Nebraska's Public Water System Supervision Program 2024 Annual Report

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Drinking Water Program

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Executive Summary

In 2024, the Nebraska Department of Water Energy and Environment (DWEE) formerly the Department of Environment and Energy (NDEE) regulated 1,329 public water systems (PWSs), including 594 Community Water Systems (CWS), 135 Non-Transient Non-Community Systems (NTNC), and 600 Transient Non-Community Systems (TNC). Nearly 86% of all PWSs utilized groundwater sources, while surface water and groundwater under the direct influence of surface water (GWUDI) made up the remainder.

Public water systems in Nebraska are predominantly small and rural. Approximately 93% of the state's CWSs serve populations under 3,300 people, and more than 60% serve fewer than 500. Despite these challenges, Nebraska's small systems continue to perform commendably in maintaining compliance with Safe Drinking Water Act (SDWA) requirements.

In 2024, DWEE issued a total of **472 drinking water violations** to **356 PWSs**. Violations are generally categorized into Maximum Contaminant Level (MCL), Monitoring and Reporting (M/R), Treatment Technique (TT), and Public Notification (PN) violations.

- **MCL Violations (88 total)**:
    - Nitrate was the leading contaminant, with 49 MCL violations across 28 systems.
    - *E. coli* resulted in 18 MCL violations; all affected systems returned to compliance.
    - 12 uranium and 10 arsenic MCL violations were also recorded, reflecting Nebraska's geologic characteristics.
    - One community exceeded the MCL for total trihalomethanes (TTHM), a disinfection by-product.
- **Monitoring & Reporting Violations (183 total)**: These were primarily for failure to monitor for coliform bacteria, nitrate/nitrite, and lead & copper.
- **Public Notification Violations (26 total)**: Issued when required notices were not delivered timely or were missing mandatory elements.
- **Treatment Technique Violations (2 total)**: Seasonal systems failed to complete start-up procedures required under the Revised Total Coliform Rule (RTCR).
- **Lead and Copper Rule Revision (LCRR) Violations (169 total)**: These were issued to systems that did not submit required lead service line inventories (LSLI) by the October 16, 2024 deadline. All systems did submit LSLI prior to EPA issuing formal enforcement.

In 2024, there were **14 active Administrative Orders (AOs)**, primarily for nitrate. Two communities, the Villages of Edgar and Bancroft, successfully returned to compliance through infrastructure improvements and system changes. No new AOs were issued during the 2024 calendar year.

To obtain a copy of Nebraska's 2024 Annual Public Water Systems Report please contact DWEE at 402-471-2186, or visit https://dee.nebraska.gov/.

Public Water System Definitions

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 is to include some educational material, and will provide information on the source water, the levels of any detected contaminants, and compliance with drinking water regulations.

Corrosion Control Treatment

A method used by public water systems to reduce the corrosion of pipes and plumbing, helping prevent lead and copper from entering drinking water. This is done by adjusting water chemistry—such as pH or adding corrosion inhibitors. CCT is a key requirement of the EPA's Lead and Copper Rule to help protect public health.

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.

Groundwater Under the Direct Influence of Surface Water (GWUDI)

Groundwater well 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.

PWSs with GWUDI sources are required to provide a similar level of treatment for bacterial and virus removal as PWSs that utilize surface water.

Maximum Contaminant Level (MCL)

Maximum permissible limits on the level of a contaminant allowed in drinking water set by EPA in order to ensure that the water is safe for human consumption. A contaminant's MCL is set as close to its MCLG as possible; cost for PWSs to install treatment along with amount of public health risk reduction is considered when establishing MCLs.

Maximum Contaminant Level Goal (MCLG)

Maximum level of a drinking water contaminant at which no known or anticipate adverse health effect would occur, allowing for an adequate margin of safety. MCLGs are set as close to zero as possible.

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 PWSs add chemical disinfectant(s) for either primary or residual treatment. These limits are known as MRDLs.

Monitoring and Reporting

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 DWEE, a monitoring and reporting violation occurs.

Public Notification

The Public Notification Rule requires all PWSs to notify their consumers any time a PWS violated a national primary drinking water regulation or has a situation posing a risk to public health. The time period that a PWS has to notify the public depends upon the risk posed by the violation or situation. Notices must be provided to persons served (not just billing consumers).

Significant Public Notification Violations

For this report, significant public notification violation occurs when a PWS completely fails to notify its consumers that the PWS violated a national primary drinking water regulation or had a situation posing a risk to public health.

Public Water System (PWS)

A PWS is defined as a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves an average of at least 25 people for at least 60 days each year. There are three types of PWSs. PWSs can be community systems (such as towns), non-transient noncommunity systems (such as schools or factories), or transient noncommunity systems (such as rest stops or parks). For this report, when the acronym PWS is used, it means systems of all types unless specified in greater detail.

Sanitary Survey

An on-site review of the water source, facilities, equipment, operation and maintenance of a PWS for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

Significant Monitoring and Reporting Violations

A significant monitoring and reporting violation, with rare exceptions, occurs when no samples were taken or no results were reported during a compliance period. For this report, significant

monitoring and reporting violations are generally defined as any significant monitoring violation that occurred during the calendar year of the report.

Significant Consumer Notification Violations

For this report, a significant consumer notification violation occurred if a community water system completely failed to provide its customers the required annual water quality report.

Treatment Techniques

For some regulations, the EPA establishes treatment techniques in lieu of an MCL to control unacceptable levels of certain contaminants. For example, treatment techniques have been established for viruses, some bacteria, and turbidity.

The Drinking Water Program: Overview

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 contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as Maximum Contaminant Levels (MCLs) and the Maximum Residual Disinfectant Levels (MRDLs). For some regulations, EPA establishes treatment techniques in lieu of an MCL to control unacceptable levels of contaminants in water. The Agency also regulates how often public water systems (PWSs) monitor their water for contaminants and report the monitoring results to the states or EPA. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting (M/R) requirements. In addition, EPA requires 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 these regulations. The 1996 Amendments to the SDWA require consumer notification to include a clear and understandable explanation of the nature of the violation, its potential adverse health effects, steps that the PWS is undertaking to correct the violation and the possibility of alternative water supplies during the violation.

The SDWA applies to the 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, tribes and territories to seek EPA approval to administer their own PWSS Programs. 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.

Nebraska's Annual PWSS Report

The Nebraska Department of Water, Energy, & Environment (DWEE) is committed to protecting and enhancing Nebraska's water energy, and environmental resources through science-based decision-making, strong partnerships, and cooperative efforts. The Drinking Water Program advances this mission by supporting Nebraska's PWSs in consistently providing safe and dependable tap water to all consumers.

Each quarter, primacy agencies submit data to the Safe Drinking Water Information System (SDWIS/FED), an automated database maintained by EPA. The data submitted include, but are not limited to, PWS inventory information, the incidence of maximum contaminant level (MCL), maximum residual disinfectant level (MRDL), monitoring and reporting, and treatment technique violations, and information on enforcement activity related to these violations. Section

1414(c)(3) of the 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, treatment techniques, variances and exemptions, significant monitoring and reporting, and significant consumer notification. The EPA regional offices report the information for Wyoming, the District of Columbia, and all Indian lands but the Navajo Nation. EPA Regional offices also report federal enforcement actions taken. Data retrieved from SDWIS/FED form the basis of this report.

Nebraska's Public Water System Statistics

Public Water System Types and Populations

Approximately 80% of Nebraskans get their water from a community water system (CWS). Private domestic wells, which are not monitored under the SDWA, provide water for the remaining 20% of Nebraskans.

All public water systems serve at least 25 people daily. PWSs are separated into three categories based on the potential duration of exposure to a source of drinking water.

Community Water Systems (CWS) provide water to the same people year-round; villages, rural water districts, mobile home parks, and sanitary improvement districts are CWSs.

Non-Transient Non-Community (NTNC) facilities usually consist of a single building with its own ground water well, and has the same 25 non-residential individuals there for at least 6 months of the year; a manufacturing company with its own well and a rural school with over 25 students are NTNCs.

Transient Non-Community (TNC) PWSs serve at least 25 people daily and still must be permitted and monitored, but transient PWSs don't serve 25 of the same people daily (i.e., they serve an entirely *transient* population) rural gas stations, golf courses, and campgrounds with their own wells are TNCs.

Table 1 shows the number of each of these PWSs in Nebraska according to their reported average daily population served.

Table 1. Count of PWSs by Daily Population Served and Type of PWS, Nebraska, 2024

Daily Population Served	CWS	NTNC	TNC	Total PWS by Population
Less Than 101	102	74	498	**674** (50.7%)
101 - 500	267	42	96	**405** (30.5%)
501 – 1,000	95	10	6	**111** (8.4%)
1,001 – 3,300	88	7	0	**95** (7.1%)
3,301 – 10,000	28	2	0	**30** (2.3%)
10,001 - 50,000	11	0	0	**11** (0.8%)
Greater Than 50,000	3	0	0	**3** (0.2%)

Total PWS by Type	**594** (44.7%)	**135** (10.2%)	**600** (45.1%)	**1329**

Figure 1. Count of PWS Types by Daily Population Served, Nebraska, 2024

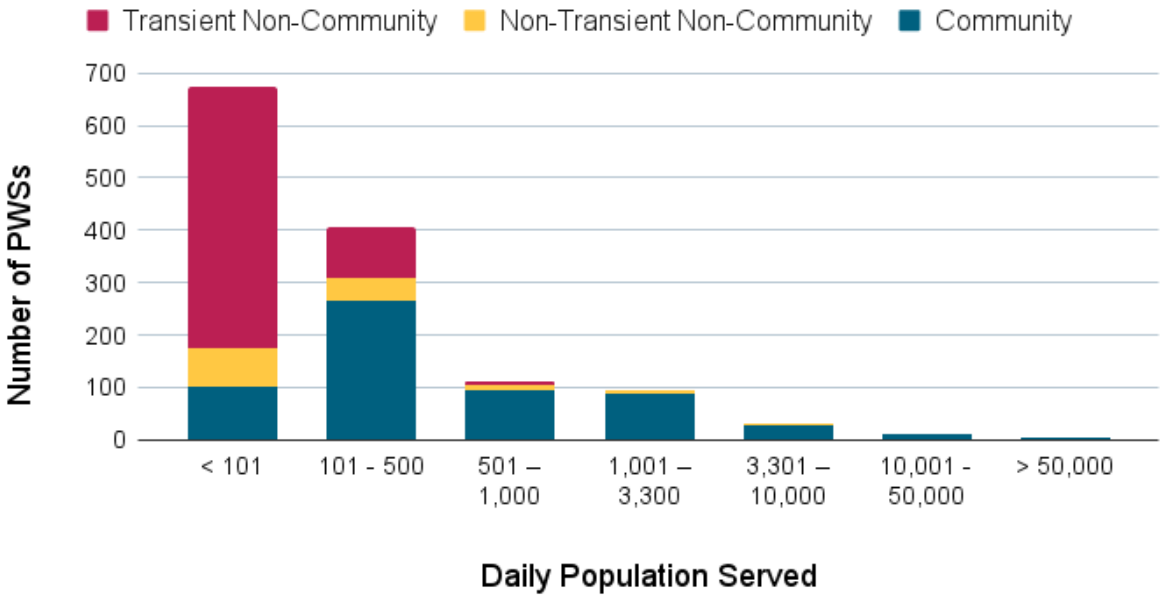
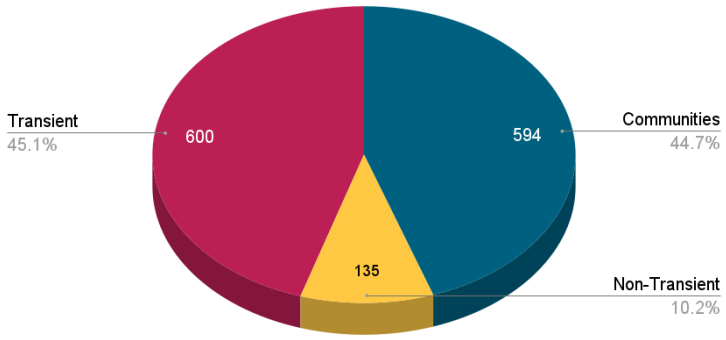


Figure 2 demonstrates the proportional breakdown of the types of PWSs in Nebraska. CWSs account for about half of all PWSs (44.7%), and TNCs account for about the other half (45.1%). Only 10% of Nebraska PWSs are classified as NTNCs.

Figure 2. Proportion & Count of PWS Types, Nebraska, 2024



This is because most facilities in Nebraska (office buildings, private businesses, etc.) that would otherwise qualify as a PWS due to their population (serving at least 25 people daily) are purchasing water from a CWS. These locations are not subject to regulation by the SDWA because their water quality monitoring and reporting is covered by the CWS.

This means that the number of NTNC and TNC PWSs in Nebraska can be considered a general reflection of the number of rural facilities (schools, rest stops) that serve at least 25 people a day and have their own source of drinking water (typically a groundwater well). The relatively low percentage of NTNCs in Nebraska can be attributed to the relatively low number of larger rural facilities that do not purchase their water from a CWS. Figures 3-5 demonstrate the location and relative populations of NTNC, TNC, and CWSs in Nebraska.

Figure 3. Geographical Distribution and Relative Daily Populations of NTNC PWSs, Nebraska, 2024

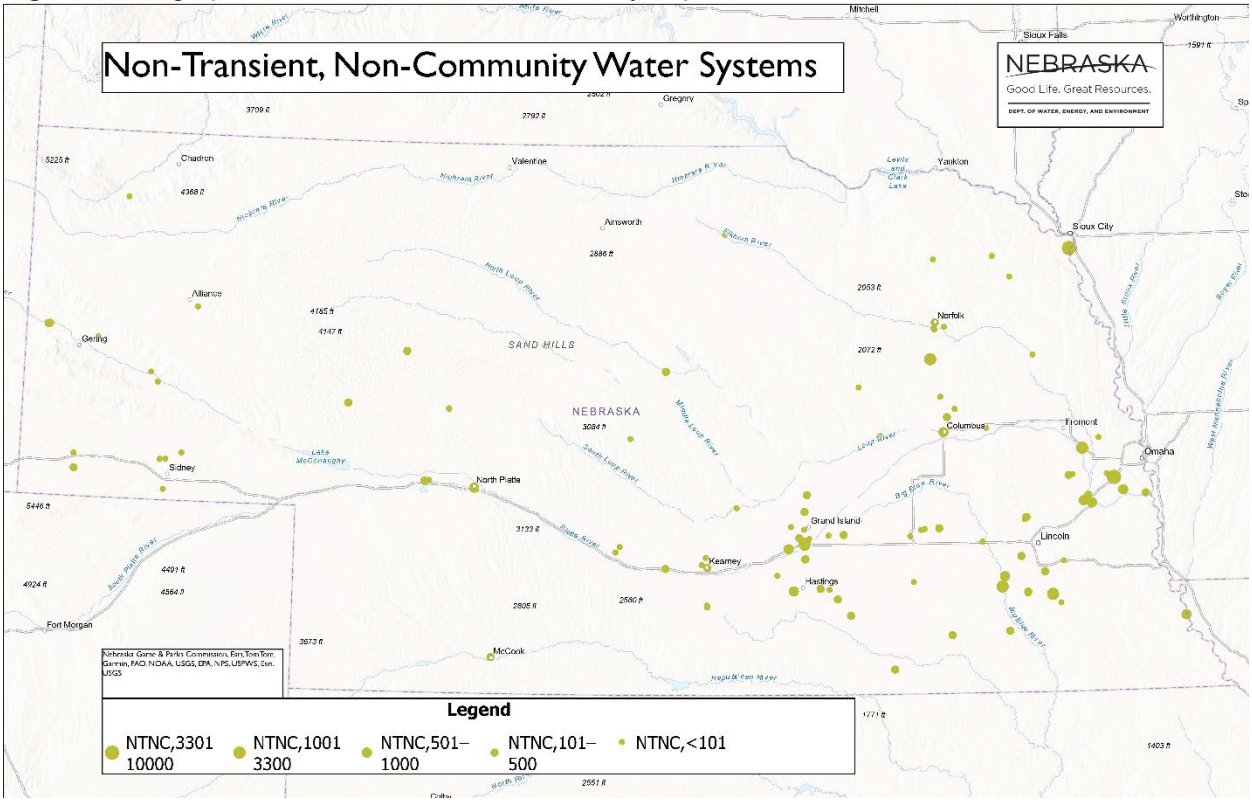


Figure 4. Geographical Distribution and Relative Daily Populations of TNC PWSs, Nebraska, 2024

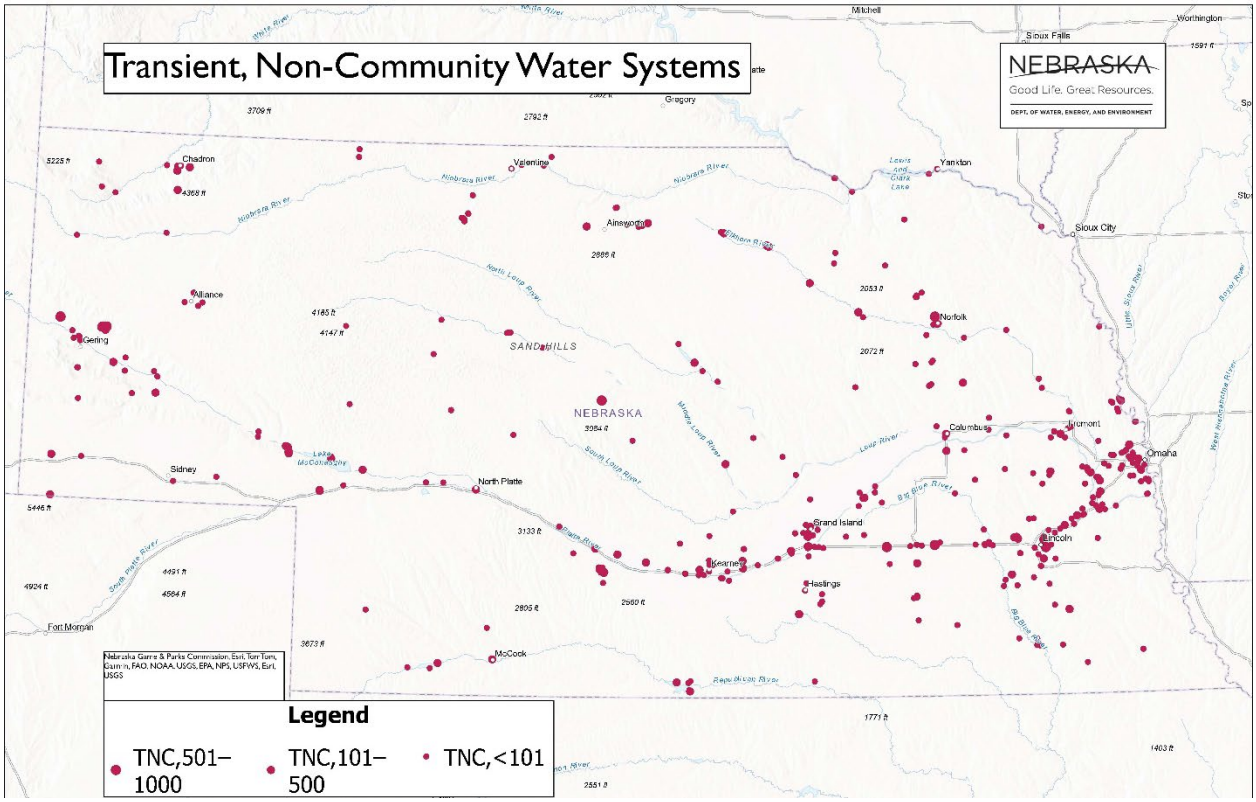
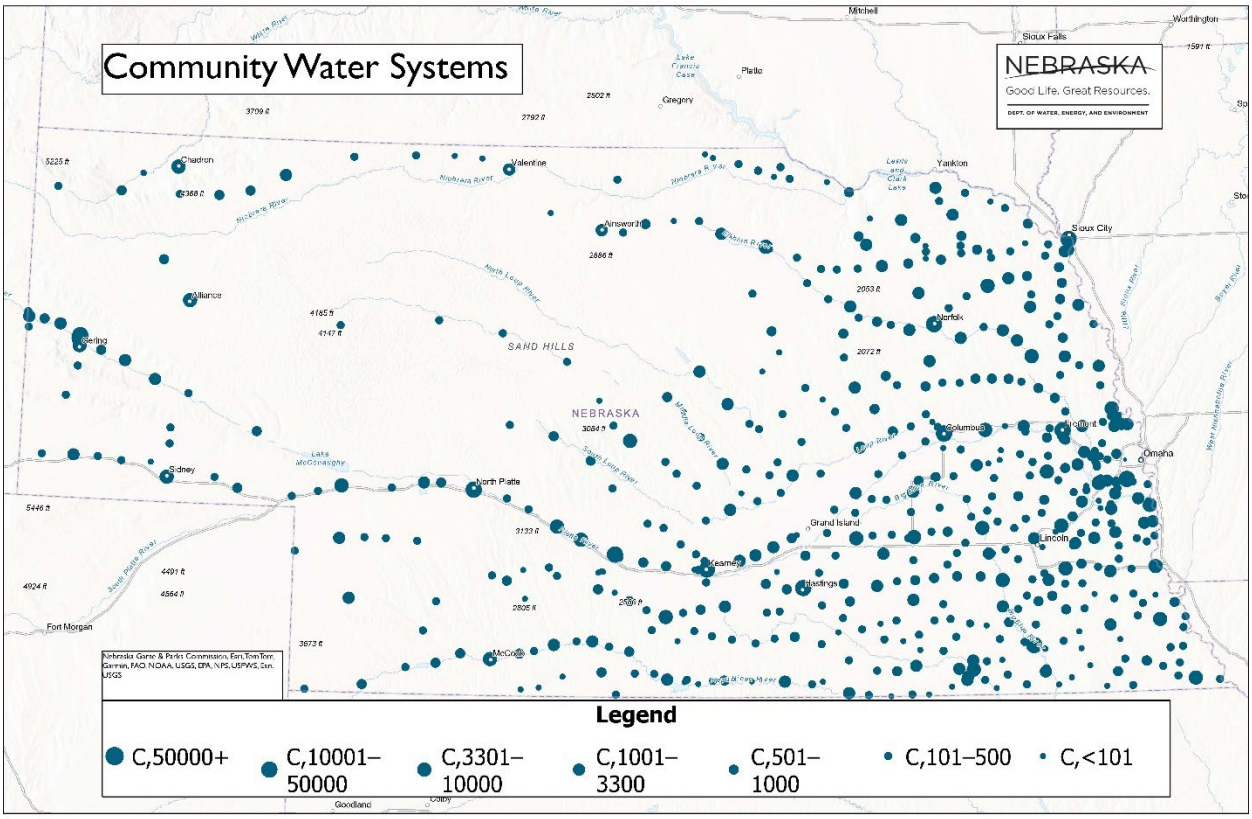


Figure 5. Geographical Distribution and Relative Daily Populations of CWS, Nebraska, 2024

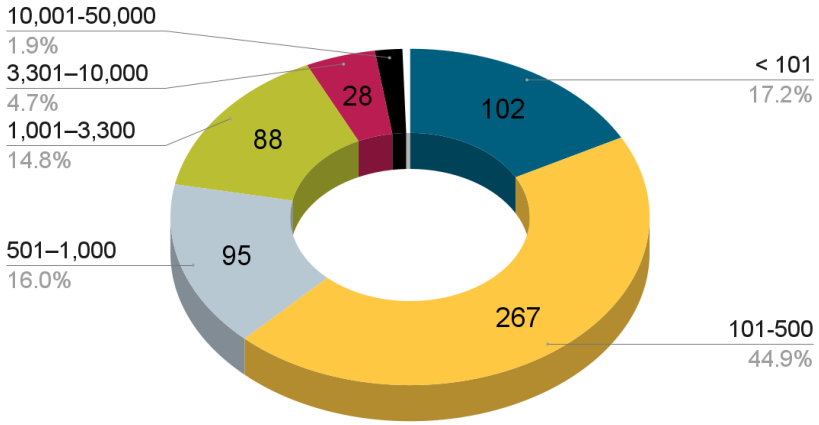


Community Water Systems in Nebraska

By definition, municipal or community water systems serve water to the same residential population on a year-round basis. In general, CWSs hold the greatest public health responsibilities and are regulated to a much greater extent than NTNCs or TNCs. This can be explained by the increased frequency and duration of a population's potential exposure to a CWSs drinking water relative to the other types of PWSs.

EPA categorizes CWSs with average daily populations below 3,300 consumers "small systems," and has begun incorporating differences between "small systems" and larger PWSs by introducing more flexibility into new regulation and funneling financial assistance directly to these small CWSs. Nebraska is

Figure 6. Count & Percent of CWS by Population Category, NE, 2024



considered a "small system" state with 93% of the State's CWSs serving 3,300 or fewer people.

Moreover, 62% of Nebraska's CWSs serve daily populations less than 500 consumers. Nebraska's smallest communities face greater challenges than larger CWSs in meeting SDWA requirements. A rural village's certified water operator may be the only individual in responsible charge of operation and maintenance of multiple public works, while our biggest cities are able to hire teams of water operators.

Public Drinking Water Sources

Figure 7 demonstrates that most PWSs in Nebraska utilize groundwater wells. Out of 1,329 total public water systems in Nebraska, 1,227 of these (92%) use groundwater. There are 68 PWSs that use surface water (5%); only 5 PWSs have their own surface water intake, while the remaining 63 purchase surface water from one of these. Similarly, 34 PWSs utilize GWUDI wells (3%); 6 PWSs have their own GWUDI wells and sell water to the 27 purchasing GWUDI PWSs.

PWS with a Surface Water Intake

- City of Beaver Lake
- City of Blair
- Cedar-Knox Rural Water System
- City of Chadron
- Metropolitan Utilities District

PWS with GWUDI wells

- City of Auburn
- City of Crawford
- City of Fairbury
- City of Kearney
- Lincoln Water System
- City of Nebraska City

Figure 7. Proportion of PWS by Source Type, Nebraska, 2024

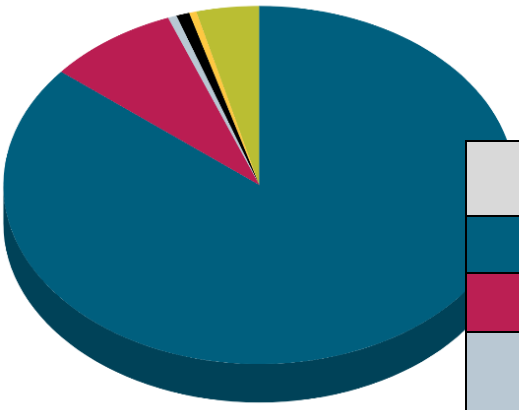


Table 2. Proportion of PWS by Source Water Type, Nebraska, 2024

Source Type	# PWSs	% PWSs
Ground Water	932	85.9%
Purchase Ground Water	90	8.3%
Ground Water Under the Direct Influence of Surface Water	6	0.6%
Purchase GWUDI	9	0.8%
Surface Water	5	0.5%
Purchase Surface Water	43	4.0%

Figures 8 and 9 demonstrate the final important point about Nebraska's communities. The population served daily in Nebraska CWSs utilizing ground water is just slightly less than the daily CWS populations served by surface water. This is the case even though over 95% of CWSs in Nebraska utilize ground water, while only 3% utilize surface water. This can again be

attributed to City of Omaha's Metropolitan Utilities District which utilizes surface water and sells water to over 40 other PWSs. The similar relatively high population served by GWUDI CWSs is due to City of Lincoln's water system and their purchasing PWSs.

Figure 8. Proportion of Community Water Systems by Source Water Type, Nebraska, 2024

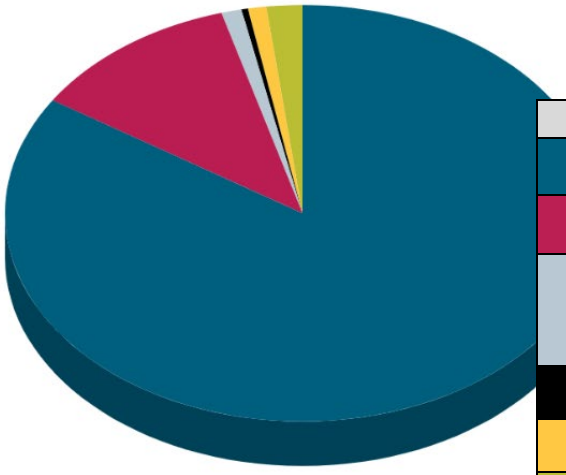


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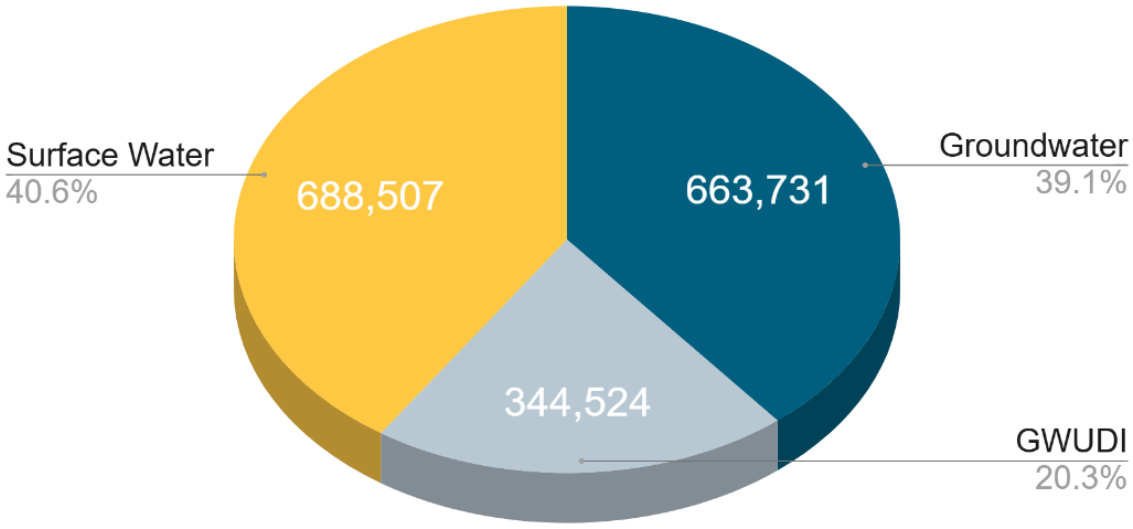
Table 3. Proportion of CWS by Source Water Type, Nebraska, 2024

	Source Type	% CWSs
	Ground Water	84.2%
	Purchase Ground Water	11.5%
	Ground Water Under the Direct Influence of Surface Water	1.1%
	Purchase GWUDI	0.35%
	Surface Water	1.0%
	Purchase Surface Water	1.95%

Figure 9. Community Water System Population Served by Source Water Type, Nebraska, 2024



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.

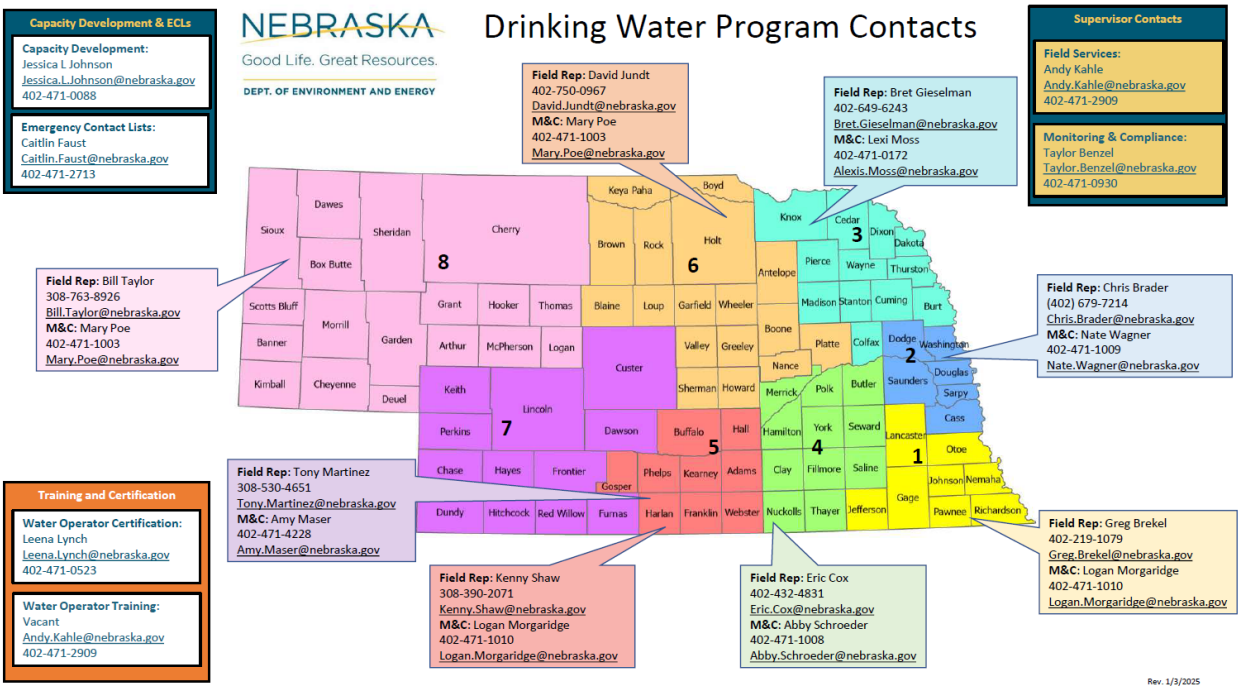
Drinking Water Field Services, Water Operator Training, and Capacity Development

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.

Figure 10. Drinking Water Program Contacts, Nebraska, 2024



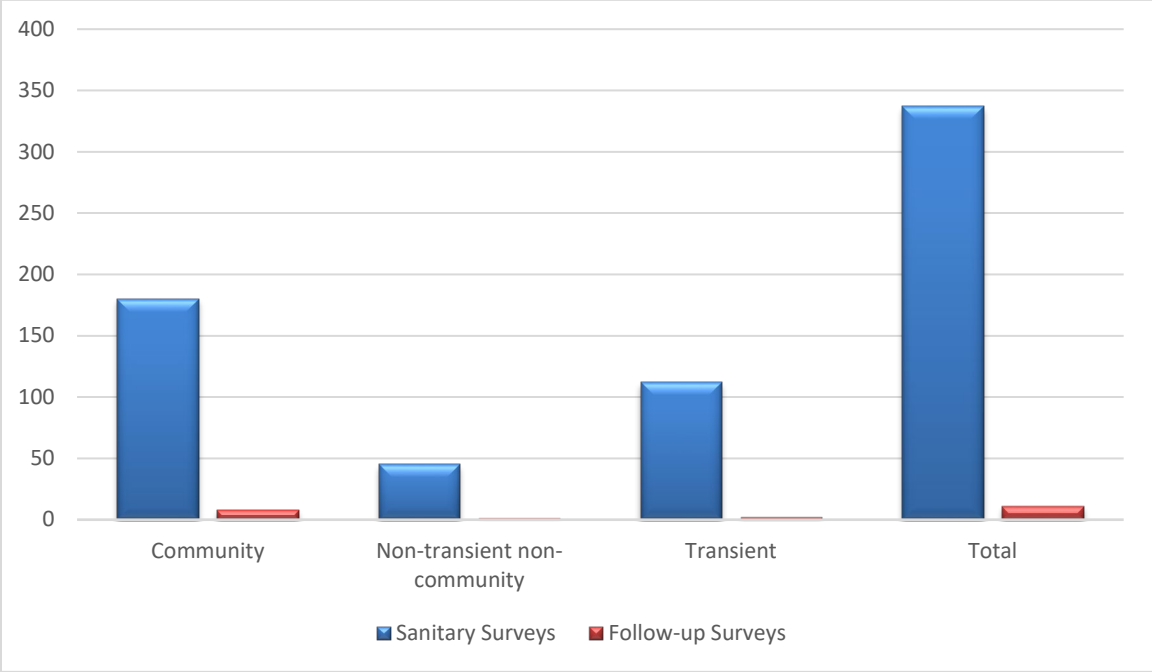
Sanitary Surveys

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 337 sanitary surveys (180 community, 45 non-transient non-community, and 112 transient public water systems) and 11 follow-up surveys (8 community, 1 non-transient non-community, and 2 transient public water systems). A total of 533 deficiencies were found in 2024. This reflects an overall deficiency rate of 1.6 deficiencies per sanitary survey in 2024. No deficiencies were found in 171 (50%) of the sanitary surveys completed in 2024. The average number of deficiencies found in Nebraska's public water systems remained stable from 2021 to 2024, 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.

Figure 11. Count of Routine and Follow-Up Sanitary Surveys by Type of PWS, Nebraska, 2024



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.

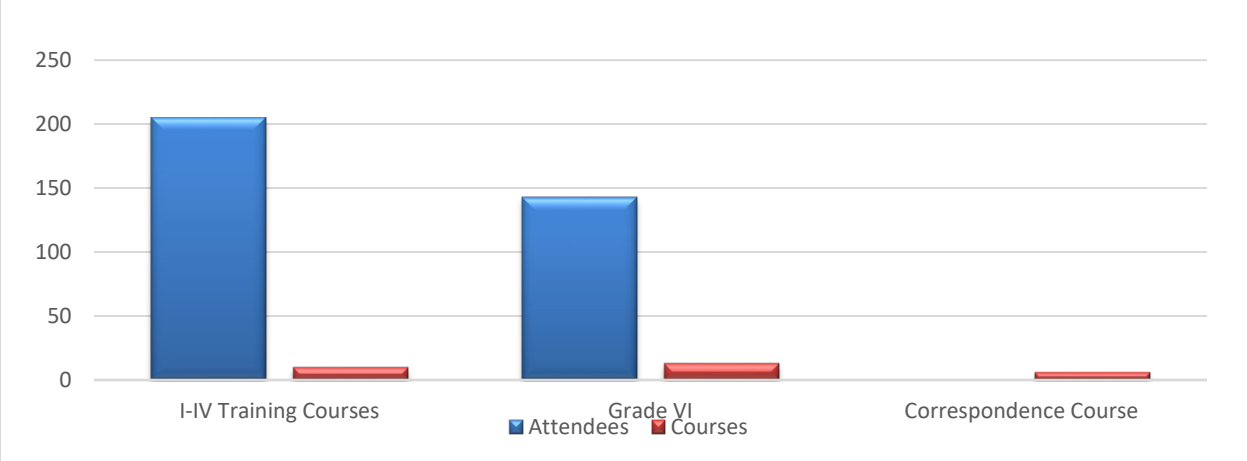
Hypochlorinators

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.

Water Operator Training

Field Services and Training program personnel conducted 10 water operator training courses, Grades I through IV, with a total of 205 attendees. An additional 6 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), 13 courses were offered with a total of 143 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.

Figure 12. Count of Water Operator Training Courses and attendees by Type of Course, 2024

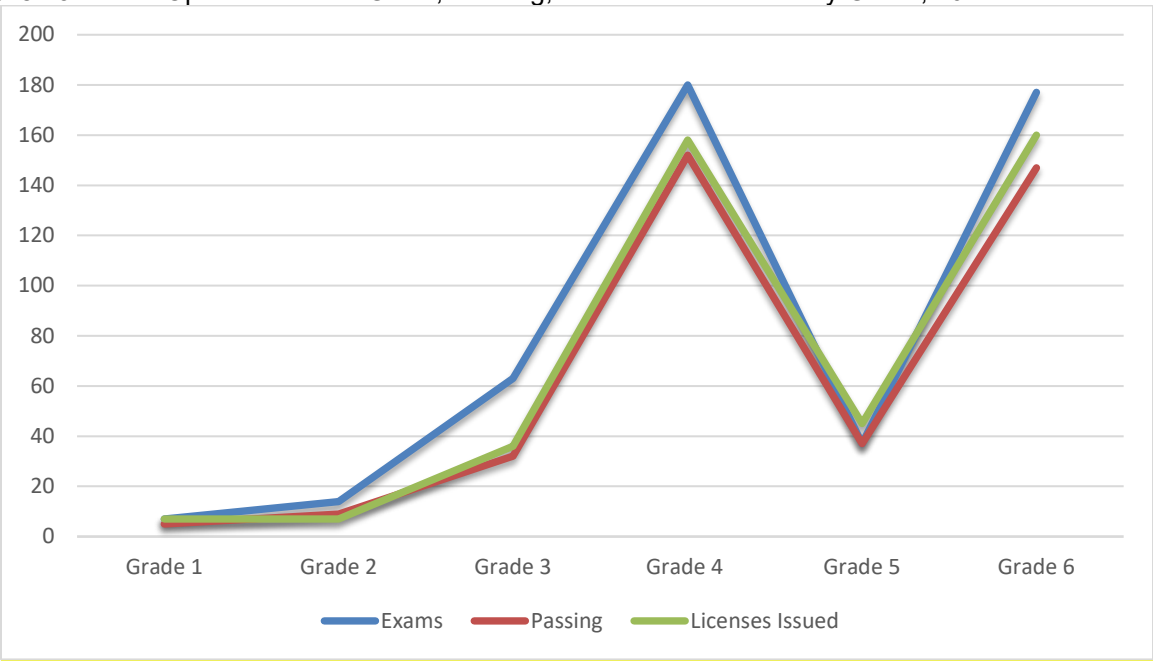


The following table breaks down the number of initial licenses issued, and examinations conducted at each grade level:

Table 4. Water Operator Examinations Given, Passing Scores, and Licenses Issued by Grade, 2024

Grade	Examinations	Passing	Number of Licenses Issued
I	7	5	7
II	14	9	7
III	63	32	36
IV	180	152	158
V	37	37	45
VI	177	147	160

Figure 13. Water Operator Exams Given, Passing, and Licenses Issued by Grade, 2024



Coordinated by the program, a group informally known as the Water Operator Training Coalition, met to identify training needs and to assist with scheduling training opportunities. Members include the Nebraska Rural Water Association, the League of Nebraska Municipalities, the Midwest Assistance Program, Central Community College, and the Nebraska Section of the American Water Works Association. In 2024, 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 73 workshops/seminars/conferences were initially offered in Nebraska for the purpose of water operator continuing education. Of these, 19 focused primarily on backflow prevention continuing education for Grade VI operators.

Capacity Development

Capacity development is a proactive approach, through which PWSs acquire and maintain adequate technical, managerial, and financial (TMF) capabilities, enabling them to provide safe drinking water to Nebraskans.

States must develop and implement a strategy to assist PWSs in acquiring and maintaining TMF capacity. America's Water Infrastructure Act of 2018 required states to amend their strategies to include efforts encouraging PWSs 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.

DWEE's activities to bolster PWS's 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 consists 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 PWSs serving 10,000 people or less to develop and maintain TMF capacity. DWEE contracts with professional associations, non-governmental organizations, universities, and others to provide this assistance. In 2021, DWEE initiated a process to restructure the contractual agreements by which assistance is provided to PWSs, 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 TMF assistance to aid in achieving/maintaining regulatory compliance and PWS capacity.

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

> **Regional Workshops:** These workshops are conducted throughout the state, with the goal to educate owners of PWSs about their responsibilities and provide resources to accompany that education goal. The workshops include practical exercises for TMF capacity building, including rate setting, capital reserves, and asset management. The regional approach enables representatives from multiple PWSs the ability to attend and participate in discussions with each other. There were 7 regional workshops held in 2024, with representatives from 20 different PWSs in attendance.
>
> **Individual System Trainings:** Trainings for individual PWSs cover the same elements as the workshops but also emphasize the particular needs of that PWS. These training

courses are conducted at the request of the PWS, or as a required element of an Administrative Order (AO) issued by the Department to address on-going compliance issues. No AOs were issued in 2024 nor the year prior, therefore no Individual System Trainings were conducted.

Lead Service Line Inventory Assistance: EPA's Lead and Copper Rule Revision requires PWSs 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 PWSs, 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 186 PWSs in 2024. This does include 66 that were listed in the 2023 annual report.

Compliance & Capacity Assistance: The purpose of this contract is to aid PWSs in achieving/maintaining compliance with the SDWA and regulations promulgated under the SDWA, 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 PWSs have the knowledge and preparation needed for a successful RSS. 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 PWSs that receive deficiencies from the RSS. There were 31 PWS that received assistance preparing for an RSS in 2024.

New operator hands-on training and mentoring. Many newly licensed operators are hired by very small CWS without other operators for orientation and support. Likewise, operators hired for non-community PWSs 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 a PWS, and regulatory compliance. Assistance was provided to 25 PWSs with new operators in 2024.

Technical, Managerial, and Financial (TMF) Assistance. Individualized assistance is often needed to build the capacity of PWSs. This element of the contract covers requests by PWSs, and DWEE, 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 PWS to become sustainable. Assistance provided by this component is, depending on the situation, and will be done as a supporting role to ensure the PWSs obtain needed understanding and skill. In 2024 11 PWSs received assistance under this component.

Capacity Assessment

Assessment of a PWSs technical capacity is primarily addressed through the RSS process. In the past, the RSS also included a very brief, high-level assessment of managerial and financial capacity. A much more thorough assessment was conducted of PWSs 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 RSS, and the DWSRF loan process. The required form is sent out several weeks prior to an RSS for all CWS and NTNC PWSs. Capacity surveys are to be completed by board members or owners, with input from other PWS 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 CWS and NTNC PWSs. If a survey isn't on file when a PWS applies for a DWSRF loan, the DWSRF program sends the required form as part of the application.

Completed capacity surveys are scored based on the answers provided to the survey questions. PWSs with a score of 70% or higher, are considered to be demonstrating stronger capacity. A PWS with a population of 10,000 or less, regardless of score, may request assistance and be referred to the appropriate 2% contractor. A PWS serving a population of 10,000 or less, that scores below 70%, is offered assistance from the appropriate 2% contractor.

Education and Outreach

The Capacity Development Coordinator also conducts education and outreach at various conferences and workshops across the state. In-person outreach and training regarding capacity development is also provided by other DWEE Drinking Water team members, as well as Training Coalition partners. There has been a push to include topics related to cyber security when conducting education and outreach.

Engineering Section

The Nebraska SDWA and regulations adopted thereunder require that plans and specifications for all major construction related to PWSs 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.

PWS 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 PWS 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.

DWEE received 185 sets of plans and specifications for the construction of water projects for review and approval. In addition, engineering staff conducted 110 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, PWSs can enter into a 3-year agreement to construct water distribution main projects without having to submit plans and specifications to DWEE for review and approval. These PWSs are subject to an annual audit by the Engineering Section as a condition of the agreement. In 2024, 10 annual audits were completed and as of December 31, 2024, a total of 24 PWSs have entered into 3-year agreements with the DWEE.

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 7 new well site justifications were reviewed and 7 of these were approved. In addition, the engineering staff worked with DWEE and city officials to evaluate encroachment issues that may be of concern to existing public drinking water wells. There were 6 encroachment related issues evaluated and resolved. In addition, 5 operation and maintenance manuals for DWSRF projects were reviewed.

Table 5. Summary of Engineering Section Activities January 1 – December 31, 2024, Nebraska

ACTIVITIES	NUMBER
Water Projects Received for Review and Approval	185
Water Projects Inspected	110
Engineering Reports for Water System Improvements Evaluated	13
New Water Well Sites Evaluated	7
Common Pre-Applications for Water/Wastewater Projects for Federal and State Financial Assistance Reviewed	11
Operation and Maintenance Manuals for Drinking Water State Revolving Loan Funded Projects Reviewed	5
Three-Year Agreements for Distribution Main Projects—Annual Audits Completed	10
Encroachment Issues	6

Figure 14. Count of Drinking Water Plans Reviewed and Projects Inspected by Engineering Team, Nebraska, 2013- 2024

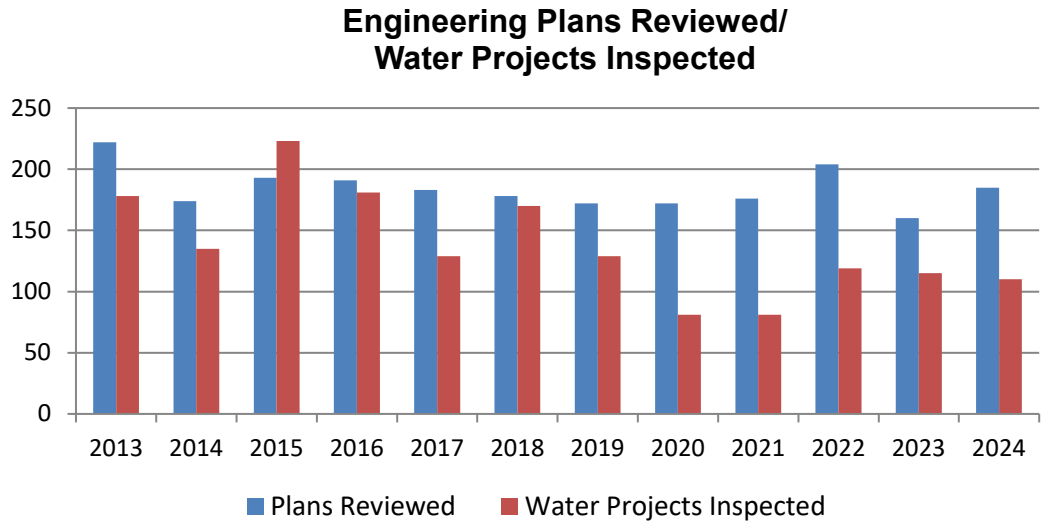
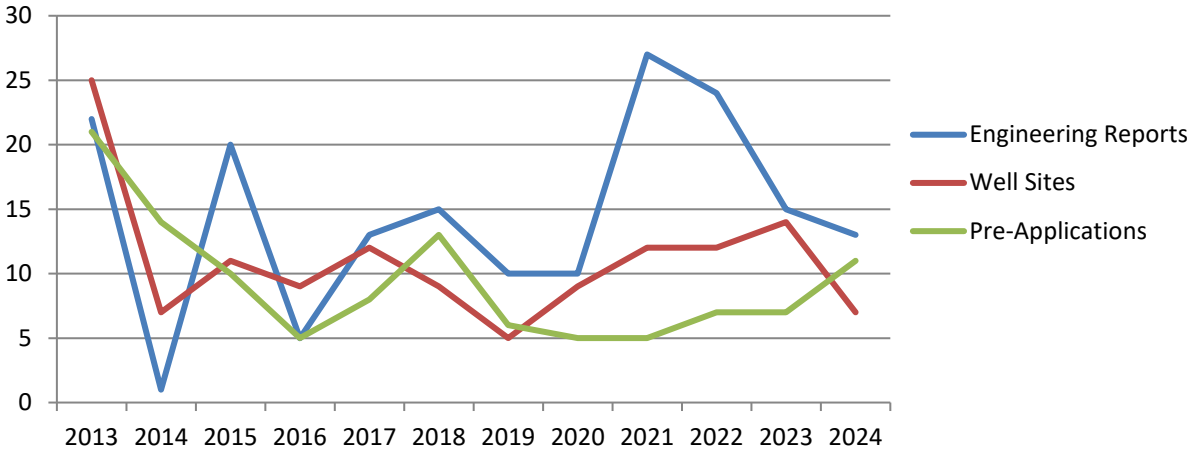


Figure 15. Count of Engineering Reports, Well Sites, and Funding Pre-Applications Reviewed by the Engineering Team, DWEE, 2013-2024



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 DWEE 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 in 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 SDWA. 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 DWEE 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, DWEE 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.

Monitoring & Compliance

The Monitoring and Compliance (M&C) team supports Nebraska's Drinking Water Program by overseeing all SDWA compliance activities. Core functions of the M&C team include:

- Developing and maintaining Nebraska's drinking water regulations;
- Maintaining an up-to-date inventory of all PWSs in the state;
- Managing the state's Safe Drinking Water Information System (SDWIS) database
- Providing technical assistance to PWS operators and managers;
- Ensuring that PWSs inform consumers about their drinking water quality;
- Enforcing regulatory requirements to ensure PWS compliance with state and federal laws.

National Primary Drinking Water Regulations (Rules)

The U.S. EPA has established regulation for more than 90 drinking water contaminants based on how they impact human health — either **acutely** or **chronically** — and this distinction shapes how monitoring and enforcement requirements are designed under the SDWA.

Acute Contaminants

- **Health Effects:** Cause illness or health impacts quickly, often within hours or days of exposure. MCLs set to be protective of the most vulnerable populations.
- **At-Risk Populations:** Particularly dangerous for sensitive groups such as infants, elderly individuals, and people with weakened immune systems.
- **Examples:** Nitrate-nitrite (Nitrate Rule), *E. coli* (Revised Total Coliform Rule)
- **Regulatory Approach:** Due to immediate risk to health

- Regulations pertain to all PWS types (i.e., CWS, NTNC, TNC).
- Required sampling generally higher frequency (i.e., monthly or quarterly).
- MCL violations typically trigger rapid public notification (e.g., within 24 hours).

Chronic Contaminants

- **Health Effects:** Cause illness over time — MCLs set based on risk to health after drinking 1 liter of water per day from the same source for 70 years.
- **At-Risk Populations:** All populations, particularly with prolonged consumption.
- **Examples:** Arsenic (Arsenic Rule), uranium (Radionuclide Rule), atrazine (Synthetic Organic Contaminants Rule), selenium (Inorganic Contaminants Rule)
- **Regulatory Approach:**
  - TNCs are typically excluded from these regulations, only CWS and NTNC PWSs risk sustained consumer exposure to one source of drinking water.
  - Required water quality sampling routinely scheduled for every 3 years.
  - Public notification is still an important aspect of chronic contaminant rules, but PWSs typically have longer timeframes to complete PN (e.g., within 30 days).

Alongside the contaminant rules, the "right-to-know" rules for Public Notification (PN) and Consumer Confidence Reports (CCR) establish public notification and education requirements for all previously established and newly promulgated contaminant rules.

Enforcement & Return to Compliance (RTC)

The most common enforcement actions the Drinking Water Program issues are:

- **MCL Violations**: Issued when a contaminant exceeds its MCL based on monitoring results.
- **Monitoring & Reporting (M/R) Violations**: Issued when a PWS fails to collect required samples or submit required reports within specified timeframes (e.g., monthly, quarterly, annually).
- **Treatment Technique (TT) Violations**: Issued when a PWS fails to follow prescribed treatment processes (e.g., corrosion control, disinfection).
- **Administrative Orders (AO)**: Issued when violations are ongoing or when serious risks to public health persist. Establishes the requirement for a PWS to permanently RTC within 3 years of the AO.

To return to compliance, typically the PWS must notify the public of the situation, and take actions to correct the cause of the violation. The path to RTC can take anywhere from a few days to several years depending on the cause of the non-compliance.

Safe Drinking Water Information System (SDWIS)

SDWIS is a database developed by EPA for States to record and archive PWS data including:

- System inventory and classification;

- Water quality sample results;
- Operator certification and system permit statuses;
- Violations and enforcement actions.

Analytical results are submitted daily to SDWIS by the Nebraska Public Health Environmental Laboratory and its 4 certified contract laboratories. Most information in SDWIS is public and accessible via Nebraska's Drinking Water Watch website.

Bacteria (E. coli) & Nitrate Compliance

Updating the original 1989 Total Coliform Rule, the Revised Total Coliform Rule (RTCR) took effect in 2016, and was developed to strengthen public health protections by establishing a "find and fix" approach to correct sanitary defects identified as part of the RTCR treatment technique requirements.

The rule uses **total coliform bacteria**—a group of mostly harmless organisms—as **indicator organisms** to signal possible sanitary defects, since coliforms are common in the environment and in the intestines of warm-blooded animals but **should not be present in a properly maintained and sealed water system**.

If total coliform bacteria is found to be present in a PWS during routine monitoring, the RTCR established a TT requirement for the PWS to assess the potential cause or source of the bacterial contamination. RTCR assessments are described in further detail in the section for the Field Services team, who assists PWSs in conducting assessments.

The RTCR set an MCL of 1 colony for *E. coli* bacteria, a specific type of coliform that indicates fecal contamination and presents an acute health risk. When *E. coli* presence is confirmed in a PWS, a Boil Water Order is hand-delivered to every customer within 24 hours. Customers are instructed to continue boiling water prior to use until the cause of the contamination is rectified and sampling results are *E. coli* negative.

The RTCR also established a new PWS designation for regulatory purposes: **seasonal systems** are PWSs are not open year-round and depressurize (winterize) their groundwater well(s) after closing for the season. Most campgrounds in Nebraska are seasonal systems and are required to flush the system and sample for coliform prior to serving water each year. In 2024, there were 2 campgrounds that failed to do this and received TT Start-Up Procedure violations.

Table 6. Count of RTCR Assessments Issued and Count of Assessed PWSs

Type of Assessment	# Assessments	Number of Systems
Level 1	104	104 (7.8%)
Level 2	87	64 (4.8%)
Level 2 with *E. coli* MCL	18	17 (1.3%)

Table 7. Count of RTCR Violations Issued, Violations Resolved, and PWSs in Violation, 2024

Violation Type	# Violations	# Resolved	# PWS in Violation
E. coli MCL	18	18	17 (1.3%)
Monitoring	103	45	61 (3.1%)
TT Start-Up Procedure	2	2	0.15%

The Nitrate MCL of 10 mg/L became final in 1992 and requires all PWSs to monitor their drinking water source either quarterly or annually. Nitrate is an acute contaminant with the ability to cause Methemoglobinemia or "blue baby syndrome."

Table 8 reports the number of MCL and monitoring violations issued for nitrate-nitrite monitoring in 2024. When a PWS receives a nitrate MCL violation, public notification must be hand-delivered within 24 hours to every customer alerting them of the acute health risk. The Nitrate-Nitrite Rule is the only drinking water regulation that requires alternate water be made available to susceptible populations served by the PWS.

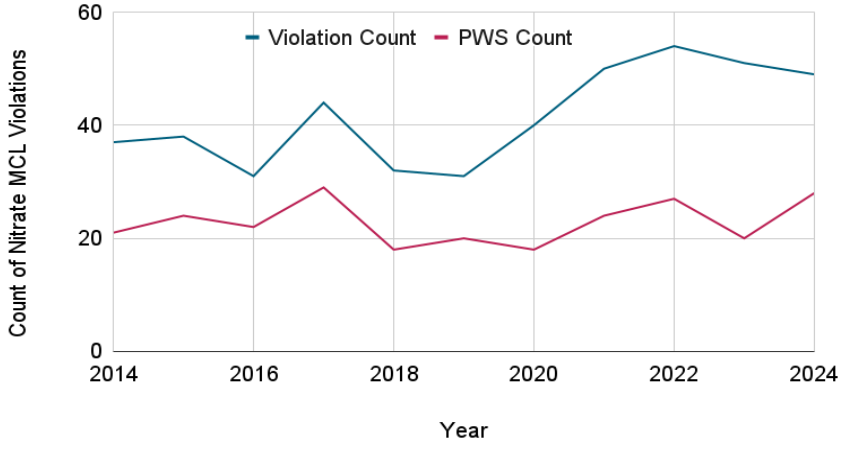
If a PWS exceeds the nitrate MCL in 2/3 rolling quarters, DWEE issues an AO. Typically, this means that the PWS is referred to the DWSRF program for financial assistance to either complete a regionalization project or dig a new ground water well. At the beginning of 2024, there were 9 active nitrate AOs in Nebraska, during the year 2 PWSs returned to compliance with the nitrate MCL.

Table 8. Count of Nitrate-Nitrite Violations Issued, Violations Resolved, and PWSs in Violation, 2024

Violation	# Violations	# Resolved Violations	# (%) PWS in Violation
MCL	49	25	28 (2.1%)
Monitoring	37	19	22 (1.7%)

Figure 15 demonstrates the number of nitrate MCL violations and count of PWSs in violation from 2014 – 2024. In 2024, as part of ongoing efforts to combat Nebraska's nitrate contaminated ground water, DWEE published a Nitrate Study which established a resource prioritization framework for community assistance in those rural areas affected most.

Figure 15. Count of Nitrate MCL Violations Issued and PWS in Violation, Nebraska, 2014-2024



Chronic Contaminant Violations

Tables 9 and 10 list the remainder of the MCL/TT and M/R violations incurred by Nebraska PWSs in 2024.

There were 5 PWSs who received 10 arsenic MCL violations issued in Nebraska last year.

Table 9. Count of Chronic Contaminant MCL Violations Issued, Violations Resolved, and PWSs in Violation by Contaminant Name, Nebraska, 2024

Contaminant	MCL	# MCL Violations	# RTC	# PWS in Violation
Arsenic	10 ug/L	10	2	5 (0.38%)
Uranium	30 ug/L	12	0	2 (0.15%)
Total Tri-halomethanes	80 ug/L	1	0	1 (0.08%)

Table 10. Count of Chronic Contaminant Monitoring Violations Issued, Violations Resolved, and PWSs in Violation by Contaminant Name, Nebraska, 2024

Contaminants	# Monitoring Violations	# RTC	# PWS in Violation
Lead & Copper	41	10	40 (3.0%)
Synthetic Organic Chemicals	1	0	1 (0.08%)
Turbidity	1	0	1 (0.08%)

Attachment B lists chronic contaminants and their MCLs regulated under the SDWA, and Attachment C contains all DWEE drinking water violations tables from 2024 which outline violation by regulated contaminant.

"Right-to-Know" Rule Violations

Table 11 lists count of Public Notice Rule and the Consumer Confidence Report Rule violations in Nebraska in 2024.

PN violations are issued when a PWS fails to deliver PN to consumers on time, or if their distributed notices don't contain required language. There were 5 PWSs in Nebraska that received a total of 26 PN violations in 2024.

The CCR Rule applies only to CWS, who are required to distribute an annual water quality report to their population served. CCR Rule violations are issued when a CWS fails to deliver this report or include all required elements of the report.

Table 11. Count of PN and CCR Rule Violations Issued, Violations Resolved, and PWSs in Violation, Nebraska, 2024

Rule Violation	# Violations	# RTC	# PWSs in Violation
Public Notice	26	7	5
Consumer Confidence Report	2	2	2

Lead & Copper Rule Revision (LCRR) Violations

DWEE is currently under a primacy extension agreement with the EPA for LCRR enforcement, which took effect October 16, 2024. Most of LCRR was replaced with the updated Lead and Copper Rule Improvements (LCRI), which will take effect in 2029.

However, for LCRR, nearly all CWS and NTNC PWSs (about 720 PWSs) were required to submit a lead service line inventory (LSLI) no later than October 16, 2024. There were 169 PWSs who failed to submit a LSLI on time, and received an LCRR Reporting Violation.

While only 2 of these PWSs were able to submit an LSLI and RTC before the end of 2024. DWEE and EPA are working with the remaining PWSs to submit an LSLI as soon as possible.

Administrative Orders 2024

During 2024, there were 14 active administrative orders on Nebraska's PWSs. There were zero new AOs issued and two AOs were returned to compliance with the SDWA.

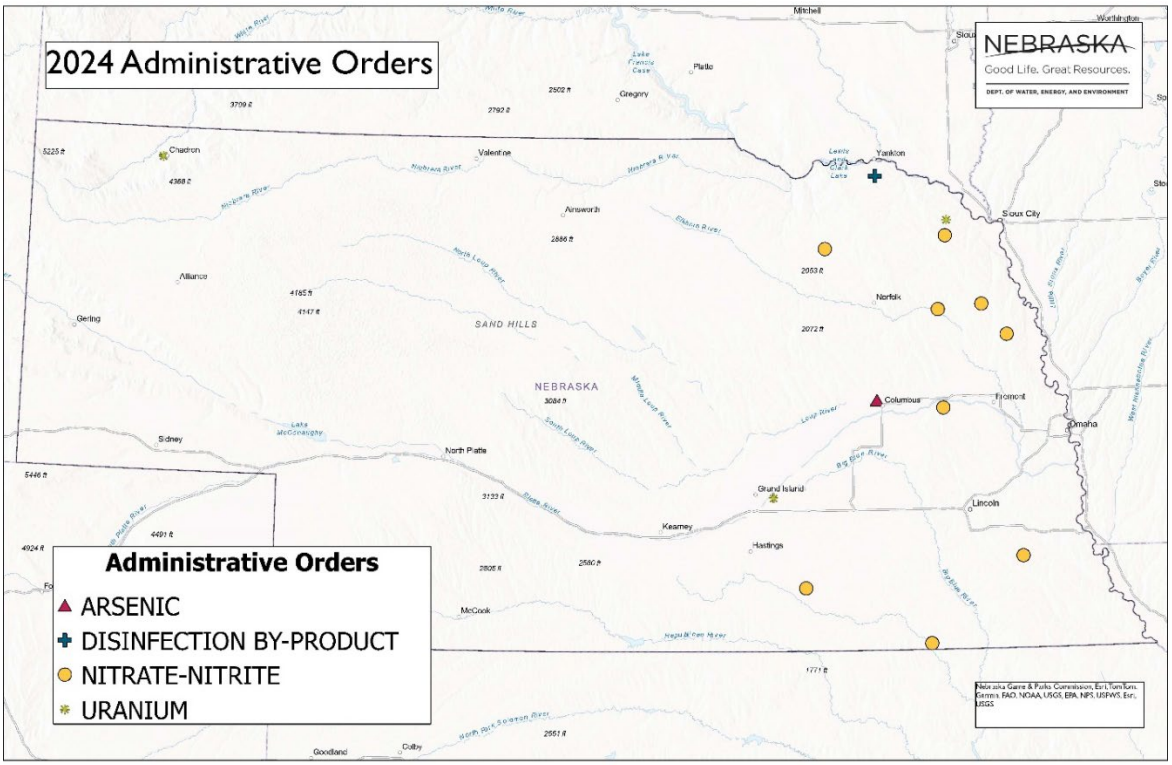
Table 12. Count of Active, Issued, and Closed AOs by Contaminant, Nebraska, 2024

	TTHM	Nitrate	Uranium	Arsenic
Active	1	9	3	1
Issued	0	0	0	0
Closed	0	2	0	0

The Village of Edgar was issued a nitrate AO on July 20, 2016, and chose to construct an interconnection to the Village of Fairfield, who supplies low nitrate water to blend with Edgar's existing high nitrate groundwater wells to ensure tap water nitrate concentrations are diluted below 10 mg/L.

The Village of Bancroft was issued a nitrate AO January 25, 2021. On May 24, 2024 the community placed the contaminated well on emergency use status and were returned to compliance.

Figure 16. Geographical Distribution of Administrative Orders by Contaminant, Nebraska, 2024



Variances and Exemptions

No variances or exemptions were issued in 2024.

Nebraska Public Health Environmental Laboratory (NPHEL)

2024 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 are dedicated to making sure Nebraskans are provided accurate and timely water results.

NPHEL tested over 66,000 samples in CY2024 which amounted to a 1% increase from the previous year. Approximately 54.5% of the laboratory's tests are for public water systems across the state which is a decrease of 2% from the year before. Around 30.4% of the lab's testing was performed for the Nebraska Department of Environment and Energy, primarily in their Water Quality Division with 8.3% of that total primarily for the nitrate study. Private customers accounted for about 13.6% of the load which is a 1.4% decrease. The metals load decreased another 17.4% while blood alcohols increased another 4.3% from the previous year. Total coliform accounts for about 32.3% of the laboratory tests which was a decrease of 1.9% 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 2024, 3.7% of them were rejected due to excessive age upon receipt which reflects an increase of 1.9%. The drinking water program and

the lab are investigating other courier services to combat the slowness of current avenues and that information will be relayed to clients.

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

Number of Tests Done

Test Type	2024	2023	2022	2021	2020	2019
Total Coliform/E.coli	21388	21628	20,945	21,390	22,015	24,088
Nitrate	12,241	9,362	8,256	8,203	7,684	8,033
Lead/Copper	5,780	6,806	7,941	7,868	6,912	6,055
VOCs (Volatile Organic Compounds)	804	887	877	876	988	968
Pesticides (EPA 525)	590	457	732	682	513	745
Uranium (mass)	436	535	760	456	559	506
Arsenic	736	916	1042	854	667	775
Blood Alcohol	799	766	701	858	795	709
Chloride	2,317	2,300	2,374	2,565	2,252	2,381
Lead	3,187	3,855	4,346	4,524	3,471	3,072
Total Suspended Solids	2,453	2,547	3,032	3,181	2,356	2560

*All metals were subcontracted starting in July 2023 through all of 2024 due to staffing issue. Some of the minerals were kept in-house for part of 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.

Drinking Water Program Contacts

General Drinking Water Program Contact Information:

Telephone: 402-471-2186

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2024 Drinking Water State Revolving Fund Annual Report

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Lincoln, NE 68502

To Obtain a Copy of the 2024 Public Water System Supervision Program Report

As required by the SDWA the State of Nebraska has made the 2024 Annual Public Water System Supervision Program report available to the public. Interested individuals can obtain a copy by contacting the Drinking Water Program at:

Telephone: 402-471-2186

E-Mail: drinkingwater@nebraska.gov

Address: 245 Fallbrook Blvd Suite 100
P.O. Box 98922
Lincoln, NE 68509-8922

This report can also be accessed online at:

URL

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

Additional Resources

Drinking Water Watch
https://drinkingwater.ne.gov/
Provides information on PWSs water quality monitoring data, violations, and infrastructure

Public Records Search
https://ecmp.nebraska.gov/PublicAccess/index.html?MyQueryID=340
Search any PWSs NE# (PWS ID number) and access all public records for that PWS.

EPA's SDWIS Search
https://www.epa.gov/enviro/sdwis-search
Provides information on individual PWSs violations and enforcement history for the past 10 years.

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APPENDIX 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 DWEE 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 DWEE 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.

APPENDIX 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

APPENDIX C

Drinking Water Violations Tables

Volatile Organic Chemical (VOC) Violations 2024

(Per the SDWA, only CWS and NTNCs are required to 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%
Fonofos	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%
Terbufos	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 (IOC) Contaminant Violations 2024

(Per the SDWA, only CWS and NTNCs are required to 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	10	0	5	0.38%
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%

Synthetic Organic Chemical (SOC) Contaminants Violations 2024

(Per the SDWA, only CWS and NTNCs are required to monitor for SOCs)

Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems	Systems with Violations
Alachlor (Lasso)	0	1	1	0.08%
Atrazine	0	1	1	0.08%
Benzo[a]pyrene	0	1	1	0.08%
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	1	1	0.08%

Di(2-ethylhexyl) phthalate	0	1	1	0.08%
Dibromochloropropane	0	0	0	0%
Dinoseb	0	0	0	0%
Diquat	0	0	0	0%
Endothall	0	0	0	0%
Endrin	0	1	1	0.08%
Ethylene dibromide	0	0	0	0%
Glyphosate	0	0	0	0%
Heptachlor	0	1	1	0.08%
Heptachlor epoxide	0	1	1	0.08%
Hexachlorobenzene	0	1	1	0.08%
Hexachlorocyclopentadiene	0	1	1	0.08%
Lindane	0	1	1	0.08%
Methoxychlor	0	1	1	0.08%
Pentachlorophenol	0	0	0	0%
Picloram	0	0	0	0%
Polychlorinated biphenyls	0	0	0	0%
Propachlor	0	1	1	0.08%
Simazine	0	1	1	0.08%
Toxaphene	0	0	0	0%

Radionuclide Contaminant Violations 2024

(Per the SDWA, only CWS are required to monitor for radioactive contaminants)

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 Radiation	0	0	0	0%
Uranium	12	0	2	0.15%

Disinfection By-Product Violations 2024

(Only applies to PWSs that inject chlorine.)

Contaminant	Number of MCL Violations	Number of Monitoring Violations	Number of Systems
Total Haloacetic Acids	0	0	0
Total Trihalomethanes	2	0	1

Disinfection Byproducts Monitoring Violations 2024

Violation	# Violations	# Systems
Qualified Operator Failure	0	0
Monitoring	0	0

Disinfectant Residual Violations 2024

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

Lead and Copper Rule Violations 2024

(Per the SWDA, only CWS and NTNC are required to monitor for the Lead and Copper Rule.)

Contaminant	Number of Monitoring Violations	Number of Systems	Systems with Violations
Lead and Copper	34	34	2.6%

Surface Water Treatment Rule Violations 2024

(Applies to PWSs that utilize a surface water drinking water source)

Type of Violation	Number of Violations	Number of Systems
Monitoring	1	1
Record Keeping	0	0
Treatment Technique	0	0

Ground Water Rule 2024

(Applies to PWSs that utilize a ground water drinking water source)

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 2024

	Nitrate	Uranium	Arsenic	TTHM
Orders Issued	0	0	0	0
Active Orders	9	3	1	1
Population Affected	4, 058	493	150	2483