantities of pollutants entering these systems from specific sub-watersheds.
- Information gathered allows a complete assessment of stream segments where data is insufficient to determine if all designated uses are met.
- Allows finer calibration of predictive models to allocate pollutant loads to specific sub-watersheds and to quantify load reductions from sub-watershed conservation projects.
- Sampling partners of Watershed Special Studies in 2021 include: Lewis and Clark NRD – Bow Creek Special Study, Lower Platte North NRD – Wahoo Creek Special Study, Lower Big Blue NRD – Turkey Creek and Indian Creek Special Studies and Lower Platte South NRD – Twin Lakes Special Study.

Regional Monitoring Network

- Collaboration between the USEPA and numerous states, tribes, and other organizations to collect continuous stream discharges and temperatures and other chemical and biological data.

- Data are used as baselines for long term comparisons of stream condition.
- Having many sensors deployed nationwide that collect continuous data allows USEPA and other partners to detect significant yet subtle trends in stream condition.
- NDEE has been monitoring eight streams since May 2017.
- Each location has a sensor that collects water level and temperature every thirty minutes, typically bolted to a post driven into the stream bottom.
- Each of the study locations is also sampled as part of the NDEE Ambient Stream Monitoring Program.

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 2020 Water Quality Integrated Report, which was approved by the USEPA in June 2021, is available on NDEE's web site at http://dee.ne.gov/Publica.nsf/Pages/WAT352 Work on the 2022 Integrated Report is underway and expected to be completed by the end of calendar year 2022.

Groundwater Assessment Programs

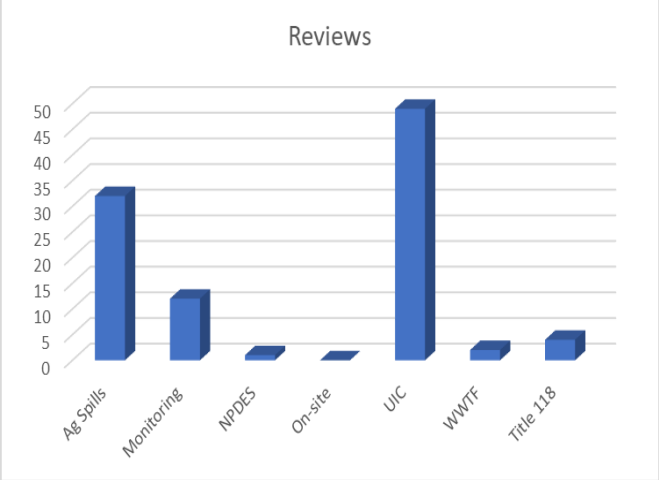
Groundwater Quality Monitoring Report

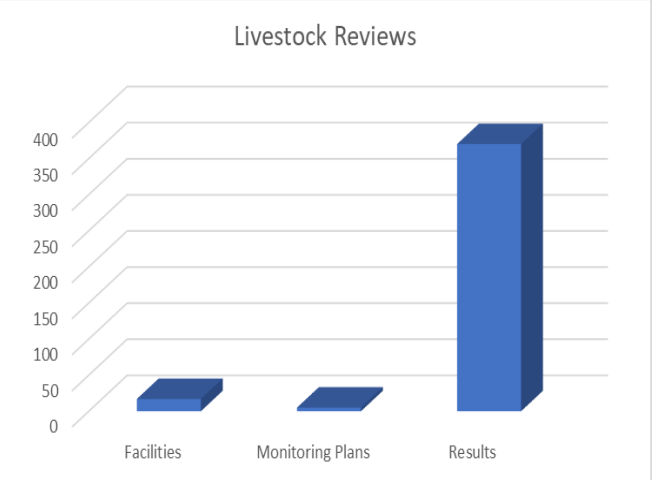
The Groundwater Quality Monitoring Report summarizes the water quality monitoring efforts of the Natural Resources Districts, NDEE, and other state, local and federal agencies. The 2020 Groundwater Quality Monitoring Report can be accessed on the NDEE website at http://dee.ne.gov/publica.nsf/PubsForm.xsp?documentId=C3C47F71DBDA83338625863100728C51&action=openDocument. 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. Over the past two years, the data has been migrated to a more user-friendly and interactive platform. These data are now accessible to the public as the Nebraska Groundwater Quality Clearinghouse at http://clearinghouse.nebraska.gov.

Hydrogeologic Studies and Reviews

The Groundwater Section is responsible for hydrogeologic review of various NDEE projects to determine possible effects on groundwater quality and to recommend possible courses of action. These reviews are completed for programs at NDEE that address leaking underground storage tanks, surface spills, underground injection control, wastewater treatment facilities, septic systems, NPDES permits, livestock waste control facilities, and for outside entities, such as review of Natural Resources Districts' Groundwater Management Plans

In addition, the Groundwater Section performs reviews and oversees remediation if a situation does not fall under another agency program and is of environmental significance. Section 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, which 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, developing monitoring plans and contingency plans to provide alternate water supplies and site new wells. One hundred eighteen (118) community water supplies have approved Wellhead Protection plans as of August 31, 2021.

In 2019, NDEE began using the Groundwater Evaluation Tool (GET) to model WHP areas for Nebraska's Public Water Systems (PWS). 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 PWSs. 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 SFY2021, Source Water Protection funds were distributed to the following public water systems: Wahoo and David City. 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) are used to develop the plans, encourage community involvement through stakeholder groups, and put on public meetings to promote the projects. 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. These plans provides more funding and longer-term grants (five years) than the Source Water Protection Grants are able to .

These plans bring together NRDs, the Natural Resource Conservation Service (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 stages 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 worked with the NRCS to develop the priority areas in Nebraska where funds are 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 NRD groundwater management areas (Phases I - IV) that include WHP areas. A Phase I area covers an entire NRD district. In specific areas within an NRD where nitrate reaches a determined threshold, 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 producers need to complete an educational requirement such as nutrient management or fertilizer application training. Phase II-IV may also require that certain Best Management Practices (BMPs) may be required such as split application of fertilizer, cover crops, or not applying fertilizer in the fall for example. 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.

The farm bill helps many Nebraska communities 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

This program is tasked with inspecting all domestic wells and 25% of all other wells drilled in the previous calendar year. Program personnel include three inspectors and one administrative assistant. This year the inspectors are using iPads equipped with GPS and mapping software to assist in completing inspections and have already inspected over 33% of the wells for the year.

Starting July 1, 2021 all licensing tasks were moved to the NDEE Water Well Standards Program. The Program is responsible for licensing and regulating over 800 licensed water well professionals which includes administering examinations on a quarterly basis.

Advising 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

The stated public policy of Nebraska related to water quality includes conserving water and to protect and improve the quality of water for human consumption, wildlife, fish and other aquatic life, industry, recreation, and other productive, beneficial uses (Neb. Rev. Stat. 81-1501(1)). NDEE carries out this important mandate, in part, through water quality planning along with water quality standards.

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. The updated standards are available on NDEE's website. A public hearing was held on April 29th, 2021 to solicit comments from the public on the current regulation. This signifies the beginning of the triennial review process. 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 2020 Integrated Report was approved by EPA in June 2021 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]				

IR Category	TMDL/5-alt Name	# of Waterbodies	Pollutant	Status
	Willow Creek Reservoir	1	TN/TP	Lower Elkhorn WQMP approved by EPA March 2019, 5-alt revisions in progress
	Chadron Creek	1	*E. coli*	5-alt acceptance pending EPA review/approval of White River-Hat Creek WQMP

[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. This alternative restoration approach allows the state flexibility to align efforts with public interests to restore impaired waters more effectively and efficiently.

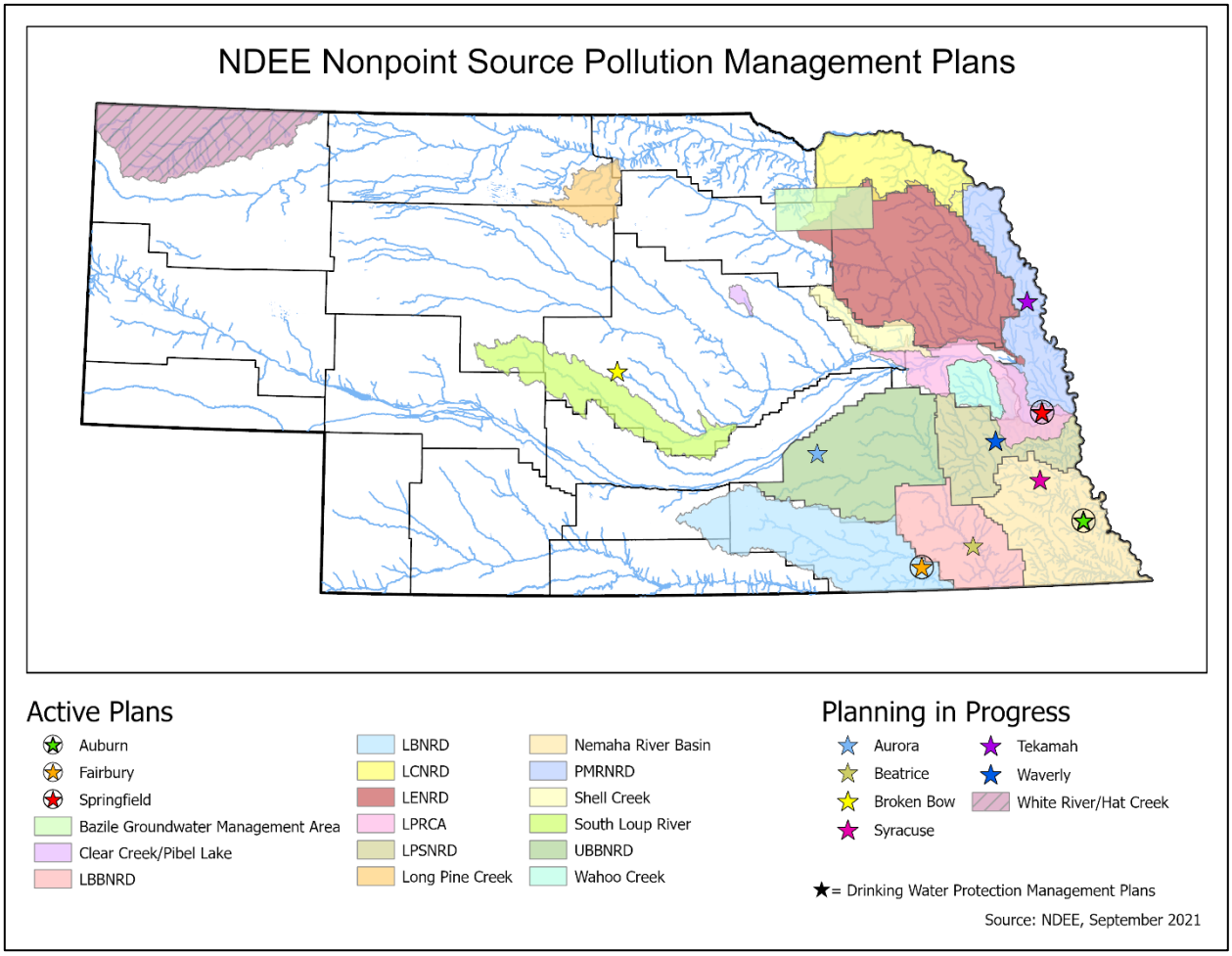
Nonpoint Source Pollution Management Program

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 Nebraska Nonpoint Source Management Plan: "Strategic Plan and Guidance for Implementing the Nebraska Nonpoint Source Management Program – 2021 through 2036," available at http://dee.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. Projects emphasize implementation of 9-Element watershed management plans or Alternative to 9-Element plans in the case of groundwater quality plans.

Stormwater infrastructure tour, Omaha

Included in the major program highlights this year is the approval by EPA of Project Implementation Plans for the Auburn wellhead protection area, South Loup watershed and a cover crop inter-seeder demonstration project with UNL. The program also produced a virtual tour video of the Antelope Creek project that was shown for a regional meeting and posted on the City of Lincoln cable channel. 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 Aurora, Beatrice, Broken Bow, Syracuse, Tekamah, and Waverly. In the past year, Springfield, 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 FY2021, 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.

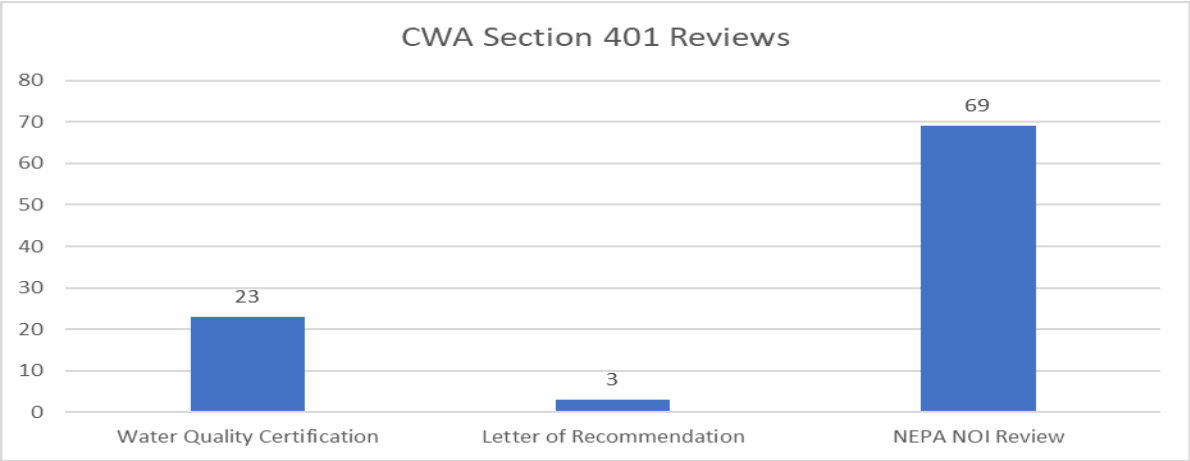
CWA 404 Program

Dredge and Fill Permits

The 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 (Corps) for activities in and around waters of the U.S. The 404 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. The Department has conducted a desktop analysis to determine the impact several new rules will have on the assumable workload. This information is being utilized to estimate staffing needs, program implementation costs, and develop sustainable funding scenarios.

CWA Section 401 Water Quality Certification

The 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 Title 117, Nebraska Surface Water Quality Standards. If the activity is likely to violate the standards, conditions for complying with the standards will be issued with the certification, or certification will be denied. The U.S. Army Corps of Engineers' Section 404 Dredge and Fill Permits and Federal Energy Regulatory Commission licenses are examples of federal regulatory programs that require State Water Quality Certification before federal permits or licenses can be issued. NDEE reviews approximately 23 projects for individual WQCs annually. The following figure details the number of reviews conducted by the section during FY2021:



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

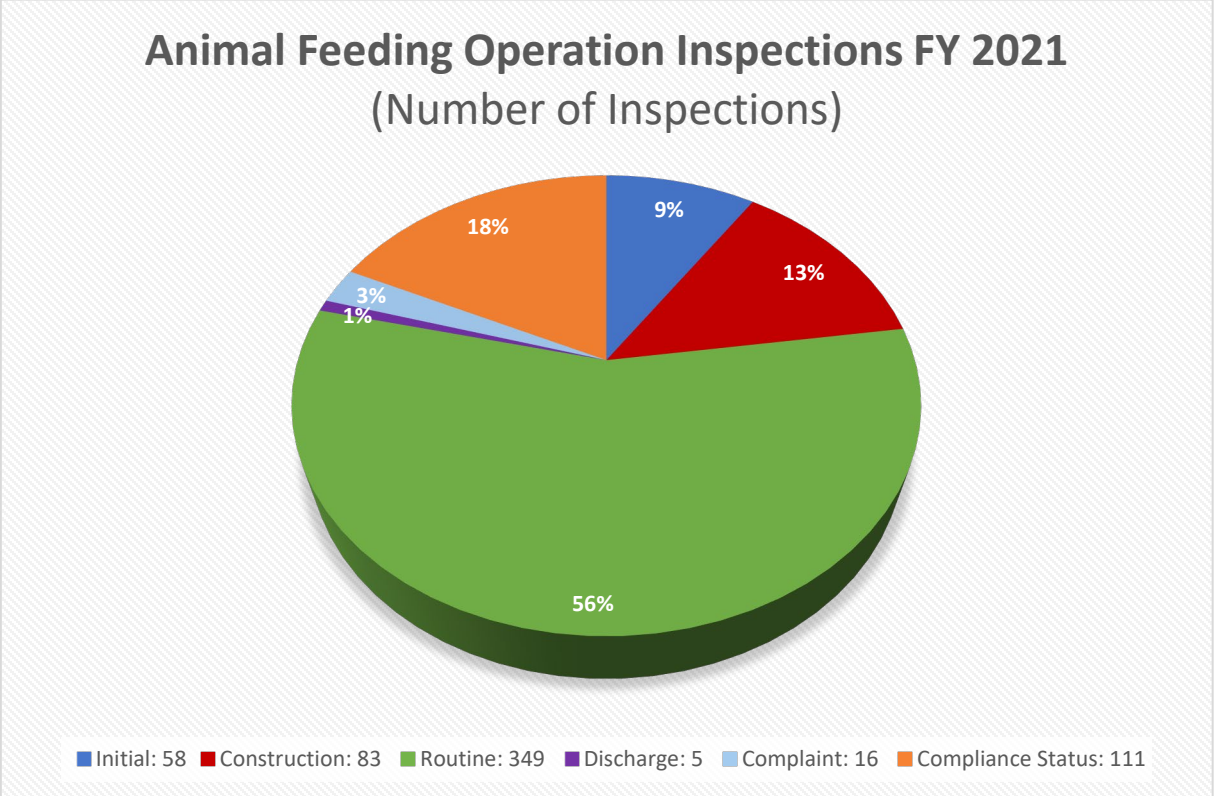
Overview

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 1,330 active large Concentrated Animal Feeding Operations (CAFOs) required to have permits, but also works with approximately 2,239 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 in 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 622 livestock waste control inspections and investigations in FY2021 (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.

With the lifting of many of the restrictions put in place at the beginning of the COVID-19 pandemic, there was an increase in person site inspections and a sharp reduction of virtual or remote investigations. There were 48 more inspections than were conducted in FY 2020.

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

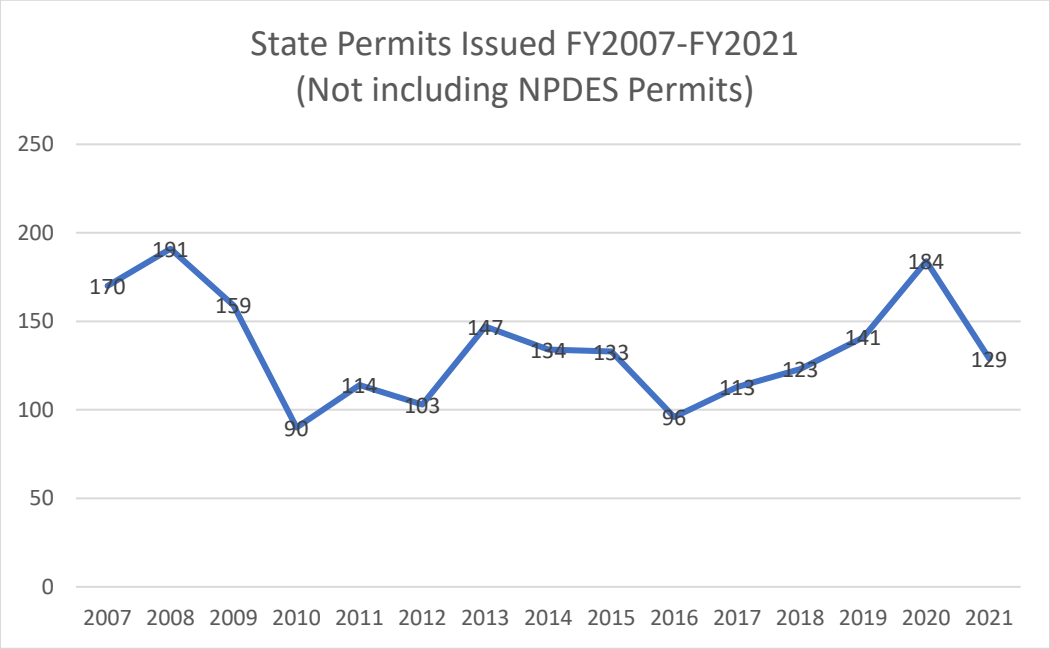
After conducting an initial inspection, the Department may require the AFO to submit an application for a Construction and Operating Permit – the state permitting process for livestock waste control facilities – prior to construction of livestock waste control facilities.

The Department received a total of 116 permit applications and issued 129 permits during FY2021, as shown in the table to the right.

Construction and Operating Permits – FY2021

Type of Application or Permit	Applications Received	Permits Issued
New permits	32	46
Modified permits	55	62
Transfer permits	29	21
TOTAL	**116**	**129**

The following chart 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 FY2021, the Department gave approval to 77 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 FY2021.

NPDES PERMITS – FY2021		
Type of NPDES Application/Permit	Applications Received	Permits Issued
GENERAL PERMIT FOR CAFOS CONFINING CATTLE		
New Coverage	20	12
Modified or Transferred	19	20
Reissued	94	99
SUBTOTAL GENERAL PERMIT:	**133**	**131**
INDIVIDUAL PERMITS		
New Coverage	0	0
Modified or Transferred	1	0
Reissued	2	1
SUBTOTAL INDIVIDUAL PERMIT:	**3**	**1**
NPDES TOTALS:	**136**	**132**

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 $284,566 in annual permit fees. In addition, the Department received $31,350 in initial inspection fees, $39,550 in permit application fees, $500 in late payment fees, and $5,893 in investment income for a total of $361,860 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 28,757 chemigation permits issued in 2021 constituted a 6% increase in permits issued compared to 2020 (26,951 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 2021, 1,167 applicators have been trained, tested, and certified, bringing the current number of certified chemigation applicators to 5,437. 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.

- **Environmental Safety** – The Environmental Safety Program inspects the following types of facilities: public swimming pools, recreational camps, and mobile home parks. The Environmental Safety 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, Environmental Safety and Operator Certification Program Accomplishments and Challenges

In 2019, the Onsite Section launched the online system registration process, and to date, 380 systems have been registered using this option. The online system has seen an increase in use from last year of 173%. 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.

A majority of the Department, including the Onsite Wastewater Section and Environmental Safety, 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.

On July 1, 2021 the Environmental Safety section was officially merged with the Department. The merger required a large amount of work from many sections to complete. This included field office leases, vehicle transfers, job classifications, letterhead and form changes, IT challenges, MOU negotiations, and regulation changes.

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, 692 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 1,783 systems registered in FY2021.

The Section receives a large number of complaints. There were 88 new onsite-related complaints in FY2021 and program staff resolved a total of 72 complaints, which includes both old

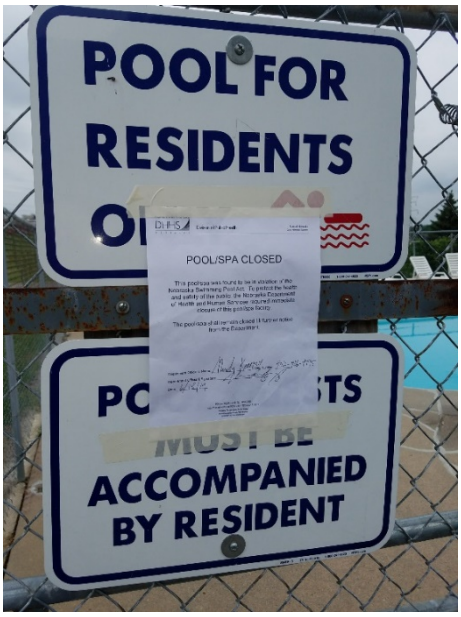
and new complaints. Typical types of complaints that are investigated include: failed systems that have a surface discharge, and which may pose a threat to public health or the environment, and systems installed by individuals who are not certified by NDEE. In addition, the Section fields approximately 4,000 calls annually seeking compliance assistance.

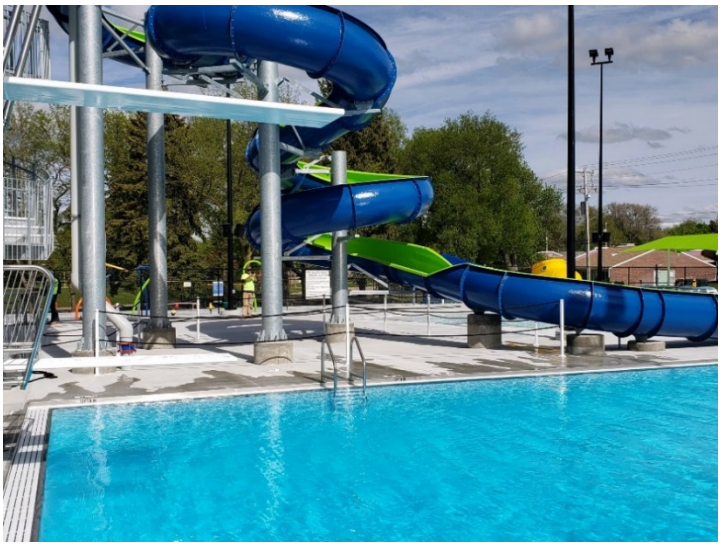
The regulations set minimum design standards for all onsite wastewater treatment systems and include an "Authorization by Rule" provision which allows for the installation of typical onsite systems by a certified professional and subsequent operation by the owner without a site-specific construction 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 FY2021, the program received 56 applications for construction/operating permits and 7 applications for subdivision review and approval.

Environmental Safety Program

The Environmental Safety 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.

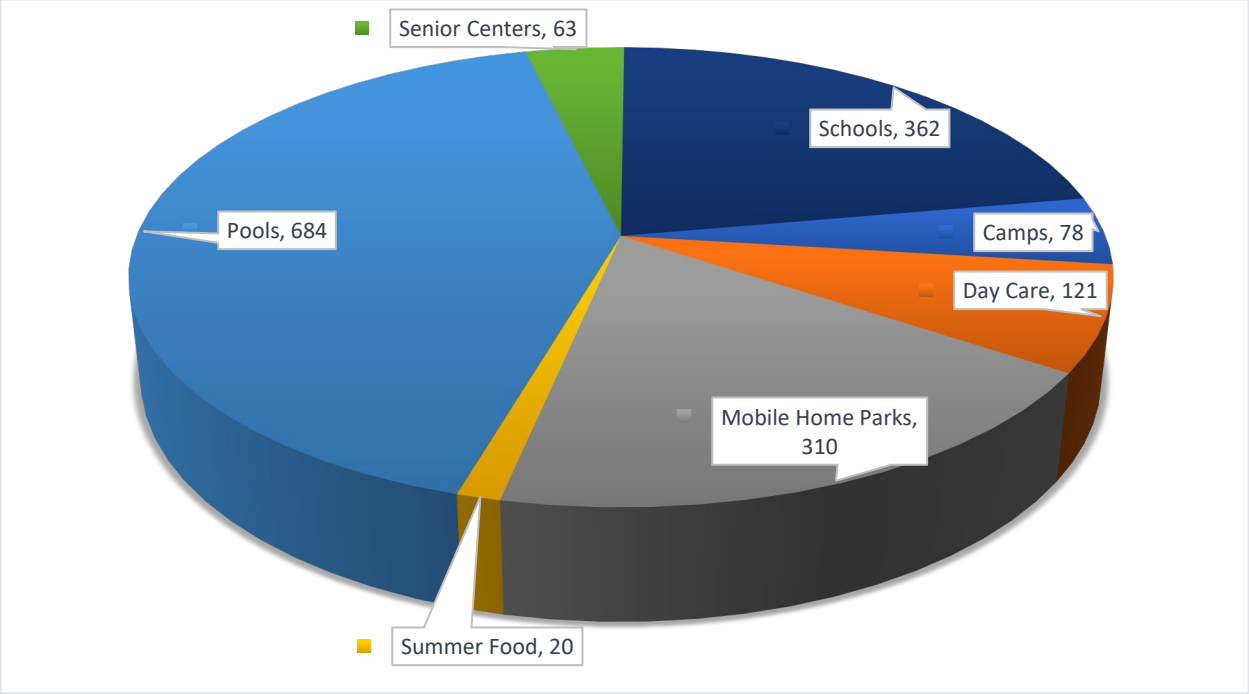




At left: shown is a sign temporarily closing an apartment pool. Above: Ord Community Pool

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 FY2021, the seven sanitarian program staff completed 1,638 inspections 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 FY2020 due to the COVID-19 pandemic resulting in many facilities being closed during the season. The chart below shows a breakdown of FY2021 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.

This photo shows a Wastewater Treatment Facility for Lincoln.

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

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 2021. NDEE has contacted approximately 300 facilities potentially eligible for the exemption and, of these, issued four-year operator exemptions to 215 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 IV. Since the Department began using this exam series, the pass rate for exams has declined sharply. The Department evaluated the issue with ABC and decided the best course of action was to reinstate the previously used state specific exams. The table below shows the increase in passing rate due to this change.

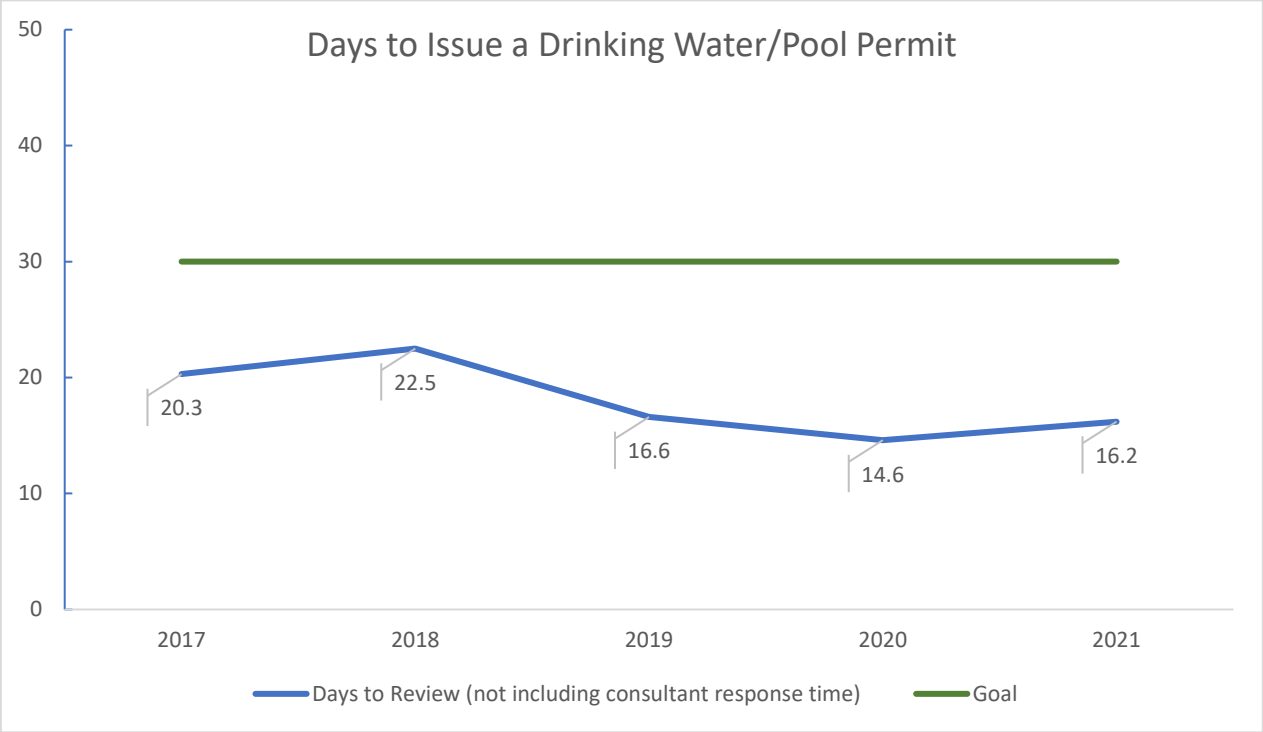
Operator Certification Program Annual Reporting					
Term		Operator Certification Testing			4-yr. operator exemption (*applications received*)
		Exam Format	no. administered	pass rate	
Fiscal Year July 1, 2020 – June 30, 2021		standardized/national	22	21%	189 exemptions granted
		state-specific	133	46%	
		combined	155	42%	
Calendar Year Jan. 1-dec. 31	2020	Standardized/national	61	30%	
	2021	State-specific	133	46%	
1988-2018		State specific	4,500+	48%	

Engineering Programs

The drinking water, wastewater, swimming pool, onsite, mobile home park, and recreation camp engineering program reviews are conducted by one engineering team. Team members have been cross-trained, which has resulted in a positive impact on NDEE efficiency of project reviews as well as providing the communities and businesses we serve a holistic view of engineering activities at their site. In FY2021, all engineering and permitting activities were moved into one division, allowing for even further cross-training between the engineering/permitting programs in air, livestock and solid waste.

Wastewater Engineering

The engineers in the program 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 FY2021, the Engineering Section received 238 applications for wastewater projects and approved 224 projects. The average day for the Engineering Section to review and issue a construction permit is shown in the following chart:



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 alignment 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. The last update became effective on September 4, 2019. This update addresses duplicative language and provides clarity to the reader. Also, an exemption for not requiring a construction permit for pretreatment facilities if the facility discharged to a public owned treatment works in another state was removed.

Drinking Water Engineering

Swimming Pool Under Construction

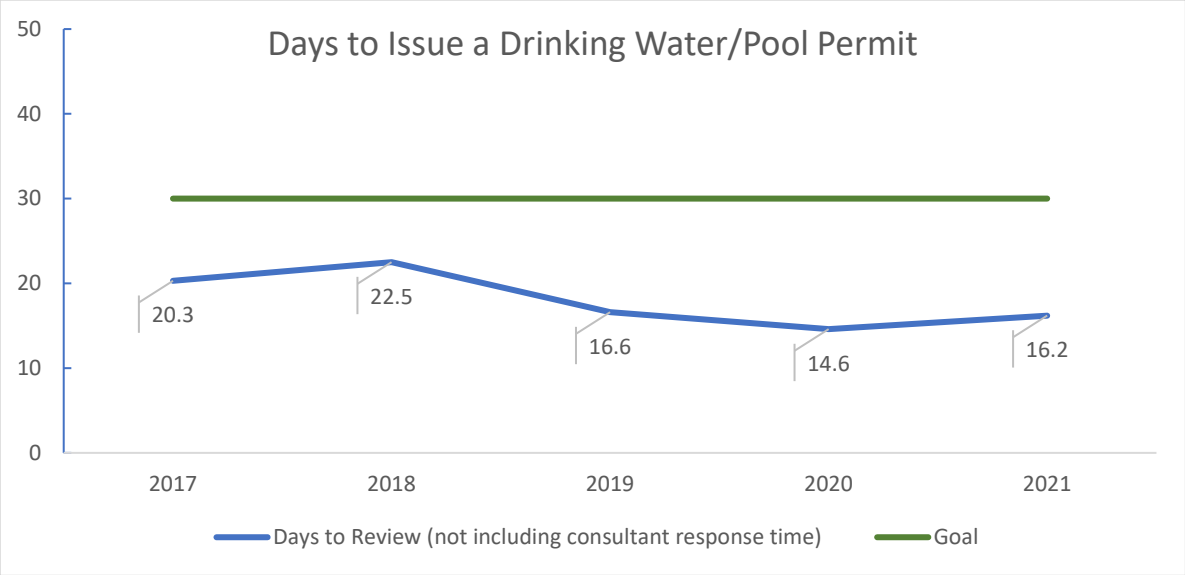
Drinking Water Engineering provides engineering plan review; issuance of construction permits; inspection of newly constructed projects for issuance of approvals for placement into service; and technical assistance and advisory contacts with owners/operators of public water systems, consulting engineers, 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.

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 for review and approval. These systems are subject to an annual audit as a condition of the agreement. The City of York entered into an agreement with the Agency on January 14, 2021. As a result, we now have a total of 24 public water systems that have agreements with the Agency.

The following table details the drinking water review and inspection engineering activities for FY2021:

Drinking Water Engineering Activities	Number
Water Projects Received for Review	196
Water Projects Approved	190
Water Projects Inspected	112
New/Modified Swimming Pool/Spa Projects Received for Review	68
New/Modified Swimming Pool/Spa Projects Approved	67
Pool/Spa Construction Projects Inspected	43
Three-Year Agreements for Distribution Main Projects—Annual Audits Completed	16

As with the wastewater engineering program, the drinking water engineering program has also experienced improved timeliness as a result of the cross-training within the Agency. This shown in the following chart:



Other Engineering Activities

In addition to the normal plan review and approval activity, the Engineering Section spends a considerable amount of time each year working with communities that need to upgrade their facilities, meeting with municipal officials, funding agencies, and consulting engineers to develop affordable projects for Nebraska's communities. The Agency continues to have quarterly meetings with the City of Omaha to discuss their combined sewer separation projects, regulatory, engineering and funding issues. The Engineering Section also perform various activities. The following is a list of activities conducted by the Engineering Section:

- Reviewed and approved 62 onsite projects. Engineering review and approval is needed; when an onsite project cannot meet Title 124 design standards or setback distances, for non-domestic type waste or for a system with flow exceeding 1000 gallon per day.
- Inspection of wastewater treatment facilities when the need arises or to assist the Compliance Section.
- Review and evaluate justifications provided by professional engineers for any new well siting that does not meet the setback distances identified in NAC *Title 179*, *Chapter 7*.
- Evaluate encroachment issues that may be of concern to existing public drinking water system infrastructure.
- Review preliminary engineering reports and applications to the Water Wastewater Advisory Council
- Draft Categorical Exclusion and Finding of no Significant Impact documents for projects funded by the State Revolving Loan Fund.
- Review and approve operation and maintenance manuals funded the State Revolving Loan Fund.
- Assist in drafting loan documents and providing financial capability analyses for the projects to be funded.
- Assist the NPDES program in wastewater treatment plant capacity evaluation and local limits related activity.

National Pollutant Discharge Elimination System (NPDES) and Related Programs

The Water Permits program 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. The following graphs show distribution of permits issued to various types of NPDES dischargers. Livestock NPDES permits may be found in the 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*.

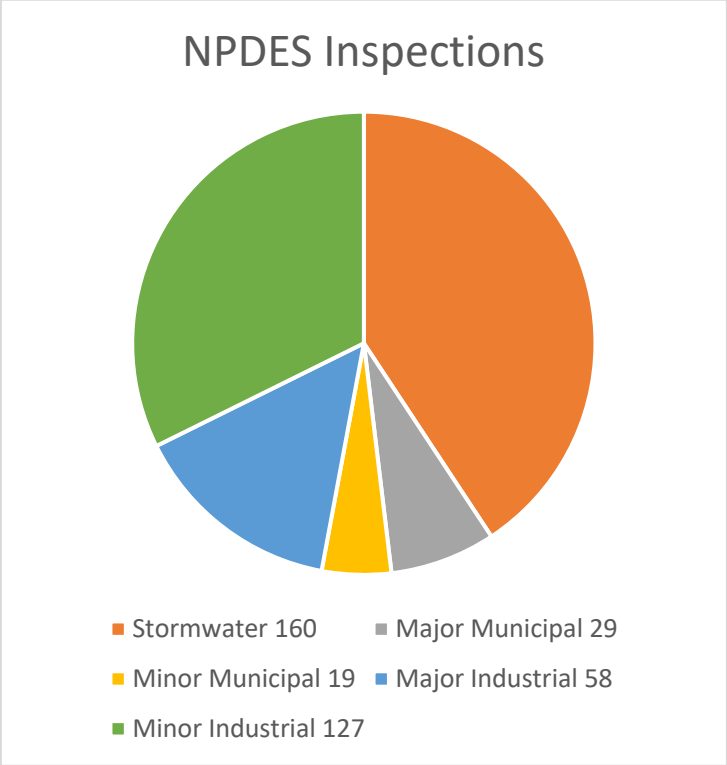
Permits may be developed and issued on an individual site-specific basis, or they may be developed and issued to apply to facilities with similar activities or effluent characteristics. These two types of permits are respectively referred to as individual permits and general permits. To date, the Department 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 604 facilities with discharge authorizations under individual permits (municipal, industrial, and pretreatment), and 28 municipal storm water permits (MS4). There are nearly 3,107 active authorized discharges under other general permits. The general permits include 1,630 active authorizations under the construction general storm water permit, 392 dewatering including Omaha, 68 hydrostatic testing, 987 industrial storm water, five pesticide, and 25 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.

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 393 NPDES inspections in Fiscal Year 2021. A breakdown of those inspections is provided in the chart above. The minor industrial inspections include 96 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 44 assistance visits in the 2021 Fiscal Year.

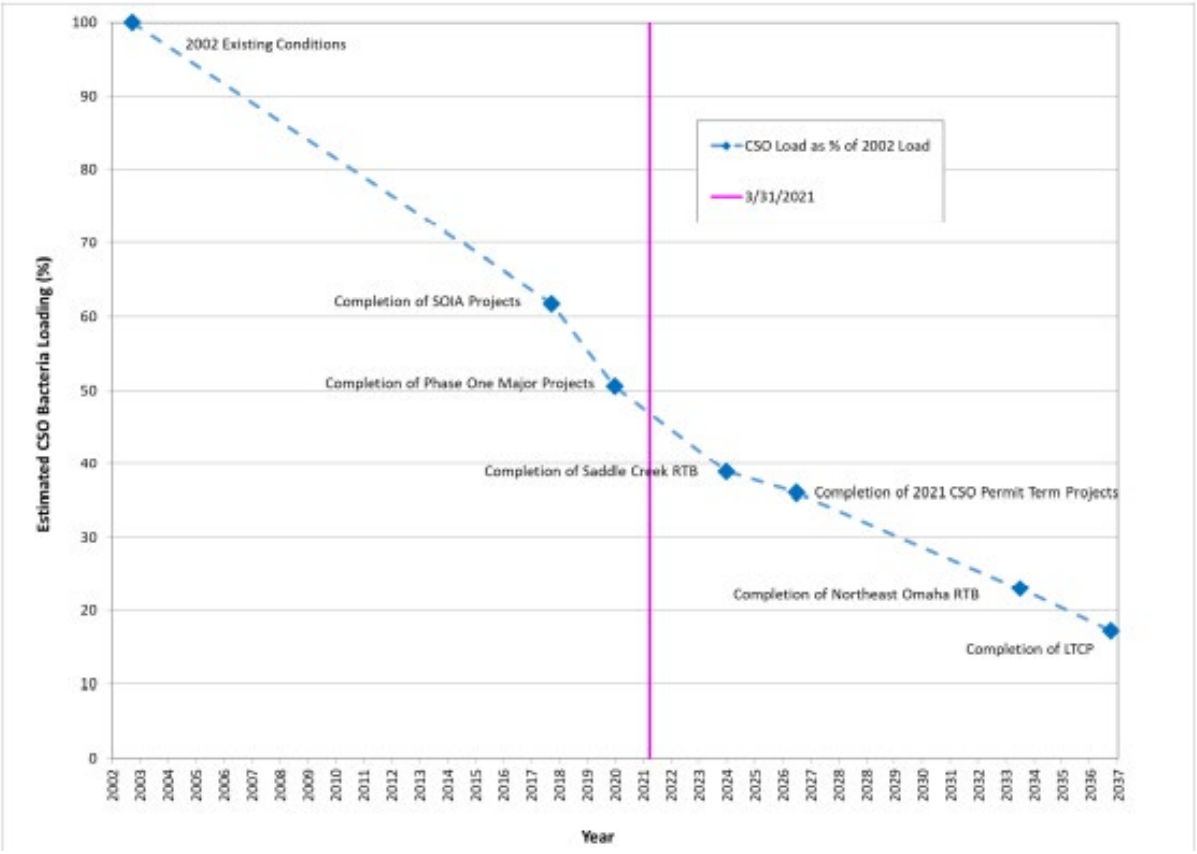
Combined Sewer Overflow Program

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 identified 29 projects in the LTCP for delivery in the next 16 years. Thirteen of these projects are scheduled for completion by 2026. 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.

In the Missouri River Watershed (MRW), Omaha modeled the efforts to date to show the following:

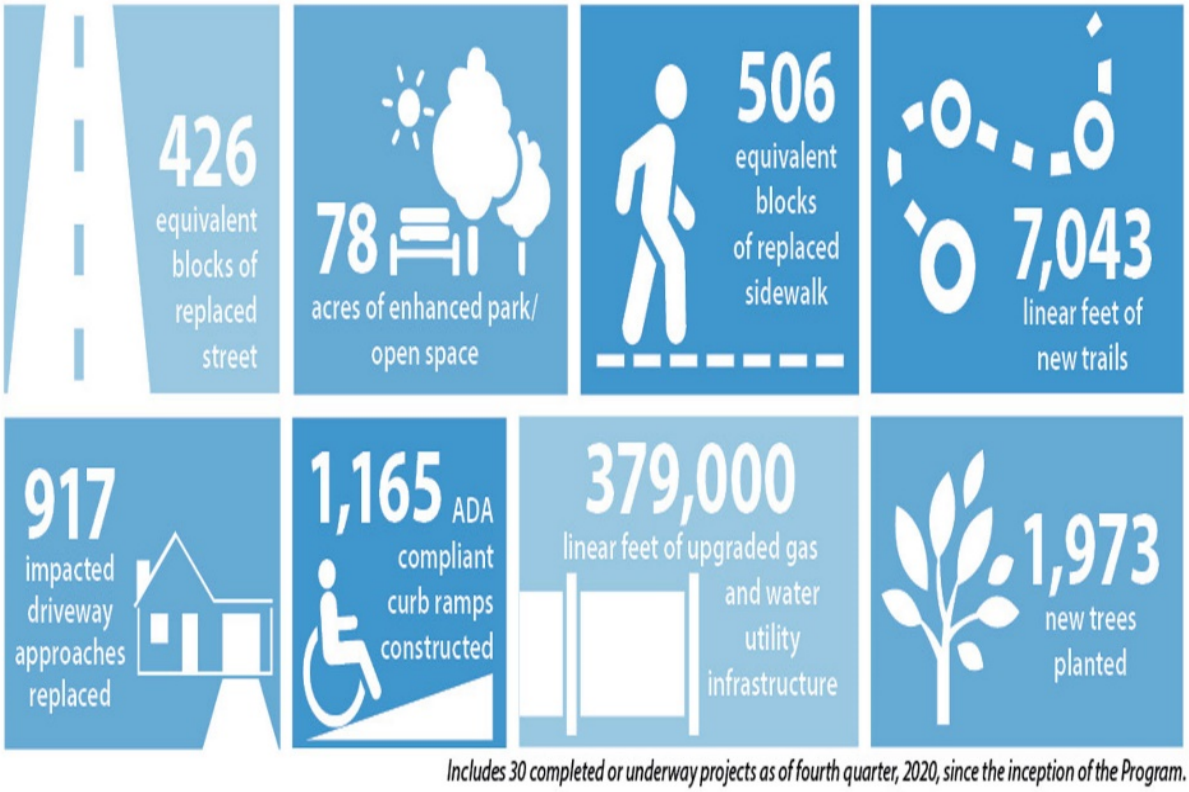
- A 56 percent capture of representative year wet weather volume as compared to 30 percent under 2002 Existing Conditions.
- A significant increase in flow receiving secondary treatment during wet weather due to increased treatment capacity at the Missouri River Water Resource Recovery Facility and increased pumping capacity at the new Leavenworth Lift Station; the volume receiving secondary treatment was 40 percent greater than in 2002 Existing Conditions.
- As CSO volumes are reduced, CSO pollutant loadings also will be reduced. In the MRW, it was estimated that the E. coli load to the Missouri River will be reduced by 85 percent under representative year precipitation conditions after full implementation of 2021 LTCP Update CSO controls. In the PCW, it was estimated that the E. coli load to the watershed will be reduced by 71 percent for the representative year. Overall, as of 2021, Omaha estimates that



Clean Solutions for Omaha, City of Omaha. OmahaCSO.com

E. Coli loading has been reduced by over 50 percent. The chart on page 141 details the progress of E. Coli reductions over time.

In addition to the environmental benefits from the CSO program, Omaha has realized many community benefits which have allowed for the enhancement of neighborhoods. The next figure details some of the benefits realized beyond the environmental:



Clean Solutions for Omaha, City of Omaha website. OmahaCSO.com

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, South Sioux City, Gretna, Gering, Terrytown, 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

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. There are 127 significant industrial users with a pretreatment permit.

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 and Associated Grant Programs

The Planning and Aid Division's State Revolving Fund Section administers distribution of state and federal assistance for the Clean and the Drinking Water State Revolving Loan Funds. This section also oversees the Small, Underserved, and Disadvantaged Communities and Sewer Overflow and Stormwater Reuse Municipal Grant programs.

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 revolve back into new loans, and interest earnings on the fund are primarily used to pay off the state match bonds. An administrative fee is assessed to each loan made through the CWSRF. These fees pay for program operating costs including day-to-day program management activities and for other costs associated with debt issuance, financial management, consulting, and support services necessary to provide for a complete program.

The CWSRF program receives an annual federal EPA capitalization grant. There is a 20% state match requirement to obtain that grant, which is typically a debt issuance provided through a Nebraska Investment Finance Authority (NIFA) bond. In July of 2020, the EPA awarded Nebraska's 2020 CWSRF capitalization grant in the amount of $8,110,000. The required match of $1,622,000 was provided both through bonds, and this year, a cash transfer from the Administrative Cash Fund. In State Fiscal Year (SFY) 2021, the CWSRF funded projects totaling $9,497,305 in loans, with $1,822,704 in loan forgiveness and grant assistance.

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 project needs. After the project is identified, there is another funding opportunity called the Small Town Grant (STG). Again, funded from the Administration Cash Fund, this grant provides subsidy of up to $250,000 per project. This grant program has provided $10.6 million in funding for 86 projects with CWSRF loans since the start of the program.

Loan forgiveness is last form of additional subsidy, through reserving up to 10% of the CWSRF capitalization grant. Similar to the PPAR and STG, borrowers must show financial hardship to be eligible for this grant.

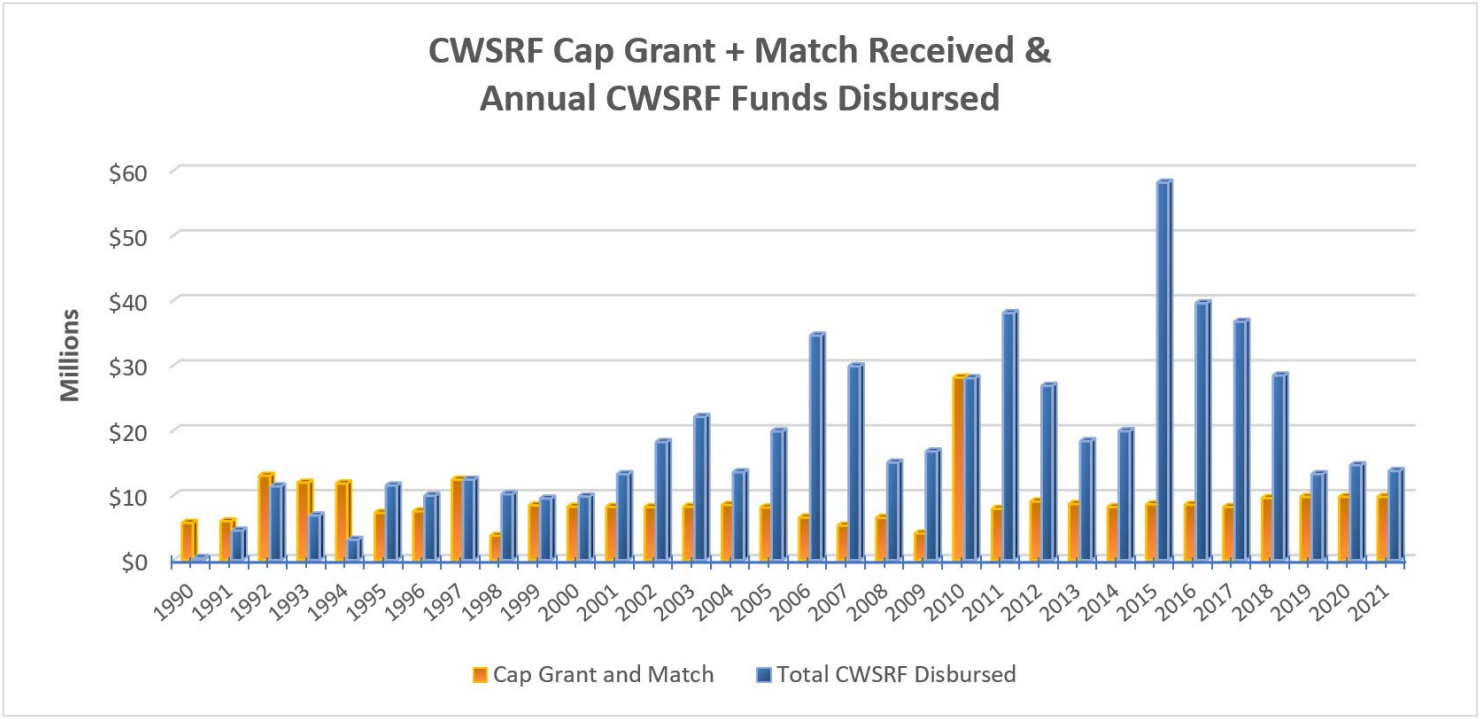
- Loan Forgiveness eligibility will continue to follow the implemented tiered system for the
  - Population Focused
    - Population of 10,000 or less – Capped at 15%
    - Population of 3,300 or less – Capped at 20%
    - Population of 500 or less – Capped at 25%

- Borrowers were evaluated based on standard loan forgiveness terms from past years as well as the new population focused terms and are awarded loan forgiveness amount based on whichever is greater, dependent on availability of funds.

Total CWSRF Assistance Provided

After over 40 years of activity, the Fund's Net Assets have reached $344.3 million. Since its inception, the CWSRF has provided loans for 329 projects with a cumulative loan award amount of $662.7 million.

The following graphs provide the total assistance provided by the Clean Water program per year and the second graph shows the cumulative amounts of capitalization grants and match received and total amounts disbursed.



Drinking Water State Revolving Loan Fund

The Nebraska Drinking Water State Revolving Loan Fund (DWSRF) program is setup similarly, but it provides below-market loans and grants to owners of public water systems (PWSs). Loan principal repayments revolve back into new loans, and interest earnings on the Fund are used to pay off NIFA bonds issued for the required EPA capitalization grant match. There is also a small administration fee assessed to each DWSRF loan for program management activities.

The DWSRF is unique in that loans may be awarded to privately-owned PWSs. Another notable difference from the CWSRF include set-asides for funding the Nebraska's Drinking Water Division, technical assistance, source water protection, capacity development and operator certification. After nearly 25 years of activity, the Fund's Net Assets have reached $225.3 million.

DWSRF Set-Aside Funds

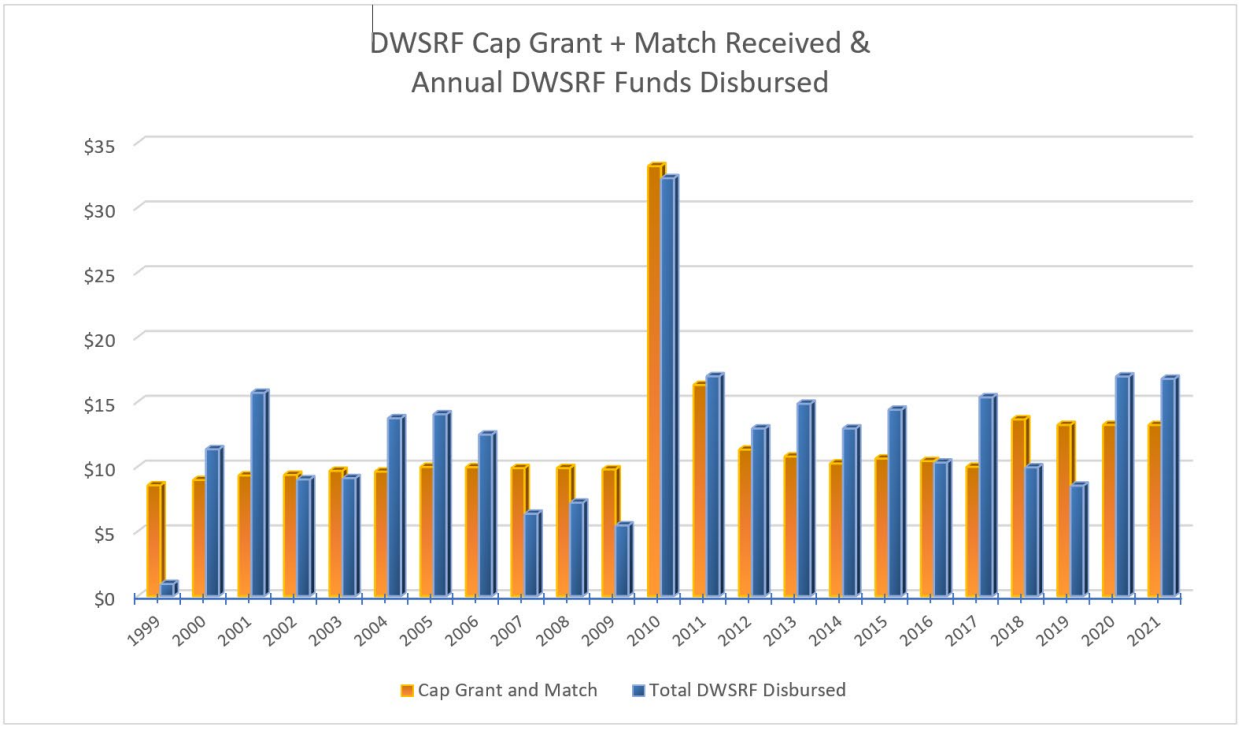
The Small System Technical Assistance set-aside (up to 2% of the capitalization grant) provides technical, financial and managerial assistance to PWSs serving a population of 10,000 or less. This is accomplished through contracts with organizations that have expertise in dealing with small systems. The state may use up to a total of 10% of the capitalization grant from the State Program Management set-aside, which the DWSRF typically allocates to help fund the NDEE's Drinking Water Division.

In SFY 2021, under the Local Assistance and Other State Programs set-aside (15%), the communities of David City and Wahoo were selected to receive Source Water Grants totaling approximately $87,950 from the 2020 Capitalization Grant. Further, six agreements for preliminary engineering reports were awarded to high priority PWSs to address public health issues in Fairmont, Gibbon, Giltner, Norris School District, Plainview and Union.

The 2020 DWSRF capitalization grant allocation totaled $11,011,000. In SFY 2021, the DWSRF entered into 8 binding commitments to communities, including four amendments to already existing loans. These are commitments provided financial assistance totaling $21,030,548. Of that amount, disadvantaged communities received $3,628,187 in forgiveness assistance. The EPA grant award required that a minimum of 20% of the grant be in the form of additional subsidization (e.g., loan forgiveness). Beyond that noted for the CWSRF, increased loan forgiveness is provided when a project addresses a public health concern (e.g., Nitrates in a drinking water supply)

For the set-asides, from the FFY 2020 capitalization grant, $2,021,320 was allocated to the 2% ($220,220), 10% ($1,101,100), and 15% ($700,000) set-asides.

The following graphs provide the total assistance provided by the Drinking Water program per year since inception and the second graph shows the cumulative amounts of capitalization grants and match received and total amounts disbursed.



State Revolving Loan Assistance by Legislative District as of June 30, 2021

	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	CWSRF Total Assistance	Below-Market Interest Loan	DWSRF Grant Assistance	CWSRF Total Assistance
1	$8,925,558	$899,006	**$9,824,564**	$27,295,809	$5,799,001	**$33,094,810**	$36,221,367	$6,698,007	**$42,919,374**
2	$22,448,808	$514,559	**$22,963,367**	$13,094,126	$560,935	**$13,655,061**	$35,542,934	$1,075,494	**$36,618,428**
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**	$139,869,110	$1,908,000	**$141,777,110**	$6,552,655	$1,272,182	**$7,824,837**	$146,421,765	$3,180,182	**$149,601,947**
8	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
9	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
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	$4,274,588	$520,577	**$4,795,165**	$2,984,156	$772,916	**$3,757,072**	$7,258,744	$1,293,493	**$8,552,237**
16	$15,528,483	$1,310,215	**$16,838,698**	$23,217,474	$3,048,399	**$26,265,873**	$38,745,957	$4,358,614	**$43,104,571**
17	$60,633,244	$1,523,766	**$62,157,010**	$12,269,207	$908,042	**$13,177,249**	$72,902,451	$2,431,808	**$75,334,259**
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**	$5,642,187	$1,719,846	**$7,362,033**	$9,969,326	$2,806,250	**$12,775,576**
23	$26,025,014	$1,233,963	**$27,258,977**	$4,856,237	$970,768	**$5,827,005**	$30,881,251	$2,204,731	**$33,085,982**
24	$26,841,361	$462,947	**$27,304,308**	$16,395,535	$4,237,545	**$20,633,080**	$43,236,896	$4,700,492	**$47,937,388**
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**	$34,576,358	$1,250,000	**$35,826,358**	$14,977,829	$0	**$14,977,829**	$49,554,187	$1,250,000	**$50,804,187**
28	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
29	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
30	$5,545,761	$322,478	**$5,868,239**	$9,916,128	$1,925,104	**$11,841,232**	$15,461,889	$2,247,582	**$17,709,471**
31	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
32	$7,322,713	$1,502,949	**$8,825,662**	$9,242,789	$2,458,691	**$11,701,480**	$16,565,502	$3,961,640	**$20,527,142**
33	$5,409,430	$75,989	**$5,485,419**	$1,663,361	$289,293	**$1,952,654**	$7,072,791	$365,282	**$7,438,073**
34	$13,691,969	$780,290	**$14,472,259**	$7,498,468	$1,864,481	**$9,362,949**	$21,190,437	$2,644,771	**$23,835,208**
35	$33,831,257	$0	**$33,831,257**	$0	$0	**$0**	$33,831,257	$0	**$33,831,257**
36	$13,355,804	$2,611,797	**$15,967,601**	$6,559,816	$660,564	**$7,220,380**	$19,915,620	$3,272,361	**$23,187,981**
37	$50,163,336	$0	**$50,163,336**	$15,332,392	$383,869	**$15,716,261**	$65,495,728	$383,869	**$65,879,597**
38	$9,872,893	$1,535,280	**$11,408,173**	$3,376,701	$648,126	**$4,024,827**	$13,249,594	$2,183,406	**$15,433,000**
39	$7,775,884	$100,000	**$7,875,884**	$859,653	$186,578	**$1,046,231**	$8,635,537	$286,578	**$8,922,115**
40	$9,830,441	$2,849,610	**$12,680,051**	$12,207,669	$2,625,889	**$14,833,558**	$22,038,110	$5,475,499	**$27,513,609**
41	$8,121,457	$1,657,394	**$9,778,851**	$7,619,076	$2,447,297	**$10,066,373**	$15,740,533	$4,104,691	**$19,845,224**
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	$23,642,145	$2,027,373	**$25,669,518**	$7,791,151	$1,397,958	**$9,189,109**	$31,433,296	$3,425,331	**$34,858,627**
44	$27,975,871	$2,027,350	**$30,003,221**	$19,739,097	$1,694,631	**$21,433,728**	$47,714,968	$3,721,981	**$51,436,949**
45	$6,985,901	$0	**$6,985,901**	$0	$0	**$0**	$6,985,901	$0	**$6,985,901**
46	$0	$0	**$0**	$0	$0	**$0**	$0	$0	**$0**
47	$18,074,409	$3,216,134	**$21,290,543**	$24,734,122	$3,955,503	**$28,689,625**	$42,808,531	$7,171,637	**$49,980,168**
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	$12,613,210	$0	**$12,613,210**	$1,476,413	$0	**$1,476,413**	$14,089,623	$0	**$14,089,623**

**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 7 was selected for Omaha projects and District 27 was used for Lincoln area projects*

SRF Summary

Each year the CWSRF and DWSRF publish an 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 upcoming fiscal year. The IUP requires comment period that is then formally presented to the Environmental Quality Council (EQC) for review and approval. Lastly, a more detailed annual report is prepared to meet EPA program requirements, including the Auditor of Public Account's report done on both programs. These can be found at the State Revolving Fund Section at www.deq.ne.us.

Other Clean Water and Safe Drinking Water Act Grants

Small, Underserved, and Disadvantaged Communities Grant Program

New this year, authorized under the Water Infrastructure Improvements for the Nation Act, the Small, Underserved, and Disadvantaged Communities Grant Program was established to assist such PWSs. Awards will be as non-competitive grants to Nebraska. The grant program is designed to help systems meet and comply with Safe Drinking Water Act requirements. The grant program will aid underserved communities that have no household drinking water or wastewater services or are served by a PWS that violates or exceeds any Maximum Containment Level, treatment technique, or action level.

The initial recipient of this grant was the Village of Martinsburg to help the community return into compliance with the Uranium drinking water standard and to replace a deteriorated water storage tank. This past fiscal year $420,000 was awarded to the community, and another $263,000 is planned for the Village to construct a blending water supply well and stainless-steel water tank. The project was developed with assistance from the University of Nebraska and the local Lewis-Clark Natural Resources District.

Sewer Overflow and Stormwater Reuse Municipal Grants Program

America's Water Infrastructure Act of 2018 amended section 221 of the Clean Water Act, which reauthorized the Sewer Overflow and Stormwater Reuse Municipal Grants Program. These amendments expanded project eligibilities to include stormwater management projects and authorized appropriations for the program. Grants will be awarded to states, which will then provide sub-awards to eligible entities for projects that address infrastructure needs for combined sewer overflows (CSO), sanitary sewer overflows (SSO), and stormwater management. In March of 2021, EPA provided instruction to Nebraska and planning to award this grant to communities was started.

Nebraska's Public Water Systems

Information presented for the rest of this chapter reflects 2020 calendar year activities as published in the Nebraska *Public Water System 2020 Annual Report*, issued in June, 2021.

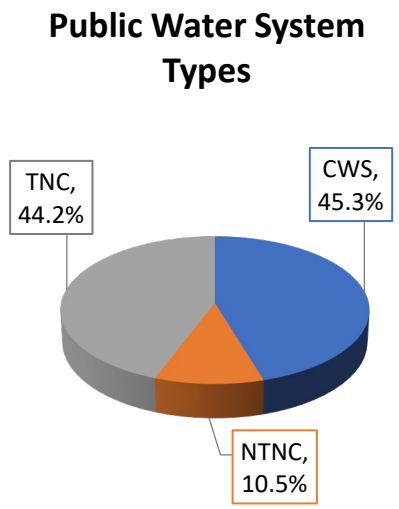
Population and Type of System

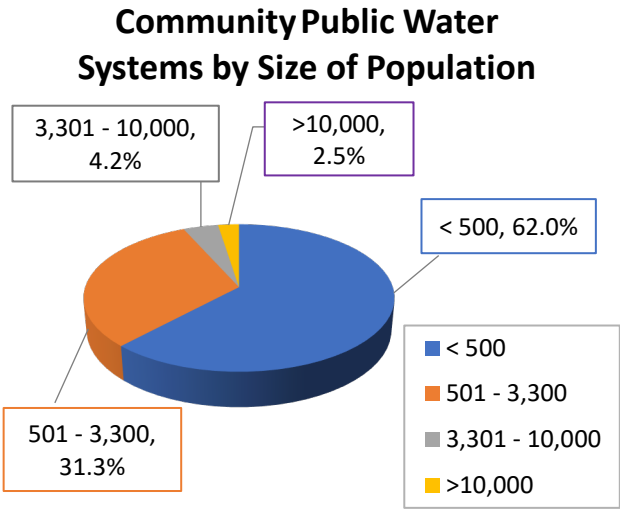
Nebraska public water systems can be broken down into categories based on the size of the population served and/or the type of population served.

Population	CWS	NTNC	TNC	Total Systems	Percentage*
<101	102	76	492	670	50.8%
101-500	268	45	86	399	30.2%
501-1,000	98	7	6	111	8.4%
1,001-3,300	89	8	0	97	7.3%
3,301-10,000	26	2	0	28	2.1%
10,001-50,000	12	0	0	12	0.9%
>50,000	3	0	0	3	0.2%
TOTAL	598	138	584	1,320	100.0%

**Based on approximate population*

CWS = Community ..... 598 systems
NTNC – Non-transient, non-community ..... 138 systems
TNC = Transient, non-community ..... 584 systems





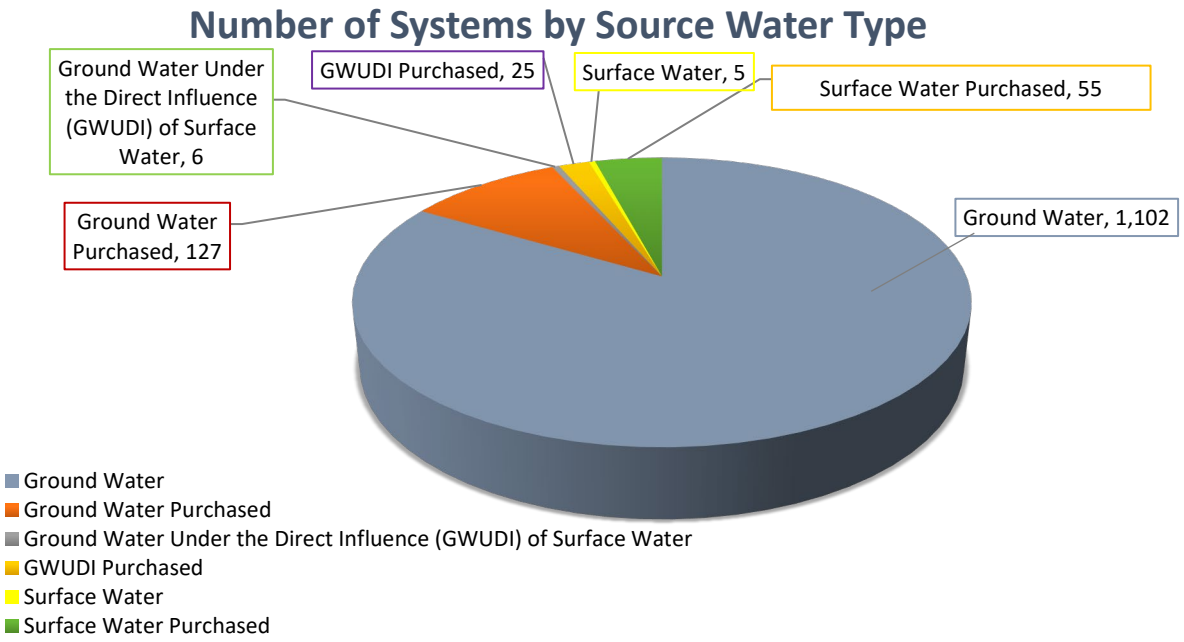
Approximately 80% of all Nebraskans get their water from a community public water system. Private domestic wells provide water for the remaining 20% of the overall State population.

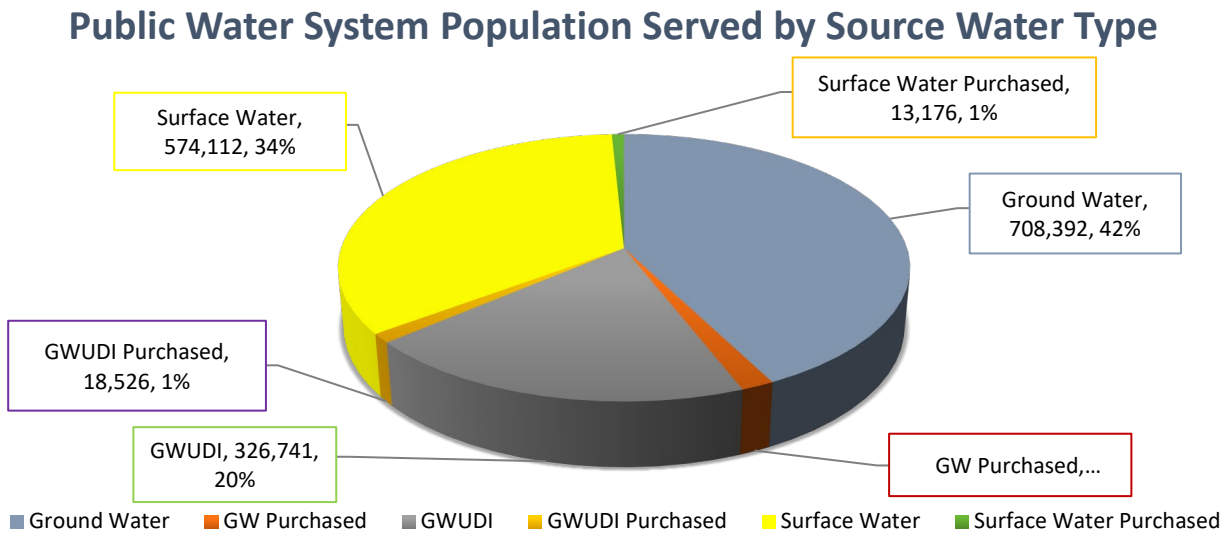
Over 60% of Nebraska's CWSs serve populations less than 500 people. Water systems with populations below 3,300 are considered to be "small systems" by the EPA. This makes Nebraska a predominantly small system state with 93.2% of all of the State's CWSs serving 3,300 or fewer people.

Public Water in Nebraska

The Drinking Water Division the State's regulations governing PWSs, Title 179 NAC 2 through 26, promulgated under the State's SDWA pursuant to and in accordance with the federal SDWA. State regulations must be at least as stringent as the federal regulations.

Public water systems provide water to approximately 80% of the people of Nebraska. Private domestic wells, which are not regulated under the SDWA, provide water for 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 55 systems purchase water from those five systems. In addition, 6 systems utilize ground water under the influence of surface water (GWUDI), and 25 additional systems purchase water from those six systems. The remaining 1,102 systems use ground water, and an additional 127 systems purchase their water from another ground water system. Percentages rounded to nearest 1%.





Drinking Water Division's Activities

The Drinking Water Division has 31 full time equivalent positions (FTEs). The Monitoring and Compliance Section has 9, the Field Services and Training Section has 12, and 2 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. Water Operator Training
3. Capacity Development, and
4. Water System Security

FS&T staff include a supervisor, eight field representatives, a training coordinator, and a capacity development coordinator. 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 public water systems to achieve or maintain adequate technical, financial, and managerial capacity. There are eight field areas located throughout the State to provide close contact and timely assistance to Nebraska's public water systems.

2020 FS&T Covid-19 Response

The Covid-19 Pandemic impacted the activities of the FS&T Section. All field and training activities were suspended in mid-March, and did not resume until mid-June. At that time, sanitary surveys, as well as other inspections, were allowed to resume under specific protocols to minimize the risk of spreading Covid-19. All DHHS staff were required to wear masks and gloves when at a PWS, and social distancing was observed whenever possible.

Operator training courses and examinations also resumed with modified procedures. Class sizes were reduced to ensure adequate social distancing, masks were worn by students and instructors at all times, and materials were prepared in advance for each student/examinee to limit the possibility of transmission. Additional courses were added to make up for the suspended courses and smaller class sizes.

Following the initial suspension of activities, the FS&T Section was able to complete all required inspections for the year and clear the backlog of those needing training for water operator licensure. As cases of Covid-19 began to rise a second time in Nebraska, activities were again suspended in November, in all counties that were designated as "red" on their local risk dial, representing a severe risk for spread. The conditions in the individual counties was monitored closely and as the risk dials began moving back out of the "red," we were able to resume activities in most counties by the end of the year.

Field Services

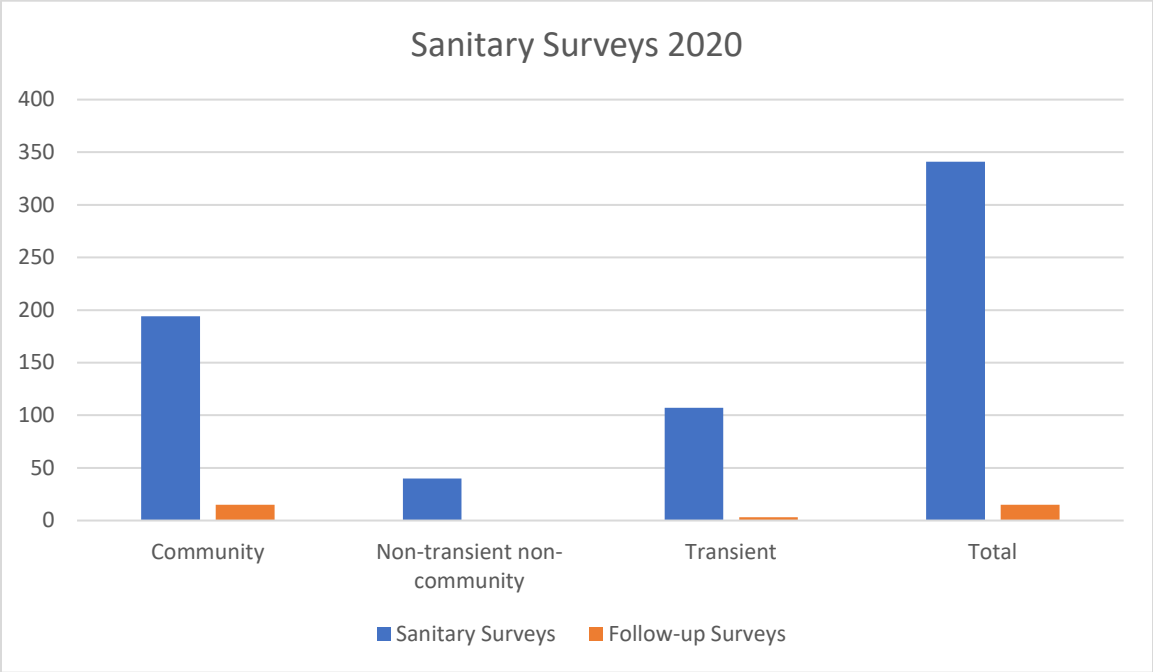
Sanitary Surveys

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.

Field personnel conducted 341 sanitary surveys (194 community, 40 non-transient non-community, and 107 transient public water systems) and 18 follow-up surveys (15 community and 3 transient public water systems). A total of 637 deficiencies were found in 2020. This reflects an overall deficiency rate of 1.9 deficiencies per sanitary survey in 2020. No deficiencies were found in 162 (48%) of the sanitary surveys completed in 2020. The average number of deficiencies found in Nebraska's public water systems remained stable from 2019 to 2020, 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, 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 are essential workers that respond to emergencies 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.

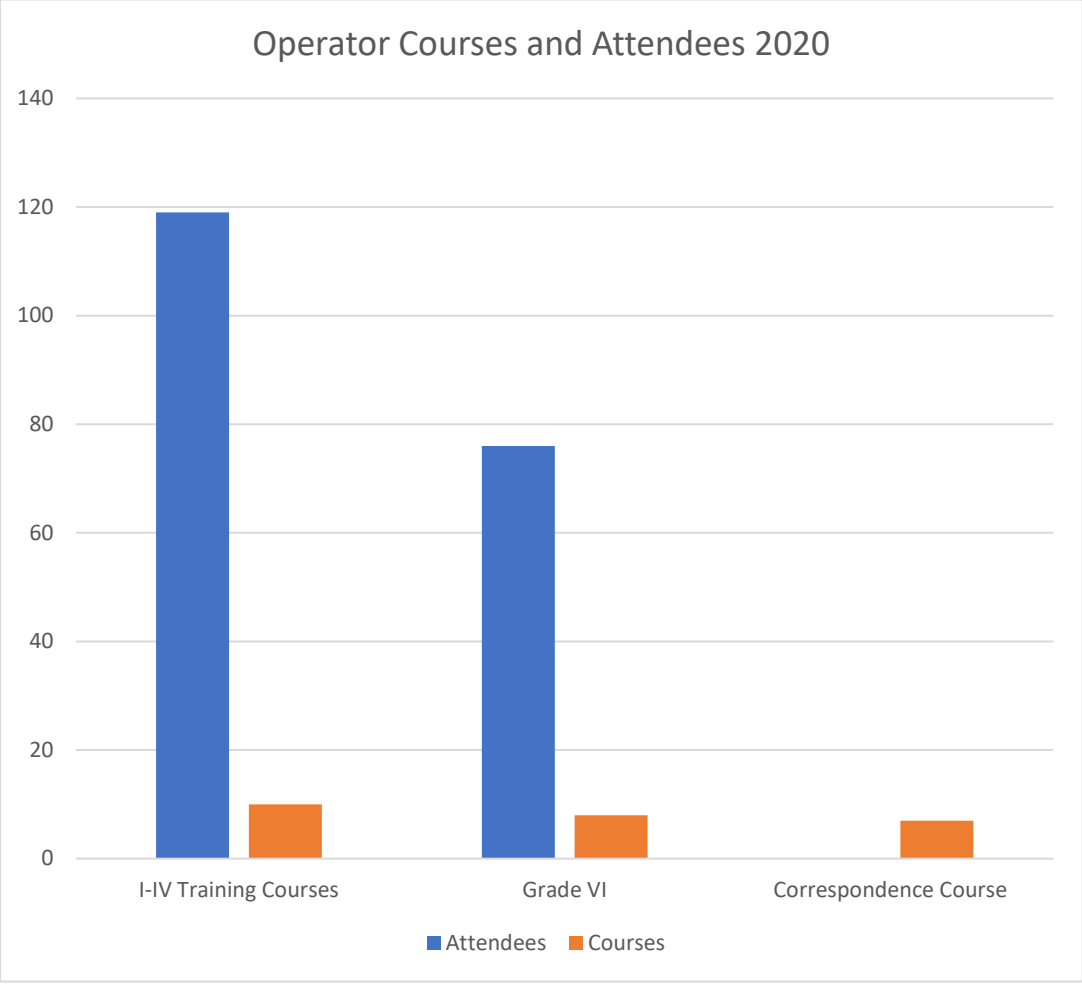
A Level 2 assessment is triggered by either multiple Level 1 assessments within a running twelve-month period, or by the confirmed presence of *E. coli* bacteria in the system. A Level 2 assessment is conducted by field staff and provides a much more detailed evaluation of the public water system.

Hypochlorinators

The Drinking Water program maintains a number of hypochlorinators for temporary loan to public water systems when bacterial contamination is a source of concern. This equipment helps communities with temporary chlorination of their water supplies to ensure the safety of their drinking water. When a power outage or source failure is involved, program staff also help systems locate equipment and supplies which may be needed.

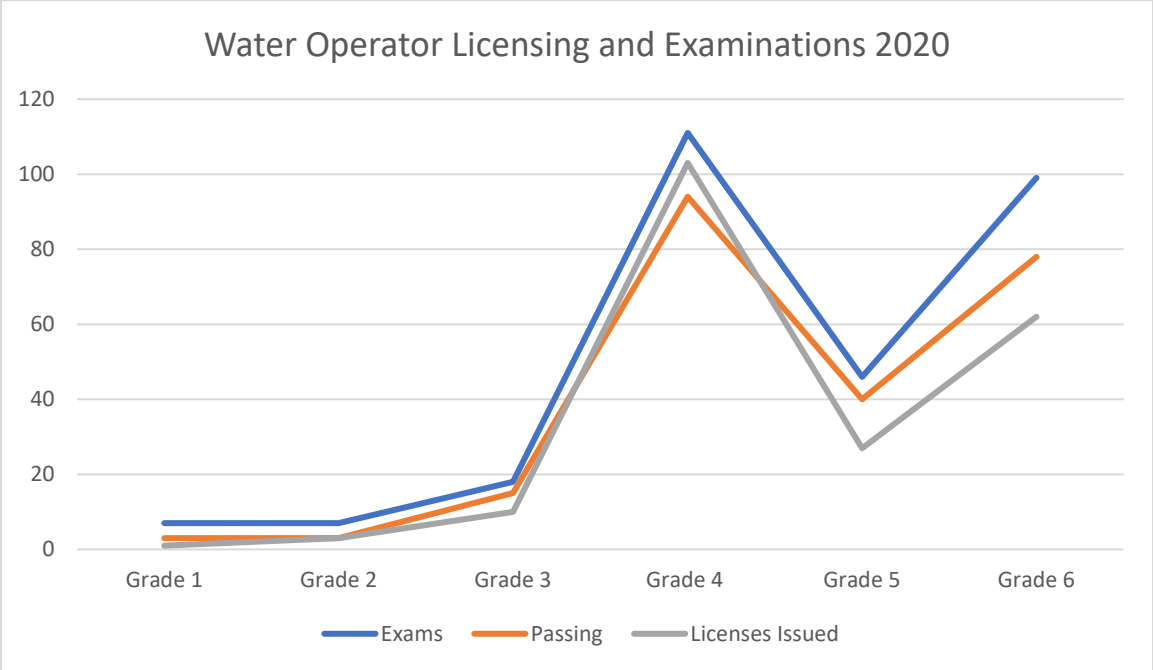
Training

FS&T program personnel conducted 10 water operator training courses, Grades I through IV, with a total of 119 attendees. An additional 7 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), 8 courses were offered with a total of 76 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:

Grade	Examinations	Passing	Number of Licenses Issued
I	7	3	1
II	7	3	3
III	18	15	10
IV	111	94	103
V	46	40	27
VI	99	78	62



Although COVID-19 did slow continuing education activities in 2020, the Drinking Water Division and other training providers adapted to existing conditions both in person and virtual training formats for water operators in 2020. Coordinated by the program, a group informally known as the Water Operator Training Coalition, met to identify training needs and to assist with scheduling of 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 2020, 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 93 workshops/seminars/conferences were initially offered in Nebraska for the purpose of water operator continuing education. Of these, 33 focused primarily on backflow prevention continuing education for Grade VI operators.

Capacity Development

Capacity development is a proactive approach, through which water systems acquire and maintain adequate technical, managerial, and financial capabilities, enabling them to provide safe drinking water to Nebraskans. The Drinking Water program activities to bolster water systems' capacity are overseen by the program's Capacity Development Coordinator.

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. The Department contracts with technical assistance providers 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. Providers then work with water systems, providing assistance with applications for funding, capacity development training, manuals, and mentorship to assist water systems. Technical assistance providers made 302 in person or phone contact visits with systems.

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 completed, to determine the impact of the project on improving the system's capacity. Initial assessments were completed for 15 systems, and 6 systems received final assessments.

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 11 board/council members, representing 2 community water systems, attended sessions. This number was down considerably from 2019 due to COVID-19 restrictions.

Education and Outreach

In addition to utilizing the 2% Contractors, the Capacity Development Coordinator works with the Water Operator Training Coalition partners to provide capacity development training for water operators, owners, city clerks, and others, with a focus on each of their roles in developing and maintaining adequate capacity for their water systems. Included in this focus was emphasis on the importance of implementing an asset management plan with demonstrations of using available tools for inventory and budget, and the necessity of maintaining an up-to-date emergency response plan, and how systems should work with local emergency managers to ensure robust and resilient emergency response. Although the Capacity Development Coordinator was limited in the number of trainings provided due to the COVID-19 pandemic, trainings were given at 7 conferences and workshops.

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 the SDWA 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. It receives electronic data from the State of Nebraska Environmental Health Laboratory and 4 contract laboratories (Midwest Lab, Hall County, American Ag, and Enviro Services) that perform water analyses for DHHS.

DHHS is preparing for transition to cloud-based software. 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 the contaminant does not exceed its maximum contaminant level (MCL).

In 2020, only 6 of 83 contaminants for which community public water systems monitor were found to be present above a MCL. That means 77 contaminants, for which monitoring was conducted, were not found above their respective MCL in ***any*** community water system in Nebraska.

Monitoring & Compliance enforces 9 different federal monitoring rules. Each rule contains a group of similar contaminants. Below is a list of the federal monitoring 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 required 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 97 violations from 58 public water systems in 2020 for exceeding an MCL or failing to properly monitor. More detailed information on each of the monitoring rules follow the summary table below.

Revised Total Coliform Rule (RTCR)

The objective of the Revised Total Coliform Rule (RTCR) is to reduce potential exposure to bacterial contamination in drinking water. Testing for coliform bacteria is a way to indicate whether potentially harmful bacteria may be present. All public water systems are required to routinely monitor for the presence of coliform bacteria and *E,coli,* a type of coliform bacteria. The RTCR establishes a MCL for *E. coli*. Assessments of the PWS and corrective actions are required if *E.coli* bacteria are found. A system is required to issue a Public Notice (PN) if they fail to monitor for coliform bacteria, if *E.coli* bacteria are found, or for failure 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 the Drinking Water program then reviews it. 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 program 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 2020

Type of RTCR Assessment	Number of Assessments Triggered	Number of Systems	% of Systems with Assessments
Level 1	79	79	6.0%
Level 2	70	46	3.5%
Level 2, *E. coli* MCL triggered	5	5	1.5%

RTCR Violations 2020

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%
Treatment Technique, Startup Procedures	1	1	0.08%
MCL – *E. coli* +	8	8	0.6%
Monitoring, Additional Routine, Major Routine	18	18	1.4%

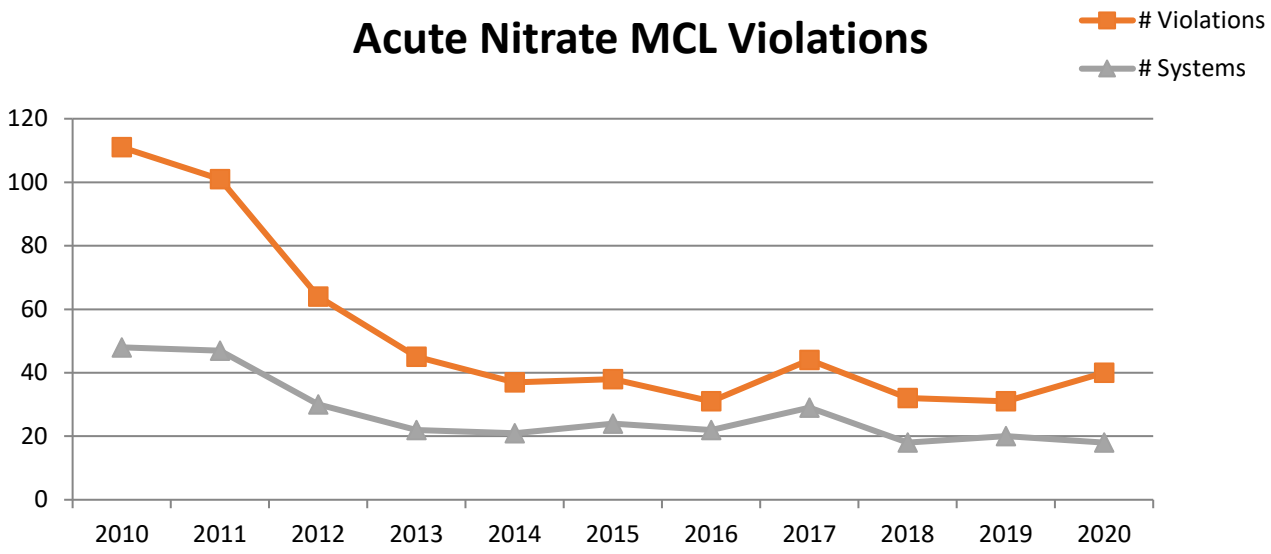
Nitrate-Nitrite Rule

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

A summary of the 2020 nitrate-nitrite violations is presented below along with historic data. Nitrate MCL violations have decreased significantly in Nebraska since 2010.

Nitrate-Nitrate Violations 2020

Violation	Number of Violations	Number of Systems	% of Systems with Violations
MCL – 10 mg/l	40	18	1.4%
Monitoring	6	4	0.3%



Public Notification Rule 2020

Public Notification is required if a PWS receives a 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	1	1

Consumer Confidence Rule 2020

The CCR 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 CCR Rule.

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

MCL Violations for Chronic Contaminant Exposure

Ingestion of bacteria and nitrate-nitrite in drinking water are typically associated with acute (i.e., sudden) adverse health effects. Exposure to other drinking water contaminants are considered to be associated with chronic health effects (i.e., the adverse health effect is evident only after repeated exposure or ingestion over a long period of time. Depending on the contaminant, routine monitoring occurs every year, every three years, or every six years (per EPA). If a contaminant is detected, monitoring is increased to quarterly.

If the level decreases below the MCL, the monitoring frequency may be reduced. A public water system is issued an AO after 3 quarterly MCL violations are issued in a rolling 12-month period. An AO is issued immediately if the contaminant is found at a level that may 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 2020

(Per the SDWA, only community and non-transient, non-community systems monitor for VOCs.)

VOC Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems	% of Systems with Violations
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%
1,1-Dichloroethylene	0	0	0	0.0%
Dichloromethane	0	0	0	0.0%
1,2-Dichloropropane	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%
1,2,4-Trichlorobenzene	0	0	0	0.0%
Trichloroethylene	0	0	0	0.0%
1,1,1-Trichloroethane	0	0	0	0.0%
1,1,2-Trichloroethane	0	0	0	0.0%
Vinyl chloride	0	0	0	0.0%
Xylenes (total)	0	0	0	0.0%

Inorganic Chemical Contaminant (IOC) Violations 2020

(Per the SDWA, only Community and Non-transient, non-community systems monitor for IOCs.)

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	3	3	4	0.15%
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	3	0	3	0.2%
Sodium	0	0	0	0%
Thallium	0	0	0	0%

Non-Volatile Synthetic Organic Chemical (SOC) Contaminants 2020

(Per the SDWA, only community and non-transient, non-community systems monitor for SOCs.)

Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems	Systems with Violations
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%
2,4-D	0	0	0	0%
2,3,7,8-TCDD (Dioxin)	0	0	0	0%
2,4,5-TP	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%
Contaminant	**Number of MCL Violations**	**Number of Monitoring Violations**	**Number of Systems**	**Systems with Violations**

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 2020

(Per the SDWA, only Community water systems monitor for Radionuclides.)

Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems	Systems with Violations
Combined Radium (Radium -226 and Radium -228)	0	0	0	0%
Gross Alpha Including Radon and Uranium	0	0	0	0%
Uranium Mass Combined Uranium	7	0	2	0.15%

Disinfection Byproduct Violations 2020

(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 Haloacetic Acids	0	0	0
Total Trihalomethanes	5	0	2

Disinfection Byproducts Stage 1 Monitoring

Violation	# Violations	# Systems
Qualified Operator Failure	0	0

Disinfection Byproducts Monitoring

	# Violations	# Systems
Monitoring	0	0

Disinfectant Residual Contamination Violations

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

Lead and Copper Rule Violations

(Per the SWDA, 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	0	0	0%

Surface Water Treatment Rule Violations 2020

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

Ground Water Rule 2020

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

Administrative Orders 2020

The Drinking Water program 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	1	0	0
Population Affected	0	397	0	0

Variances and Exemptions

No variances or exemptions were issued in 2020.

MCL Violations other than Total Coliform/RTCR and Nitrate

Population Affected by Various Contaminants

Contaminant	Number of MCL Violations	Number of Systems	Population Affected
Arsenic	3	2	727
Selenium	3	3	7612
Uranium Mass	7	2	603