Nebraska's Public Water System Program
2023 Annual Report

January 1 to December 31, 2023

Nebraska's 28th Annual Report

July 1, 2024

Nebraska Department of Environment & Energy Drinking Water Program

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https://dee.ne.gov/water/drinking-water/nebraskas-public-water-supply-program

Available in alternate format

To Obtain a Copy of the 2023 Public Water System Report

As required by the federal Safe Drinking Water Act, the State of Nebraska has made the 2023 Annual Public Water Systems report available to the public. Interested individuals can obtain a copy by accessing the NDEE website at:

https://dee.ne.gov/water/drinking-water/nebraskas-public-water-supply-program

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Terms Used in This Report

Capacity Development

Capacity development is the process through which water systems acquire and maintain adequate technical, managerial, and financial capabilities to enable them to consistently provide safe drinking water.

Consumer Notification

Every community water system is required to deliver to its customers a brief annual water quality report. This report includes educational material to help understand the report, information on the source water for the public water system (PWS), levels of any detected contaminants, and information on any issues with compliance of the drinking water regulations.

Corrosion Control Treatment

Treatment that minimizes the lead and copper concentrations at a customer's water tap.

Drinking Water State Revolving Fund (DWSRF)

The DWSRF is a financial assistance program to help water systems and states to achieve the health protection objectives of the Safe Drinking Water Act.

GWUDI

Groundwater Under the Direct Influence of Surface Water -
with (1) a significant occurrence of insects or other macro-organisms, algae, or large-diameter pathogens such as *Giardia lambia* or *Cryptosporidium*, or (2) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH, which closely correlate to climatological or surface water conditions.

Maximum Contaminant Level (MCL)

Under the federal Safe Drinking Water Act, the U.S. Environmental Protection Agency (EPA) sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as Maximum Contaminant Levels (MCLs).

Maximum Residual Disinfectant Level (MRDL)

EPA sets national limits on residual disinfectant levels in drinking water to reduce the risk of exposure to disinfectant byproducts formed when a public water system adds chemical disinfectant(s) for either primary or residual treatment. These limits are known as Maximum Residual Disinfectant Levels (MRDLs).

Monitoring

A PWS is required to monitor and verify that the levels of contaminants present in the water do not exceed the MCL or MRDL. If a PWS fails to have its water tested as required or fails to report test results correctly to NDEE, a monitoring violation occurs.

NDEE

Nebraska Department of Environment and Energy.

Primacy State

A State granted primary enforcement authority for a set of federal regulations. Nebraska has primacy from the U.S. Environmental Protection Agency to enforce the federal Safe Drinking Water Act.

Public Notice Violations

The Public Notification Rule requires all public water systems to notify their consumers any time they violate a national primary drinking water regulation or have a situation posing risk to the public.

Public Water System (PWS)

A Public Water System is a system that provides potable water to at least 15 service connections or serves an average of at least 25 people for at least 60 days each year. For this report when the acronym "PWS" is used, it means systems of all types unless specified in greater detail.

There are three types of public water systems:

1. Community water systems (CWS) (a) serve at least 15 service connections used by year-round residents in the area or (b) regularly serve at least 25 year-round residents. They include such entities as mobile home parks, rural water districts, and sanitary improvement districts, as well as municipalities.

2. Non-transient, non-community water systems (NTNC) regularly serve at least 25 of the same individuals over six months of the year. Examples include a manufacturing company with its own well or a rural school with over 25 students.

3. Transient non-community water systems (TNC) do not regularly serve at least 25 of the same individuals over six months per year. Examples of a transient non-community system would be a café, interstate rest area, or state park that has its own well.

Safe Drinking Water Act (SDWA)

See Attachment A

Safe Drinking Water Standards

See Attachment B

Sanitary Survey

Is an on-site review of the water source, facilities, equipment, operation and maintenance of a PWS for evaluating the system's adequacy and ability to reliably produce and distribute safe drinking water following regulatory requirements.

Significant Monitoring Violations

Occur when no water samples were taken to evaluate water quality or no laboratory results were reported during the required compliance period.

Significant Consumer Notification Violations

Occur if a community water system failed to provide its customers with the required annual water quality report.

Treatment Techniques

Equipment, procedures, or other actions that are necessary to control unacceptable levels of certain water contaminants, such as nitrate or bacteria, and/or to address issues that impact water aesthetics, such as color, taste, or odor.

Variances and Exemptions

A primacy state can grant a PWS a variance from a regulation if the characteristics of the raw water source(s) reasonably available to the PWS do not allow the system to meet an MCL for a naturally occurring contaminant (ex. selenium). To obtain a variance, the system must agree to install the best available technology, treatment technique(s), or other means for limiting drinking water contamination. Cost is a consideration in making this determination. NDEE must find that the variance will not result in an unreasonable risk to public health. The variance will be reviewed not less than every 5 years to determine if the system remains eligible for the variance.

NDEE can grant a PWS a temporary exemption to an MCL and/or treatment technique violation, if the system's noncompliance results from extenuating circumstances, such as financial hardship or an extreme weather event. The state will require the PWS to comply with the MCL or treatment technique as expeditiously as practicable however, but no later than three years after the otherwise applicable compliance date.

For all the details regarding exemptions and variances, see Title 179 NAC 6, Variances and Exemptions https://dee-ne.gov/water/drinking-water/nebraskas-public-water-supply-program

Overview of the Federal Public Water System Supervision (PWSS) Program

The EPA established the Public Water System Supervision (PWSS) Program under the authority of the 1974 Safe Drinking Water Act (SDWA). Under the SDWA and the 1986 Amendments, EPA sets national limits on contaminants in drinking water to ensure that it is safe for human consumption, referred to as, Maximum Contaminant Levels (MCLs) and Maximum Residual Disinfectant Levels (MRDLs). For some regulations, the EPA requires treatment

techniques (TTs) to control unacceptable levels of certain contaminants, such as nitrate or bacteria, and/or to address issues that impact water aesthetics, such as color, taste, or odor.

EPA also regulates how often a PWS is required to monitor and report the results of contaminants to the state primacy agency and to their agency. Generally, the larger the population served by a PWS, the more frequent the monitoring and reporting requirements. In addition, EPA requires some PWSs to monitor for unregulated contaminants to provide data for future regulatory development. Finally, EPA requires PWSs to notify their consumers when they have violated the regulations of the SDWA. The 1996 Amendments to the SDWA require consumer notification to include a clear and understandable explanation of the violation, its potential adverse health effects, steps that the PWS is undertaking to correct the violation, and the possibility of using alternative water supplies during the violation.

The federal SDWA applies to all 50 states, the District of Columbia, Indian Lands, Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands.

The SDWA allows states and territories to seek EPA approval to administer their own PWSS program(s). The authority to run a PWSS program is called primacy. For a state to receive primacy, EPA must determine that the state meets certain requirements laid out in the SDWA and the federal regulations, including the adoption of drinking water regulations that are at least as stringent as the federal regulations and a demonstration that they can enforce the program requirements. Of the 56 states and territories, all but Wyoming and the District of Columbia have primacy. The EPA regional offices administer the PWSS programs within these two jurisdictions.

The 1986 SDWA Amendments gave Indian tribes the right to apply for and receive primacy. EPA currently administers PWSS programs on all Indian lands except the Navajo Nation, which was granted primacy in late 2000.

Annual State Public Water System Report

The mission of the Drinking Water Program is to protect the public health and welfare of Nebraskans by assuring safe, adequate, and reliable drinking water. Program staff across the State work in many areas toward this goal.

Each quarter, primacy states submit data to the EPA using the federal Safe Drinking Water Information System (SDWIS/FED) database. The data submitted includes, but is not limited to, public water system (PWS) inventory information; the incidence of MCL, MRDL, monitoring, and TT violations and other information on enforcement activity related to these violations. In addition, section 1414(c)(3) of the federal SDWA requires states to provide EPA with an annual report of violations of the primary drinking water standards. This report provides the numbers of violations in each of six categories: MCLs, MRDLs, TTs, variances and exemptions, significant monitoring violations, and significant consumer notification violations. The following report is a summary of the compliance of Nebraska's PWSs with the SDWA as required by the 1996 Amendments to this federal act. Other significant program activities that the program staff perform in assuring water is safe for human consumption are also included in this report.

More information about systems with violations that occurred in 2022 is available from the Drinking Water Program, 245 Fallbrook Blvd, P.O. Box 98922, Lincoln, NE 68509-8922, phone: 402-471-2186 or on EPA's website at:

https://www.epa.gov/enviro/sdwis-search

This report is also available on the NDEE's website at:

https://dee.ne.gov/water/drinking-water/nebraskas-public-water-supply-program

Notices of the report's availability are also provided to public libraries and local health departments across the state.

Nebraska's Public Water Systems

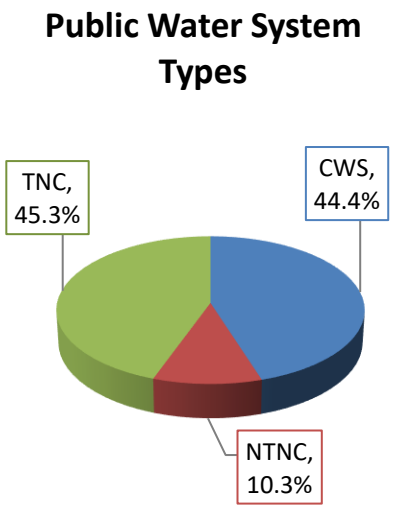
Population and Type of System

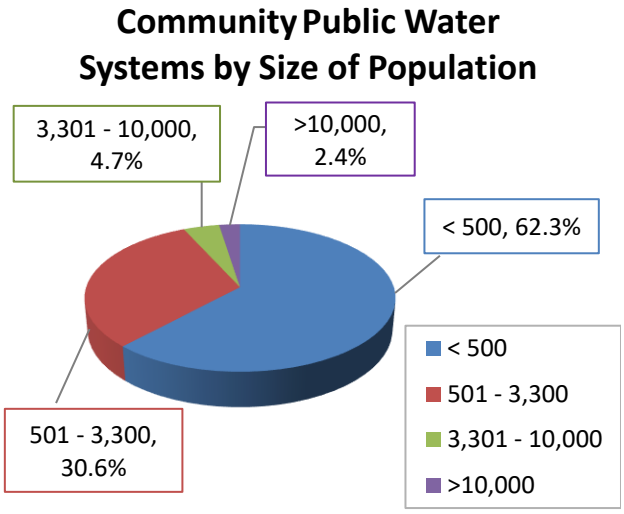
Nebraska public water systems can be broken down into categories based on the size of the population served and/or the type of population served.

Population	CWS	NTNC	TNC	Total Systems	Percentage*
<101	103	76	503	682	50.9%
101-500	267	42	97	406	30.3%
501-1000	93	10	7	110	8.2%
1001-3300	89	8	0	97	7.2%
3301-10000	28	2	0	30	2.2%
10001-50000	11	0	0	11	0.8%
>50000	3	0	0	3	0.2%
TOTAL	594	138	607	1339	100.0%

**Based on approximate population*

CWS = Community ..... 594 systems
N099TNC – Non-transient, non-community .....138 systems
TNC = Transient, non-community .....607 systems





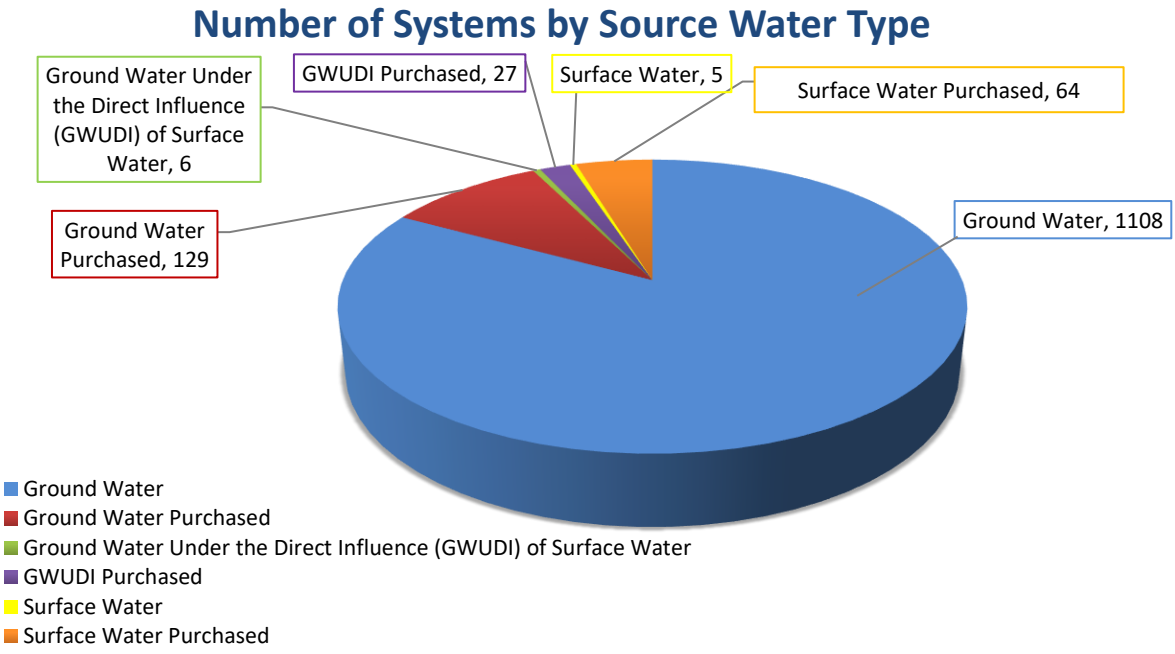
Approximately 80% of all Nebraskans get their water from a community public water system. Private domestic wells provide water for the remaining 20% of the overall State population.

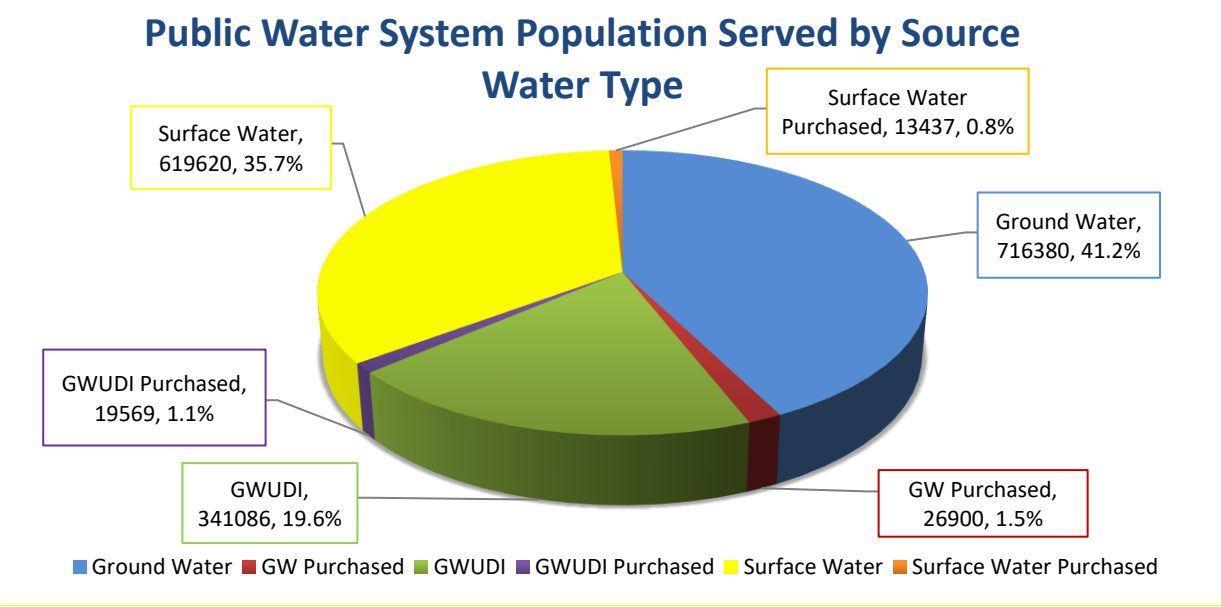
Over 60% of Nebraska's CWSs serve populations less than 500 people. Water systems with populations below 3,300 are considered to be 'small systems' by the EPA. This makes Nebraska a predominantly small system state with 93.0% of all of the State's CWSs serving 3,300 or fewer people.

Public Water in Nebraska

The Drinking Water Program at the NDEE administers 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 64 systems purchase water from those five systems. In addition, 6 systems utilize ground water under the influence of surface water (GWUDI), and 27 additional systems purchase water from those six systems. The remaining 1,108 systems use ground water, and an additional 129 systems purchase their water from another ground water system.





**Percentages rounded to nearest 0.1%*

Nebraska's Drinking Water Program's Activities

Thirty-seven (37) full-time employees charge all or a portion of their time to support the Drinking Water Program. The Monitoring and Compliance Section has nine (9), the Field Services and

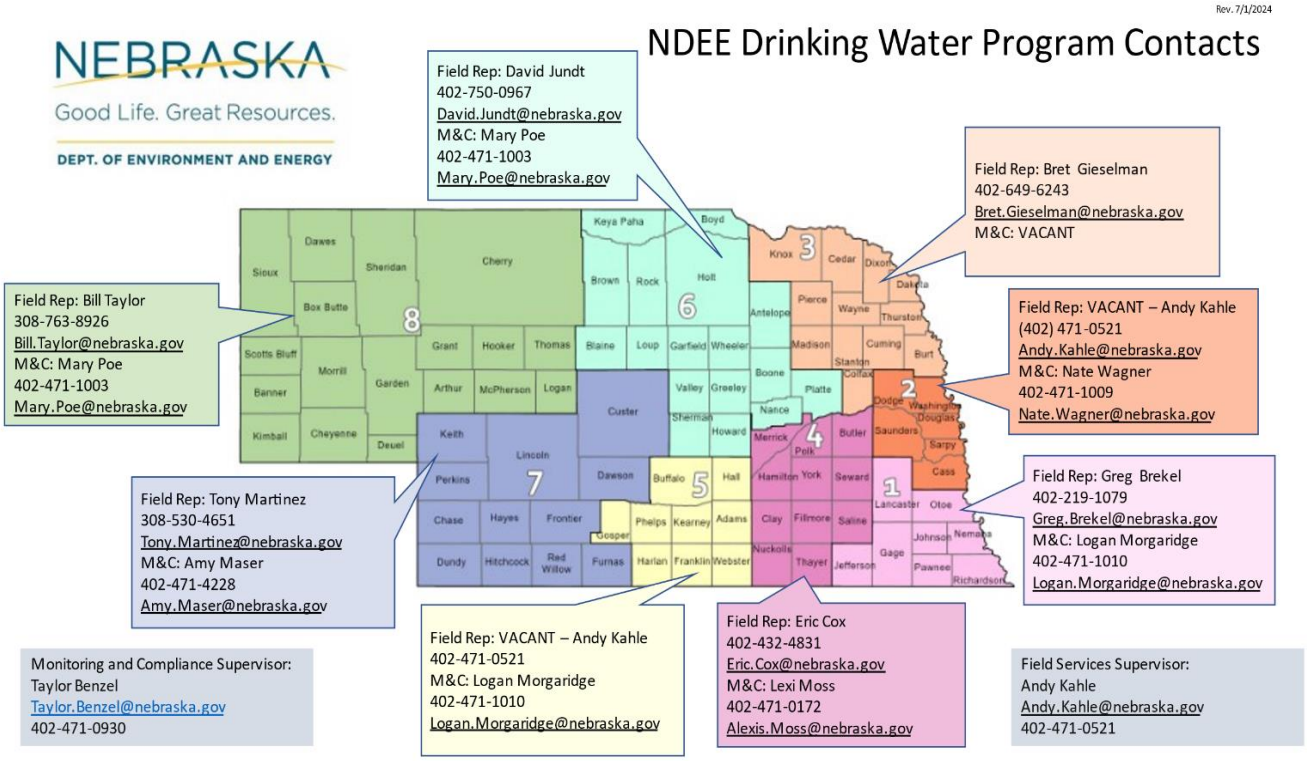
Training Section has 12, the Engineering Section has 15 and one (1) contributes to the administration of the program.

Drinking Water Field Services, Water Operator Training, and Capacity Development

These areas encompass 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

Field Services staff include a supervisor, and eight field representatives. The Water Operator Training and Capacity Development components of the program are overseen by a training coordinator, and capacity development coordinator, respectively. Staff within these areas 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, provide support 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.



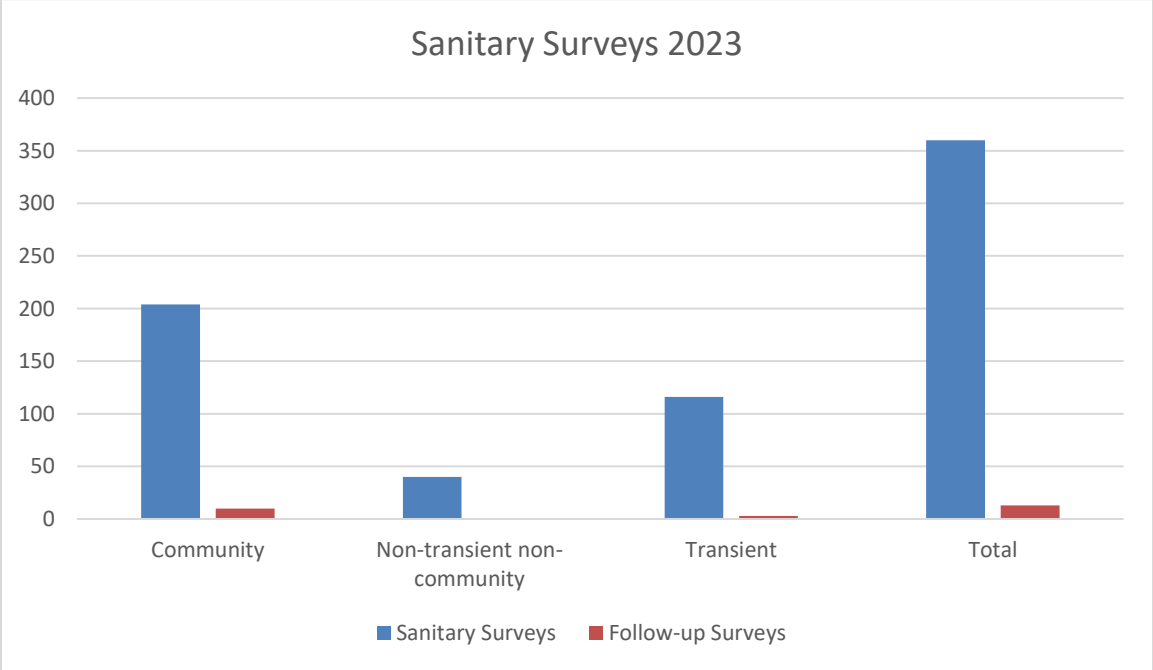
Field Services

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 Services personnel conducted 360 sanitary surveys (204 community, 40 non-transient non-community, and 116 transient public water systems) and 13 follow-up surveys (10 community and 3 transient public water systems). A total of 655 deficiencies were found in 2023. This reflects an overall deficiency rate of 1.8 deficiencies per sanitary survey in 2023. No deficiencies were found in 129 (36%) of the sanitary surveys completed in 2023. The average number of deficiencies found in Nebraska's public water systems remained stable from 2020 to 2023, 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 PWS.



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.

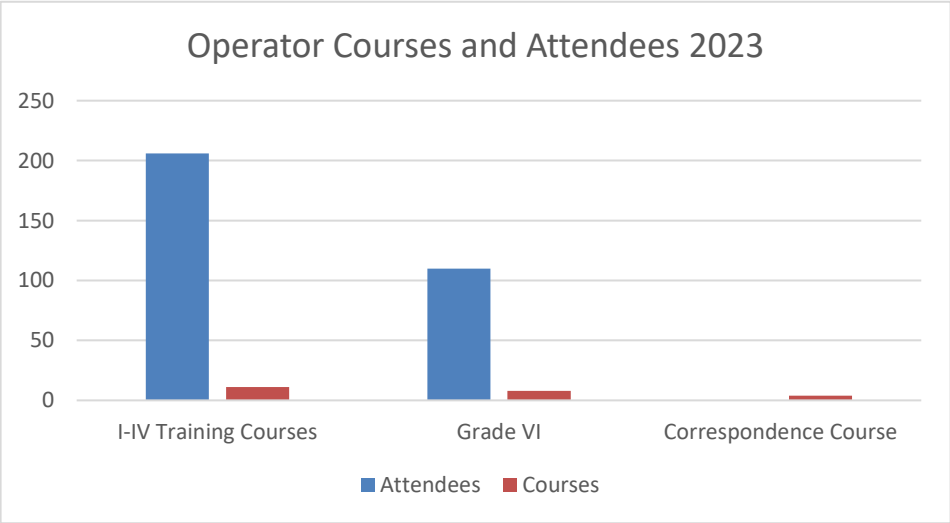
A Level 2 assessment is triggered by either multiple Level 1 assessments within a running twelve-month period, or by the confirmed presence of *E. coli* bacteria in the system. A Level 2 assessment is conducted by field staff and provides a much more detailed evaluation of the PWS.

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.

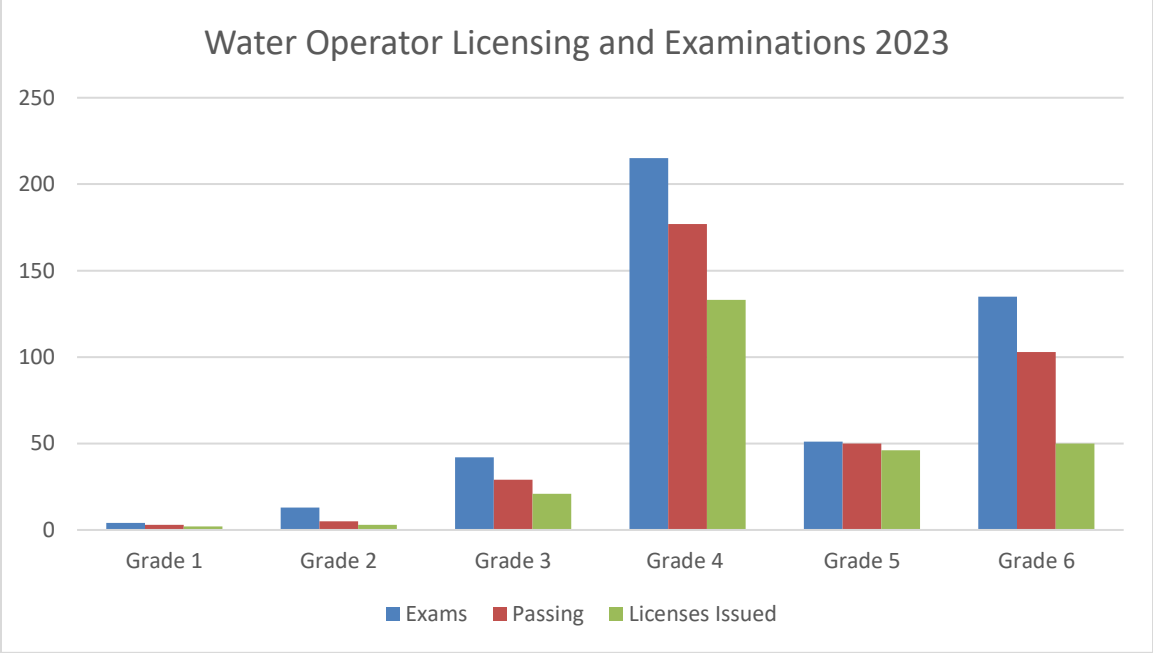
Training

Field Services and Training program personnel conducted 11 water operator training courses, Grades I through IV, with a total of 206 attendees. An additional 4 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 110 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	4	3	2
II	13	5	3
III	42	29	21
IV	215	177	133
V	51	50	46
VI	135	103	50



The Drinking Water Program, and other training providers, continued to adapt to existing conditions associated with both in person, and virtual training formats for water operators in 2023. 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 2023, 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 56 workshops/seminars/conferences were initially offered in Nebraska for the purpose of water operator continuing education. Of these, 17 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.

States must develop and implement a strategy to assist public water systems in acquiring and maintaining technical, managerial, and financial capacity. America's Water Infrastructure Act of 2018 required States to amend their strategies to include efforts encouraging public water systems to develop asset management plans. Nebraska's revised strategy was submitted to U.S. EPA Region 7 for review on May 15, 2022, receiving approval on August 19, 2022. As the first strategy submitted in Region 7, it was also subject to concurrent review from the U.S. EPA Office of Ground Water and Drinking Water.

NDEE's activities to bolster water systems' capacity through implementation of the State's strategy are overseen by the program's Capacity Development Coordinator. Additional support is provided by the 2% Assistance 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% Assistance Contracts

Funds from the 2% Set-Aside of the DWSRF are used to provide assistance to public water systems serving 10,000 or less people, to develop, and maintain, technical, managerial, and financial capacity. NDEE contracts with assistance providers to provide this assistance. In 2021, NDEE initiated a process to restructure the contractual agreements by which assistance is provided to public water systems, shifting the focus to a much more proactive approach. Three contracts are currently in place with assistance providers to address this new focus. The Wichita State University Environmental Finance Center was awarded the contract to provide board/council workshops and trainings, while Midwest Assistance Program was awarded contracts to assist with the development of lead service-line inventories, and to provide broader, technical, managerial, and financial assistance to aid in achieving/maintaining regulatory compliance and system capacity.

Board/Council Workshops & Trainings: It is imperative that board and council members understand their responsibilities as owners of a public water system, and the importance of ensuring the managerial and financial aspects of running a water system are being addressed. Regional workshops, and trainings for individual systems, provide ownership, and other public water system personnel, with the knowledge, ability, and resources to effectively maintain their system, become sustainable, and ensure compliance with the Safe Drinking Water Act.

> **Regional Workshops:** These workshops are conducted throughout the state, with the goal to educate owners of public water systems about their responsibilities and provide resources to accompany that education goal. The workshops include practical exercises for technical, managerial, and financial capacity building, including rate setting, capital reserves, and asset management. The regional approach enables representatives from multiple systems the ability to attend and participate in discussions with each other. Five regional workshops were held in 2023, with representatives from 24 different public water systems in attendance.

Individual System Trainings: Trainings for individual systems cover the same elements as the workshops, but also emphasize the particular needs of that system. These trainings are conducted at the request of the public water system, or as a required element of an Administrative Order issued by the Department to address on-going compliance issues. Two Individual System Trainings were conducted in 2023.

Lead Service Line Inventory Assistance: EPA's Lead and Copper Rule Revision requires public water systems to identify lead service lines, make available to the public the location of known lead service lines, and develop a plan for replacement of lead service lines. The intent of this contract is not to complete the inventories for systems, but to educate them, and provide tools and resources to aid in the development of their inventories, as well as replacement plans and public outreach, as needed. Projects to assist with lead service line inventories were initiated with sixty-six public water systems in 2023.

Compliance & Capacity Assistance: The purpose of this contract is to aid public water systems in achieving/maintaining compliance with the Nebraska Safe Drinking Water Act and regulations promulgated under that Act, as well as voluntary implementation of capacity building programs to ensure the continuous supply of drinking water that meets regulatory standards. Work under this contract provides:

Routine sanitary survey (RSS) preparation. This component provides assistance to ensure public water systems have the knowledge and preparation needed for a successful routine sanitary survey. Often, many RSS deficiencies are due to a lack of knowledge of what a RSS is, and how to prepare for one. Oftentimes there is also a misunderstanding of how to respond to deficiencies. This component provides both on- and off-site assistance with follow-up to systems that receive deficiencies from the RSS. Two water systems received assistance preparing for RSS's in 2023.

New operator hands-on training and mentoring. Many newly licensed operators are hired by very small community systems without other operators for orientation and support. Likewise, operators hired for non-community systems may find in-house training unavailable to learn their new job. This component provides on-site, multiple- day training, and mentoring, to ensure new operators understand their responsibilities for maintaining the operation of water system, and regulatory compliance. Assistance was provided to eleven public water systems with new operators was provided in 2023.

Technical, Managerial, and Financial (TMF) Assistance. Individualized assistance is often needed to build the capacity of water systems. This element of the contract covers requests by water systems, and NDEE, to assist with activities such as rate setting, water loss, deficiency and compliance issues, asset management, and other items where assistance will improve the understanding and ability of the system to become sustainable. Assistance provided by this component is, depending on the situation, and will be done as a supporting role to ensure the systems obtain needed understanding and skill. In 2023 one public water system received assistance under this component to help meet federal funding requirements to procure an engineer.

Capacity Assessment

Assessment of a public water system's technical capacity is primarily addressed through the Routine Sanitary Survey process. In the past, the sanitary survey also included a very brief, high-level assessment of managerial and financial capacity. A much more thorough assessment was conducted of water systems that received loans through the DWSRF.

An updated capacity survey, which includes detailed information about asset management, has been created to replace the managerial and financial capacity assessment processes used previously in both the sanitary survey, and the DWSRF loan process. The updated capacity surveys are sent out several weeks prior to routine sanitary surveys for community and non-transient non-community (NTNC) systems. The surveys are to be completed by board members, or owners, with input from other water system personnel. The survey also requests signature/verification from a board member or owner, and the operator. This process will ensure surveys are updated every three years for all community and NTNC systems. If a survey isn't on file when a system applies for a DWSRF loan, the DWSRF program sends the survey as part of the application.

Completed capacity surveys are scored based on the answers provided to the survey questions. Public water systems with a score of 70%, or higher, are considered to be demonstrating stronger capacity. Upon request from the system, those with a population of 10,000 or less, and a score of 70 to 89 may request assistance and be referred to the appropriate 2% contractor. A system serving a population of 10,000, or less, that scores below 70%, is offered assistance from the appropriate 2% contractor. Full implementation of the revised capacity assessment process was largely suspended in 2023 due to the vacancy of the coordinator position

Education and Outreach

The Capacity Development Coordinator position was vacant for virtually all of 2023. In-person outreach and training regarding capacity development was provided by other NDEE Drinking Water team members, as well as Training Coalition partners.

Engineering Section

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

Plan Reviews and Inspections

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

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

NDEE received 160 sets of plans and specifications for the construction of water projects for review and approval. In addition, engineering staff conducted 115 inspections of water projects constructed.

Annual Audits

On April 4, 2010, state regulations – Title 179 NAC 7, *Siting, Design and Construction of Public Water Systems* -- became effective. As a result, public water systems can enter into a 3-year agreement to construct water distribution main projects without having to submit plans and specifications to NDEE for review and approval. These systems are subject to an annual audit by the Engineering Section as a condition of the agreement. In 2023, 15 annual audits were completed and as of December 31, 2023, a total of 24 public water systems have entered into 3-year agreements with the NDEE.

Drinking Water State Revolving Fund

The engineering staff also participates in the common pre-application review process for federal and state agencies' loan; grant programs for water and wastewater projects; and Drinking Water State Revolving Fund (DWSRF) program activities. Each year the Clean Water State Revolving Fund (CWSRF), which addresses wastewater, and the DWSRF, which addresses drinking water, publish an Intended Use Plan (IUP), which explains how the SRF programs will use capitalization grants received annually from the federal government, annual state matching funds, and current program funds to meet Nebraska's community water infrastructure needs. That plan includes SRF project priority-funding lists and a planning list of all eligible projects that are submitted by public water systems. Every year, the IUP has an open comment period and following is presented at an Environmental Quality Council (EQC) public hearing for review and approval. Nebraska's DWSRF developed a combined IUP, with separate Project Priority Lists (PPLs) for both the Bipartisan Infrastructure Law (BIL) and Base program funding.

The annual infrastructure needs survey was sent out to all public water systems. A ranking system developed by NDEE was used to prioritize and establish the funding order for DWSRF assistance. The submitted surveys indicated 420 eligible projects with just over $1.85 billion in infrastructure needs. The DWSRF signed 19 loans and amendments for a total of $96,642,729 with $60,313,477 of that provided in forgiveness assistance. The majority of these loan totals were for Lead Service Line Replacement projects, but of the remaining projects, six (6) will reduce levels of Arsenic, Manganese and Nitrate is public water systems. A total of $1,546,000 of CWSRF Emerging Contaminant forgiveness assistance has been transferred into the DWSRF program, with a corresponding amount of DWSRF cash transferred back into the CWSRF.

Emerging Contaminants in Small or Disadvantaged Communities Grant

EPA issued implementation guidance for this approximate $48 million grant and a master work plan was approved that will focus this assistance towards the regionalization of small

communities that have elevated levels of Manganese, in order to avoid the installation of a more costly water treatment plant alternative. Following a pending grant award, future projects may include those that address Per- and Polyfluoroalkyl Substances.

Small, Underserved and Disadvantaged Communities Water Infrastructure Improvements in the Nation Act Grant

Now an annual grant program authorized under the Water Infrastructure Improvements for the Nation Act (WIIN), the Small, Underserved, and Disadvantaged Communities (SUDC) Grant Program was established to assist such PWSs. In Nebraska, the grant program is designed to help small Villages comply with the Safe Drinking Water Act. Grants are provided to underserved communities that 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. For the last project phase, $464,000 was awarded to the Village to construct a stainless-steel water tank. Nebraska's next SUDC-WIIN award is planned for the Village of Steele City to replace a failed transmission water main installation.

Voluntary School and Child Care Lead Testing and Reduction Grant Program

The NDEE in cooperation with the Nebraska Department of Health and Human Services is committed to reducing childhood exposure to lead from drinking water. As part of EPAs WIINs Lead Testing in School and Child Care Programs, NDEE will be implementing the 3Ts (training, testing, and taking action) for reducing lead exposure in drinking water.

With the passage of the Bipartisan Infrastructure Law, the authority for this grant program has been expanded to now include projects that remediate lead contamination in drinking water. Eligible entities include schools and early childhood education programs, but only those under the jurisdiction of local educational agencies, a requirement of the federal law. As such, sampling at public pre- schools, elementary schools, and associated childcare facilities will be a renewed focus of this WIIN Grant award. The funding will be focused on facilities serving underserved and low-income communities, elementary schools and those school facilities older than 1988, as they are at highest risk for internal plumbing and drinking water appurtenances containing lead, all within tiered program remediation trigger levels first detected above 10 parts per billion. One remediation grant award to the Bellevue Public Schools District was made for $131,250.

Other Engineering Activities

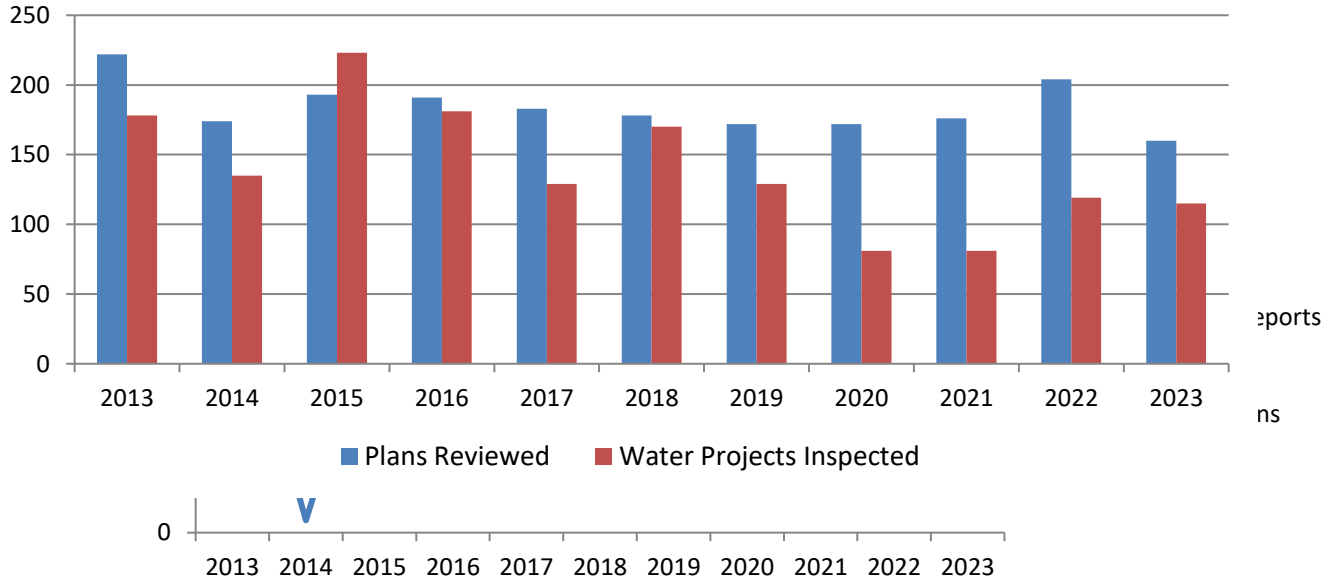
The Engineering Section staff also reviewed justifications provided by professional engineers for any new well siting that does not meet the setback distances identified in Title 179 NAC 7. A total of 14 new well site justifications were reviewed and 10 of these were approved. In addition,

the engineering staff worked with NDEE and city officials to evaluate encroachment issues that may be of concern to existing public drinking water wells. No encroachment related issues were evaluated and resolved. In addition, seven operation and maintenance manuals for DWSRF projects were reviewed.

SUMMARY OF ENGINEERING SECTION ACTIVITIES *January 1, 2023 to December 31, 2023*

ACTIVITIES	NUMBER
Water Projects Received for Review and Approval	160
Water Projects Inspected	115
Engineering Reports for Water System Improvements Evaluated	15
New Water Well Sites Evaluated	14
Common Pre-Applications for Water/Wastewater Projects for Federal and State Financial Assistance Reviewed	7
Operation and Maintenance Manuals for Drinking Water State Revolving Loan Funded Projects Reviewed	7
Three-Year Agreements for Distribution Main Projects—Annual Audits Completed	15
Encroachment Issues	0

Engineering Plans Reviewed/ Water Projects Inspected



Monitoring and Compliance Section

The Monitoring and Compliance (M&C) Section of the Drinking Water Program reviews analytical results for contaminants in drinking water, issues enforcement actions, maintains and tracks enforcement actions, provides compliance assistance internally and externally, and maintains the SDWIS database for PWSs.

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 NDEE.

NDEE is preparing for transition to cloud-based software called the Drinking Water - State, Federal, and Tribal Information Exchange System (DW-SFTIES) that will replace our current SDWIS database. This new database is being provided to the States by EPA. This transition will include 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 2023, only 4 of 83 contaminants for which community public water systems monitor were found to be present above a MCL. That means 79 contaminants, for which monitoring was conducted, were not found above their respective MCL in a PWS 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 was a total of 163 violations from 88 public water systems in 2023 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 2023

Type of RTCR Assessment	Number of Assessments Triggered	Number of Systems	% of Systems with Assessments
Level 1	111	111	8.3%
Level 2	76	59	4.4%
Level 2, *E. coli* MCL triggered	5	5	0.4%

RTCR Violations 2023

Type of RTCR Violation	Number of Violations Issued	Number of Systems	% of Systems with Violations
Treatment Technique, Level 1 requirements not met	0	0	0%
Treatment Technique, Level 2 requirements not met	0	0	0%
MCL – *E. coli* +	8	8	0.6

Monitoring, Additional Routine, Major Routine	63	48	3.6%
Startup Procedures TT	1	1	0.07%

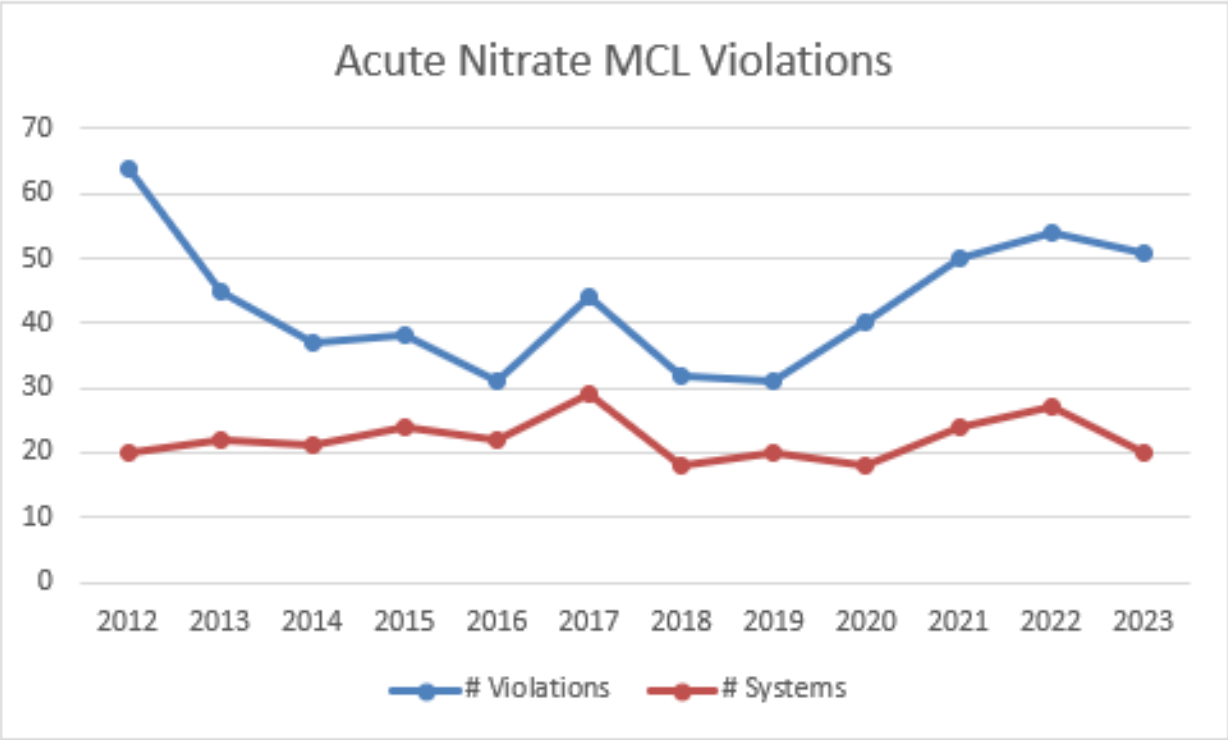
Nitrate-Nitrite Rule

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 2023 nitrate-nitrite violations is presented below along with historic data. Overall, nitrate MCL violations have decreased in Nebraska since 2012. In 2023, the number of nitrate MCL violations decreased, after seeing an increase in each of the previous three years. This can be attributed to many factors but may be due to improved drought conditions in 2023. The last several years have been very dry, with drought-like conditions, which typically lead to increase in contaminant levels in groundwater.

Nitrate-Nitrate Violations 2023

Violation	Number of Violations	Number of Systems	% of Systems with Violations
MCL – 10 mg/l	51	20	1.5%
Monitoring	12	11	0.8%



Public Notification Rule 2023

Public Notification is required if a PWS receives a MCL, Monitoring, or acute violation. There were seven systems in violation of the PN Rule.

Rule	Number of Violations	Number of Systems
Public Notification Rule	14	7

Consumer Confidence Rule 2023

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 seven systems in violation of the CCR Rule.

Rule	Number of Violations	Number of Systems
Consumer Confidence Rule	7	7

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 is 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 2023

(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 2023

(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	6	0	3	0.22%
Barium	0	0	0	0%
Beryllium	0	0	0	0%
Cadmium	0	0	0	0%
Chromium total	0	0	0	0%
Cyanide (as free cyanide)	0	0	0	0%
Fluoride	0	0	0	0%
Mercury	0	0	0	0%
Nickel	0	0	0	0%
Selenium	0	0	0	0%
Sodium	0	0	0	0%
Thallium	0	0	0	0%

Non-Volatile Synthetic Organic Chemical (SOC) Contaminants 2023

(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%
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 2023

(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	16	0	3	0.22%

Disinfection Byproduct Violations 2023

(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	2	2
Total Trihalomethanes	1	2	3

Disinfection Byproducts Stage 1 Monitoring

Violation	# Violations	# Systems
Qualified Operator Failure	0	0

Disinfection Byproducts Monitoring

	# Violations	# Systems
Monitoring	0	0

Disinfectant Residual Violations

MRDL	Treatment Technique # Violations	Treatment Technique # Systems	Monitoring # Violations	Monitoring # Systems
0	2	2	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	1	1	0.07%

Surface Water Treatment Rule Violations 2023

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

Ground Water Rule 2023

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 2023

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.

	Nitrate	Uranium	Arsenic
Number of Orders	0	0	0
Population Affected	0	0	0

Variances and Exemptions

No variances or exemptions were issued in 2023.

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	6	3	263
Uranium Mass	16	3	515

Nebraska Public Health Environmental Laboratory (NPHEL)

2023 again brought more personnel changes to the lab due to turnover and re-assignments. The Nebraska Public Health Environmental Laboratory (NPHEL) currently employs 17 permanent and 2 temporary staff members who put their heart into making sure Nebraskans are provided accurate and timely water results.

NPHEL tested a little over 65,000 samples in CY2023. This represents about a 4% decrease in tests from the previous year. Approximately 56.5% of the laboratory's tests are for public water systems across the state which is a decrease of 1.4% from the year before. Around 27% of the lab's testing was performed for the Nebraska Department of Environment and Energy, primarily in their Water Quality Division. Private customers accounted for about 15.0% of the load which is a 3.5% increase. The metals load decreased about 17% while blood alcohols increased over 9%.. Total coliform accounts for about 33.2% of the laboratory tests which was an increase of 2.3%

from the previous year. Total coliform testing has a very short holding time of 30 hours from collection to incubation. USPS delays continue to cause a struggle for clients to get their samples to the lab on time. Of all the Colilert and Colilert Quantitray samples done in 2023, 1.8% of them were rejected due to excessive age upon receipt which reflects an increase of 0.3%.

The following table shows a comparison of the larger volume test numbers for the last few years:

Number of Tests Done

Test Type	2023	2022	2021	2020	2019	2018
Total Coliform/E.coli	21,628	20,945	21,390	22,015	24,088	22,579
Nitrate	9,362	8,256	8,203	7,684	8,033	7,824
Lead/Copper	6,806	7,941	7,868	6,912	6,055	4,536
VOCs (Volatile Organic Compounds)	887	877	876	988	968	977
Pesticides (EPA 525)	457	732	682	513	745	713
Uranium (mass)	535	760	456	559	506	646
Arsenic	916	1,042	854	667	775	1,089
Blood Alcohol	766	701	858	795	709	827
Chloride	2,300	2,374	2,565	2,252	2,381	2,439
Lead	3,855	4,346	4,524	3,471	3,072	2,307
Total Suspended Solids	2,547	3,032	3,181	2,356	2,560	2,446

Tests by Analytical Area 2023

	% of Total
Organics and Radon	5.5
Inorganics	39.0
Metals/Minerals	18.9
Bacteriological	33.6
Air	0.33
Alcohols	1.2
Contracted out analytes	1.5*

*All metals and minerals were subcontracted starting in July 2023 through the remainder of that year due to staffing issue. This total does not reflect the metals/minerals contracted.

Lab fees remained the same as they have since 2013 and will hold throughout 2024. There is a price increase on the horizon for 2025. Paying lab invoices by credit card, debit card, and electronic check continues to be popular with clients.

The Drinking Water Laboratory Certification Office currently certifies five labs for coliform and two labs for nitrate testing.

For more information call NPHEL at (402) 471-2122.

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ATTACHMENT A

Definition of a Public Water System in the Safe Drinking Water Act:

Public water system means a system for providing the public with water for human consumption through pipes, or after August 5, 1998, other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days per year.

Public water system includes:

> Any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Public water system does not include a special irrigation district. A public water system is either a community water system or a non-community water system.

Service connection does not include a connection to a system that delivers water by a constructed conveyance other than a pipe if:

> (a) The water is used exclusively for purposes other than residential uses, consisting of drinking, bathing, cooking, and other similar uses,
> (b) The NDEE determines that alternative water to achieve the equivalent level of public health protection provided by the Nebraska Safe Drinking Water Act and rules and regulations under the act is provided for residential or similar uses for drinking and cooking, or
> (c) The NDEE determines that the water provided for residential or similar uses for drinking, cooking and bathing is centrally treated or treated at the point of entry by the provider, a pass-through entity, or the user to achieve the equivalent level of protection provided by the Nebraska Safe Drinking Water Act and the rules and regulations under the Act.
>
> > Special irrigation district means an irrigation district in existence prior to May 18, 1994, that provides primarily agricultural service through a piped water system with only incidental residential or similar users if the system or the residential or similar users of the system comply with exclusion provisions of subdivision (b) or (c) of this subdivision.

ATTACHMENT B

Safe Drinking Water Standards

The purpose of setting drinking water standards is to limit the level of contaminants in potable water. Contaminants that might be found in drinking water are grouped into three categories:

1. Natural pathogens: These are disease-causing microorganisms that can occur in source water or in the distribution system. They can be bacteria, protozoans, or viruses. Humans or animals can transmit these organisms. Exposure to them in even small amounts in drinking water can cause acute illness. Examples include c*ryptosporidium* and *giardia lambia*.

2. Organic, inorganic, and radioactive chemicals: These can be man-made, or they may occur naturally. Examples include carbon tetrachloride (organic and man-made), arsenic (inorganic and naturally-occurring or man-made), and radon (radioactive and naturally-occurring). Health effects from most of these substances occur after frequent, long-term exposure to low concentrations.

3. Treatment Process Chemicals and Byproducts: Disinfectants and coagulants are chemicals used in treatment plants to purify drinking water. Some of the chemicals have health effects themselves and must be used carefully. With other substances, the treatment, such as chlorine, may produce chemical byproducts, such as trihalomethanes, which may be harmful to health.

Between 1975 and 1980, EPA established standards for 23 different contaminants. With the passage of the Safe Drinking Water Act in 1974, EPA specified a maximum contaminant level (MCL) and a monitoring or sampling frequency for each contaminant. Minimum treatment requirements were established for contaminants that could not be monitored in a practical way.

In the 1980s, reports of drinking water contamination by substances such as industrial solvents and pathogenic organisms aroused concern about the adequacy of the program. The 1986 Amendments to the Safe Drinking Water Act required EPA to address 87 new contaminants within three years, to be followed by regulation of 25 more contaminants every three years thereafter. To date, all but seven of the 1986 regulations have been finalized. Public water systems must test for the following contaminants.

Inorganic Chemicals

All the following maximum contaminant levels (MCLs) for inorganic chemical contaminants apply to community water systems. All the following MCLs for inorganic chemicals, except the MCL for fluoride, apply to Non-transient, non-community water systems. Only the MCLs for nitrate, nitrite, and total nitrate and nitrite apply to transient, non-community systems, per the SDWA.

Inorganic Contaminants	MCL (mg/l)
Antimony	0.006
Asbestos (fibers >10 µm)	7 million fibers/liter
Arsenic	0.05
Barium	2
Beryllium	0.004
Cadmium	0.005
Chromium total	0.10
Cyanide (as free cyanide)	0.2
Fluoride*	4.0
Mercury	0.002
Nickel	0.1
Nitrate (as Nitrogen)	10
Nitrite (as Nitrogen)	1
Total Nitrate and Nitrite (as Nitrogen)	10
Selenium	0.05
Sodium	500.0
Thallium	0.002

*Community water systems experiencing fluoride levels above 2.0 milligrams per liter must notify the public.

Synthetic Organic Chemicals

The following maximum contaminant levels for organic chemical contaminants apply to community and non-transient, non-community water systems.

Volatile Organic Chemical Contaminants	MCL (mg/l)
Benzene	0.005
Carbon tetrachloride	0.005
cis-1,2-Dichloroethylene	0.07
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
Dichloromethane	0.005
1,2-Dichloropropane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
o-Dichlorobenzene	0.6
para-Dichlorobenzene	0.075
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
trans-1,2-Dichloroethylene	0.1
1,2,4-Trichlorobenzene	0.07
1,1,1-Trichloroethane	0.2
1,1,2-Trichloroethane	0.005
Trichloroethylene	0.005
Vinyl chloride	0.002
Xylenes (total)	10

Non-Volatile Synthetic Organic Chemical Contaminants	MCL (mg/l)
Alachlor	0.002
Atrazine	0.003
Benzo[a]pyrene	0.0002
Carbofuran	0.04
Chlordane	0.002
2,4-D	0.07
Dalapon	0.2
Di(2-ethylhexyl)adipate	0.4(22)
Di(2-ethylhexyl)phthalate	0.006
Dibromochloropropane	0.0002
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Ethylene dibromide	0.00005
Glyphosate	0.7
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.04
Oxamyl (Vydate)	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated biphenyls	0.0005
Simazine	0.004
2,3,7,8-TCDD (Dioxin)	3×10^{-8}
Toxaphene	0.003
2,4,5-TP	0.05

Microbiological

The MCL for coliform bacteria, applicable to all public water systems, is zero, based on the presence or absence of total coliforms and/or *E. coli* in a sample.

Radionuclides

The MCL for combined radium-226 and radium-228 is 5 picocuries per liter.

The MCL for gross alpha particle activity including radium-226 but excluding radon and uranium is 15 picocuries per liter.

Uranium – 30 µg/l

Disinfection Byproducts

Byproduct	MCL (mg/l)
Bromate	0.010
Chlorite	1.0
Haloacetic acids (five) HAA5	0.060
Total Trihalomethanes (TTHMs)	0.080

Maximum Residual Disinfectant Levels (MRDLs)

DISINFECTANT RESIDUAL	MRDL (mg/l)
Chlorine	4.0 (as Cl_2)
Chloramines	4.0 (as Cl_2)
Chlorine dioxide	0.8 (as ClO_2)

Lead and Copper

Before and after a PWS evaluates corrosion control treatment, it must test for:

Alkalinity
Calcium
Conductivity
Orthophosphate (when an inhibitor containing an orthophosphate compound is used)
pH
Silicate (when an inhibitor containing a silicate compound is used)
Water temperature

There are several contaminants that public water systems test for but are not regulated. These include:

Inorganic Chemical

Sulfate

Volatile Organic Chemicals

1,1,1,2-Tetrachloroethane
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
1,1-Dichloroethane
1,1-Dichloropropene
1,2,3-Trichloropropane
1,3-Dichloropropane
1,3-Dichloropropene
2,2-Dichloropropane
Bromobenzene
Bromomethane
Chlorobenzene
Chlorodibromomethane
Chloroethane
Chloromethane
m-Dichlorobenzene
m-Dichlorobenzene
o-Chlorotoluene
p-Chlorotoluene

Pesticides and Other Synthetic Organic Chemicals

Aldrin
Butachlor
Carbaryl
Dicamba
Dieldrin
3-Hydroxycarbofuran
Methomyl
Metolachlor
Metribuzin
Propachlor