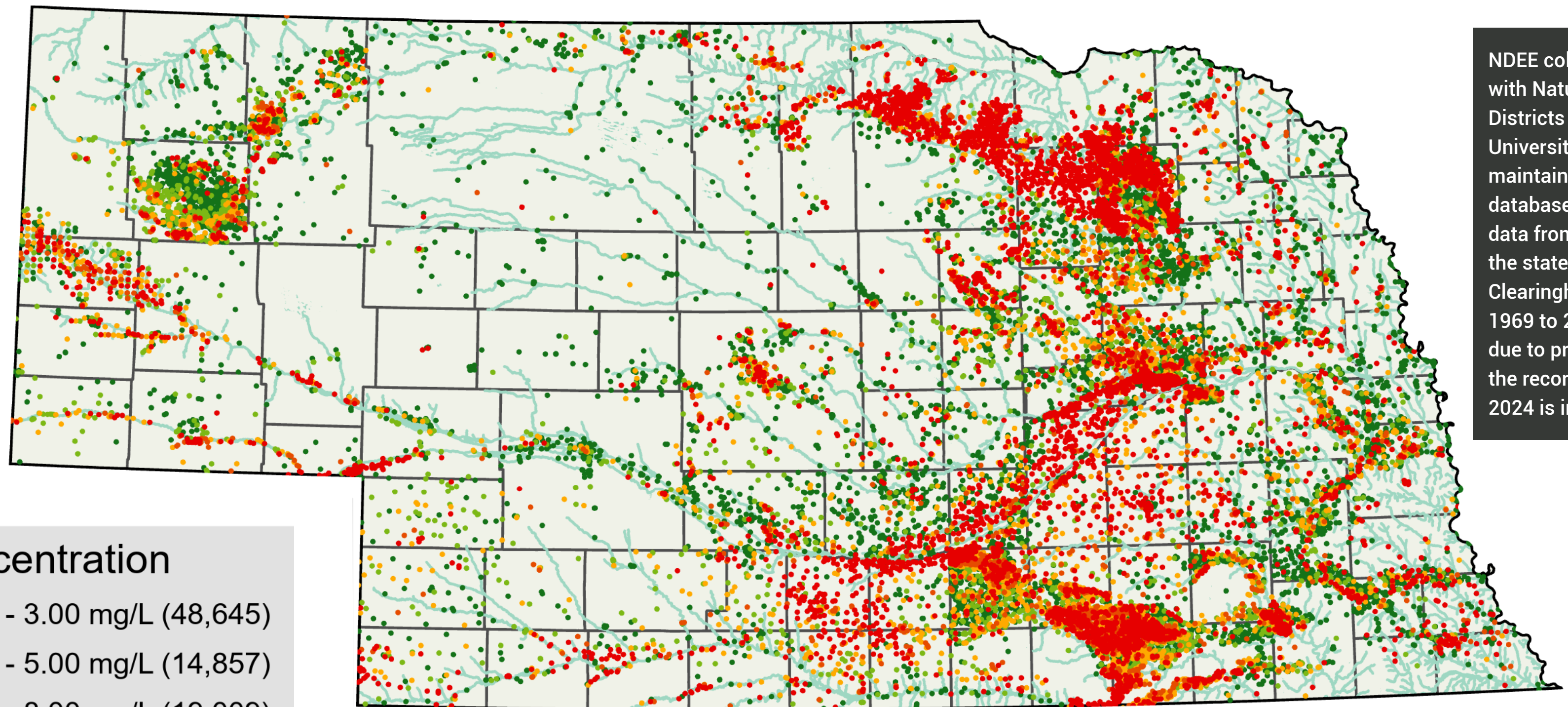


NITRATE IN NEBRASKA GROUNDWATER

119,683 Nitrate Well Samples from the Nebraska Groundwater Quality Clearinghouse: All Well Types 2003-2019



NDEE collaborates with Natural Resource Districts (NRDs) and the University of Nebraska to maintain a Clearinghouse database for water quality data from wells across the state. Data in the Clearinghouse spans 1969 to 2023, however, due to process changes, the record from 2020 to 2024 is incomplete.

Nitrate Concentration

- 0.00 mg/L - 3.00 mg/L (48,645)
- 3.01 mg/L - 5.00 mg/L (14,857)
- 5.01 mg/L - 8.00 mg/L (19,009)
- 8.01 mg/L - 10.00 mg/L (9,892)
- > 10 mg/L (27,550)

Credits: NDEE Drinking Water and Groundwater Division
Name: NAD 1983 State Plane Nebraska FIPS 2,600 Feet
Datum: North American 1983
Projection: Lambert Conformal Conic



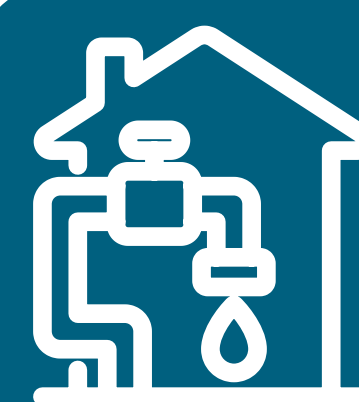
Updates to the Clearinghouse are expected to be completed in 2025 to allow for data collected since 2019 to be submitted.



HIGH NITRATE CONCENTRATIONS ARE FOUND ACROSS NEBRASKA

- ◆ Wells exceeding the Safe Drinking Water Act (SDWA) maximum contaminant level (MCL) for nitrate, 10 milligrams per liter, have been reported since at least the 1940s.
- ◆ Once in groundwater, nitrate can persist for decades.

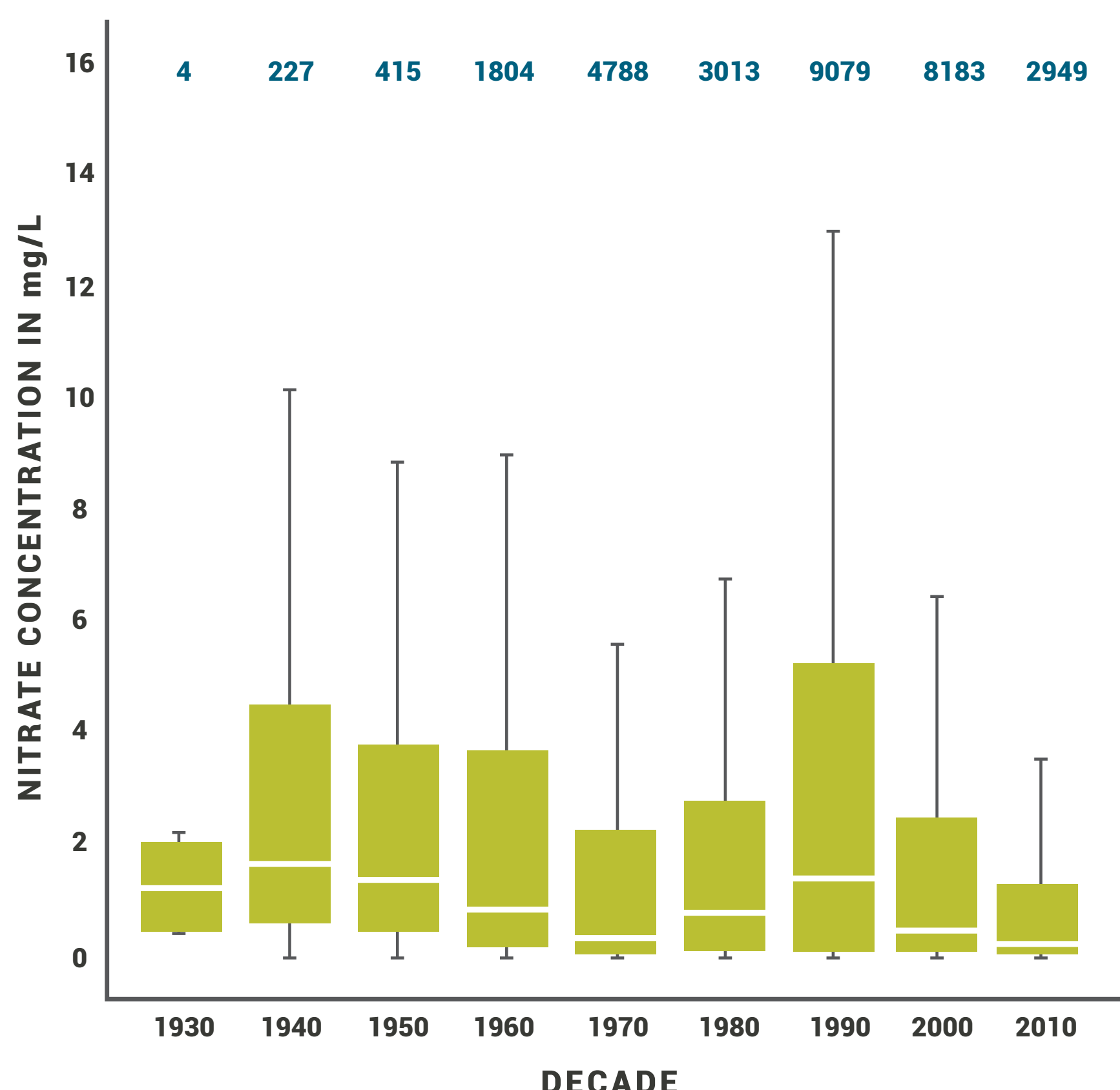
LONG-TERM PLANNING & BEST MANAGEMENT PRACTICES CAN PROTECT AND/OR REMEDIATE GROUNDWATER



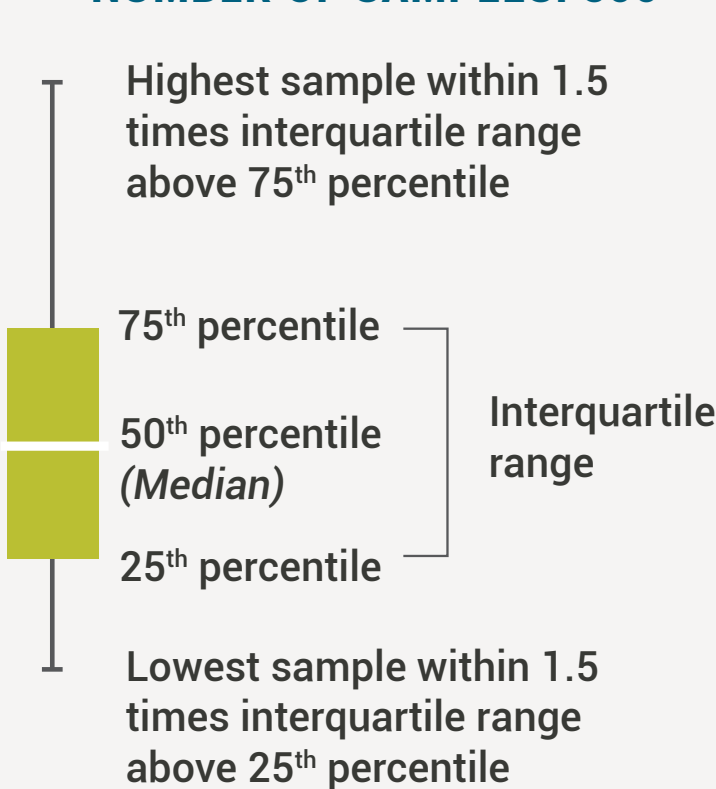
WHAT KIND OF WELLS ARE MOST AT RISK OF NITRATE CONTAMINATION?

- ◆ **Well construction:** Shallow wells (50-feet or less in depth), improperly constructed wells, and pit-wells (where the wellhead is in a sub-surface pit)
- ◆ **Well location:**
 - Wells in sandy soil:** especially in areas with shallow groundwater
 - Wells near potential sources of nitrate:** such as certain industrial facilities, wastewater treatment plants, onsite wastewater treatment like septic systems, particularly failing septic systems, agricultural land, and livestock operations

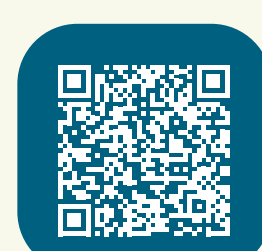
NEBRASKA NITRATE CONCENTRATIONS BY DECADE USGS Monitoring Wells 1930-2019



EXPLANATION NUMBER OF SAMPLES: 500



TO FIND OUT MORE:



History of Nitrate in Groundwater



BMPs for Growers



Nitrate in Public Water Systems



Nebraska Groundwater Clearinghouse



Nitrate in Private Wells



Health Effects