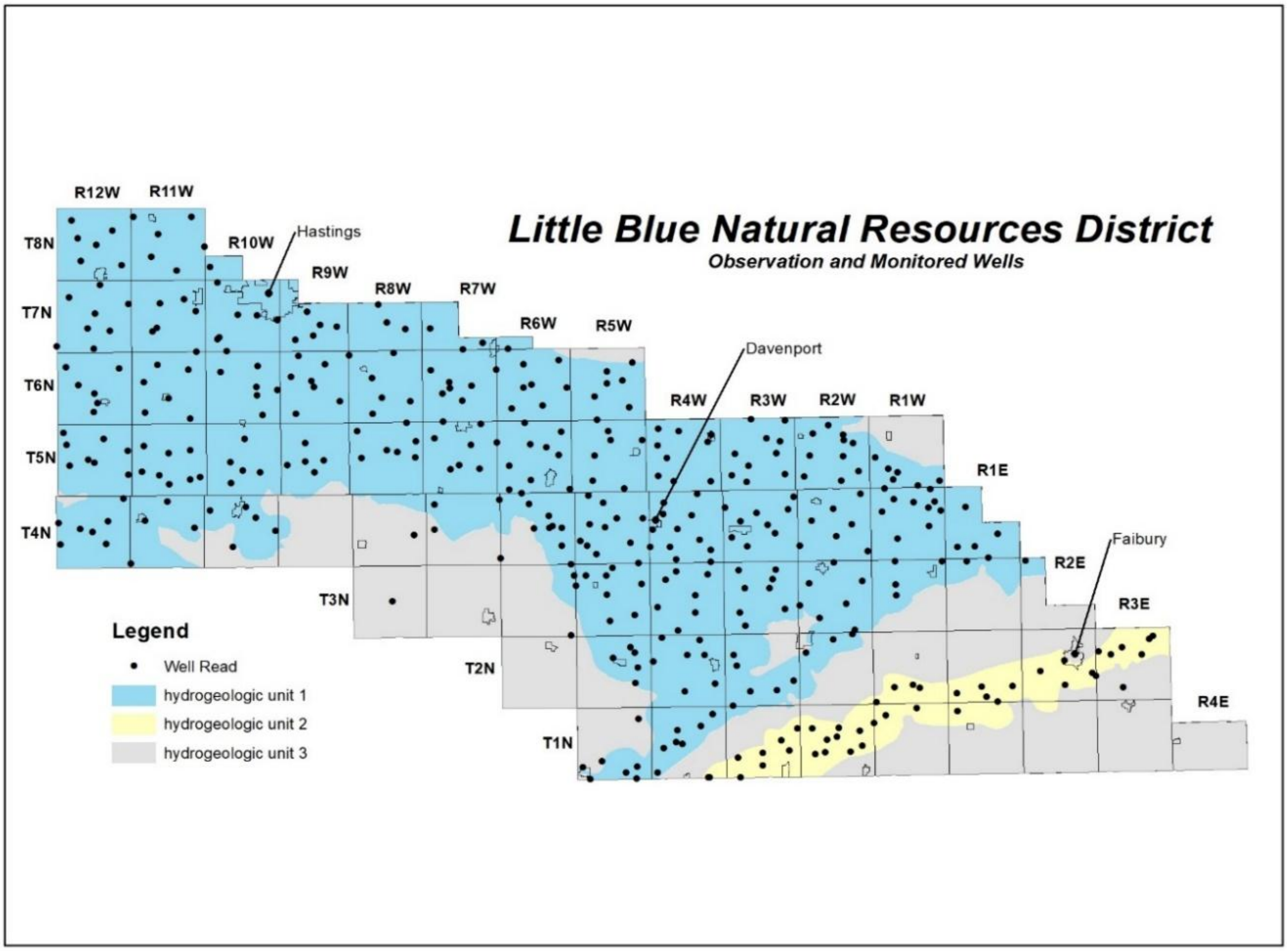
Little Blue Natural Resources District
Blue River Basin Compact Meeting
2024 Annual Report
May 7, 2025 – York, Nebraska

Spring 2023 to Spring 2024 Ground Water Levels

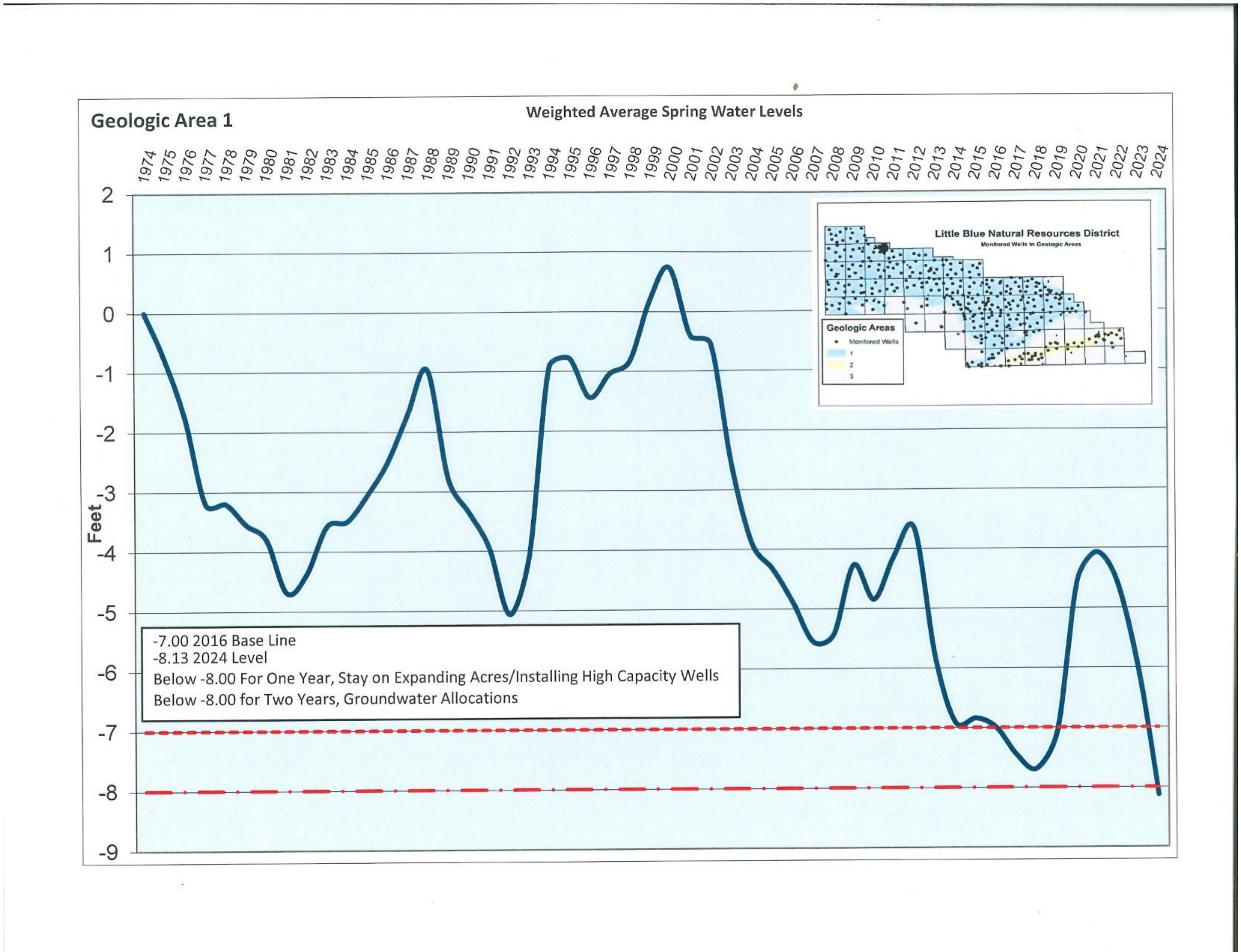
Spring 2024 water levels were completed during the month of April. The map below shows two geologic areas and observation wells that are monitored twice per year. Geologic Area 1 shown in blue was down -2.14 feet on average. Geologic Area 2 shown in yellow was down 1.3 feet on average. Average District precipitation for 2024 was 23.0 inches with average irrigation use of 7.8 inches per acre.



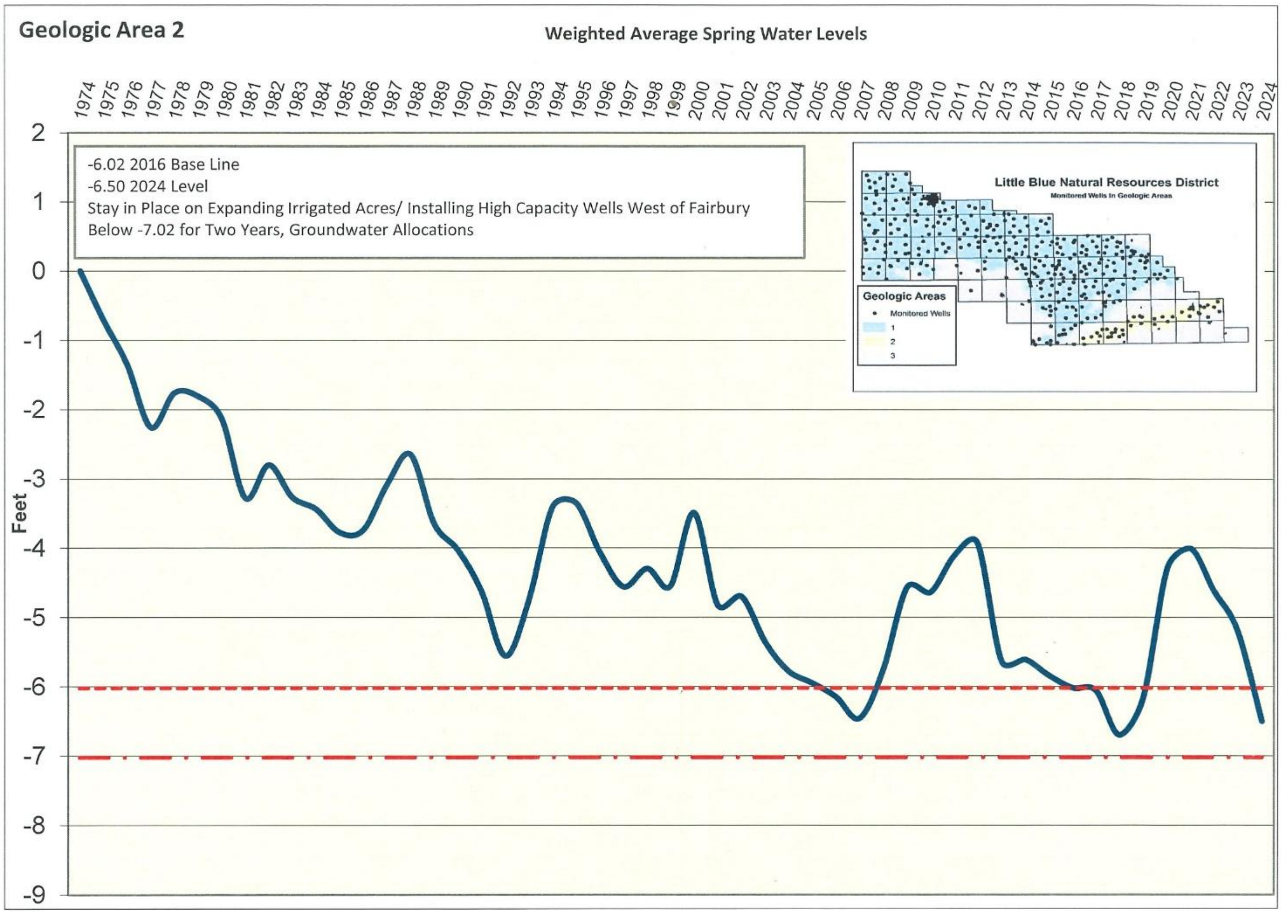
Irrigation Flow Meters

Per our Voluntary Integrated Management Plan (IMP), the District requires that every high capacity well have a working, accurate flow meter. To ensure accuracy and good water use records, each year the District inspects and maintains 800 irrigation flow meters during September, October and November. This schedule allows each meter to be inspected and maintained at least once every seven years. The annual cost for inspecting and maintaining meters is approximately $80,000. In 2024, the board approved a plan to provide 75% cost share to producers to replace aging meters. The district applied and was approved for a $200,000 water smart grant from the Bureau of Reclamation. Approximately 75 new meters were approved for cost share in the fall of 2024.

Irrigation Allocations
The District has adopted an allocation system that uses weighted average graphs for tracking water levels for each aquifer. If levels fall one foot below 2016 baseline levels for one-year, there is a stay on irrigation well drilling and expansion of irrigated acres within the respective area. If levels fall one foot below the 2016 baseline for 2 consecutive years allocations of groundwater for irrigation are implemented. Allocations are set at 5 years and 13 acre-inches per year.

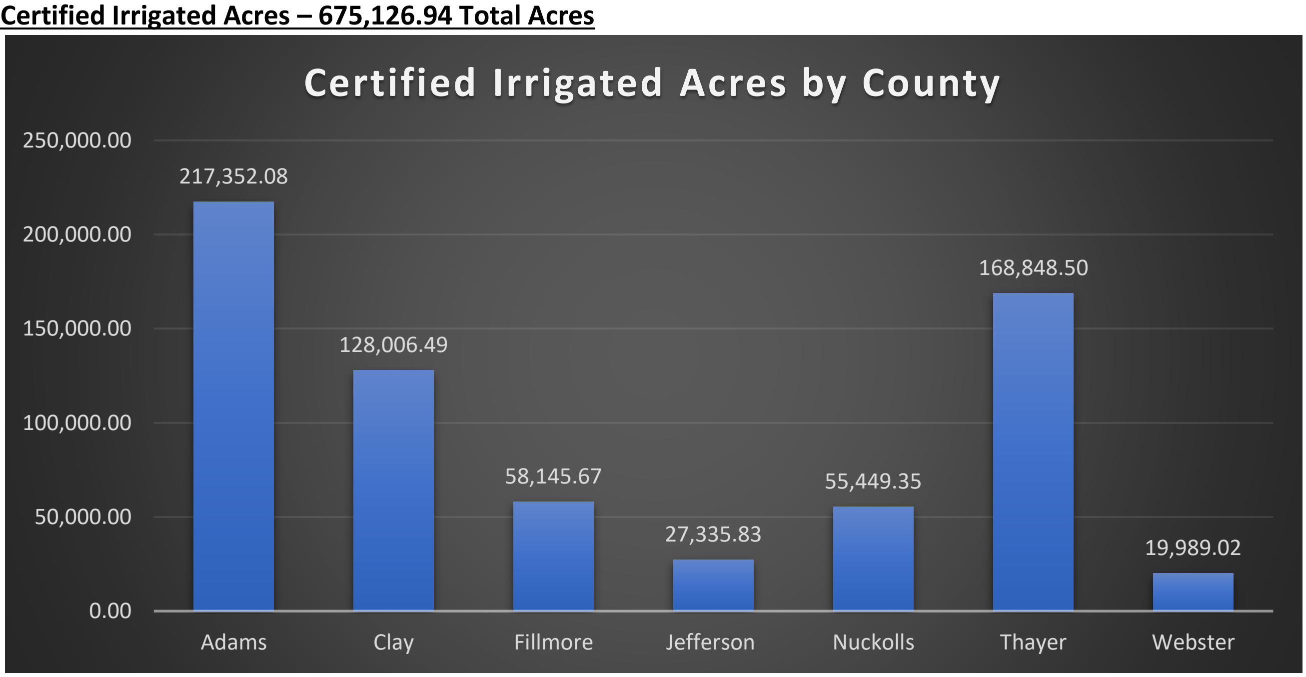


The graph above shows that levels in Geologic Area 1 fell below the -8.00 feet level which on May 15, 2024, initiated an immediate stay on the drilling of new high-capacity irrigation wells and the expansion of irrigated acres.



The graph above shows that levels in Geologic Area 2 stayed above the -7.00 level.

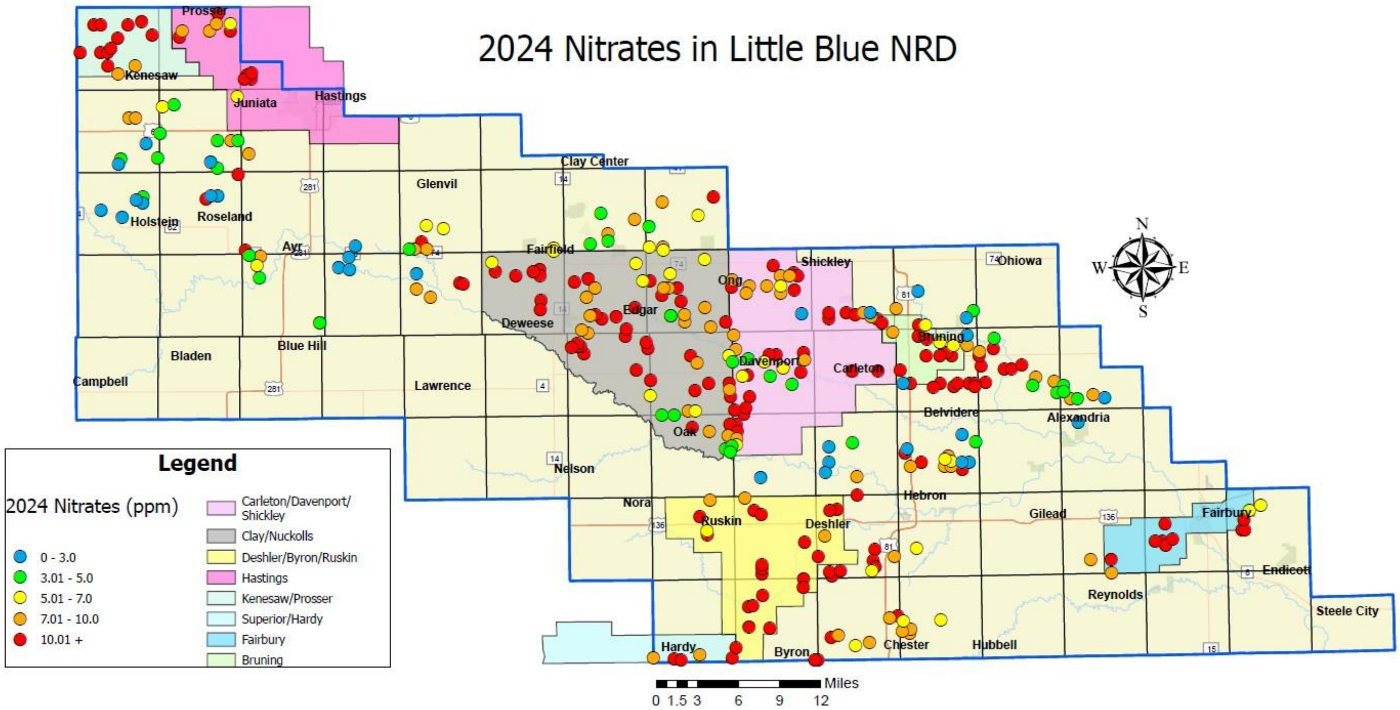
2024 Certified Irrigated Acres – 675,126.94 Total Acres



Water Quality

The District is committed to protecting both surface and groundwater quality. The District offers many cost share programs to implement BMPs aimed at reducing nitrates in groundwater.

- Crop Rotation
- Irrigation Scheduling
- Continuous No-till
- Chemigation Incentives
- Nitrogen Management
- Nitrification Inhibitors



Watershed Projects

- **32-Mile Creek Watershed WFPO Project** – In 2024, planning for a Village of Kenesaw flood mitigation project was found to be feasible and would likely qualify for federal funding. The plan calls for the construction of a 70-acre floodwater detention cell, the upgrade of a dike to a levy, upsizing road culverts, installation of 4 grade control structures and various improvements to an existing flood control structure. The estimated cost of this project is $20 million dollars.
- **Big Sandy Creek National Water Quality Initiative (NWQI) Project** – Area of this project includes the Villages of Bruning, Belvidere and Carleton and is aimed at reducing E-Coli and Atrazine in Big Sandy Creek. Due to a recent surge of landowner interest involving precision chemical application and using an alternative herbicide to atrazine, the project recently received approval to extend the project timeline for another 5-years, extending the deadline from April 2023 to April 2028.
- **Small Dams Program –** A popular cost share program involves the repair of existing dams or the construction of new dams having 300-drainage acres or less. In 2024, the District provided $50,000 towards the construction of a new dam near Chester.

Little Blue Public Water Project

The Little Blue Public Water Project is a rural water system that includes 400 service locations, of which 89 are located in the State of Kansas and provides potable water to 1,670 people. Due to rising water rates and elevated nitrate levels from the current source (City of Fairbury), an alternative water source was sought out and located. The District secured a 640-acre wellfield site where two 400 gallon per minute wells will be constructed. Nitrate water quality samples collected from 8 test wells on this property ranged from 0.5 to 2.63 parts per million. The cost to construct 2 wells and install 14 miles of pipeline is estimated to be $10 million dollars.

In 2024, nearby landowners filed a legal complaint against the project arguing that a transfer permit from the State of Nebraska was required. The presiding judge ruled that since there was opposition to the project, the NRD was required to apply for the permit. This complaint has set the project back about a year.