

Lower Big Blue NRD 2021 Annual Report to the
Blue River Compact Annual Meeting
May 13, 2021

As the Watershed Capital of Nebraska we continue to work on rehabilitating existing flood control structures and performing ongoing maintenance projects. We have 270 flood control and grade stabilization structures in the district to maintain. The oldest flood control project in the district was completed in the 1950s and the newest just a few years ago. As part of these flood control projects the district also maintains 10 public use areas. Over the past several years the district through a community based planning process, has worked with the landowners and stakeholders of 3 public use area watersheds to install conservation practices and complete in lake improvements to address water quality concerns such as sedimentation, phosphorus, atrazine and ecoli.

The District through this same process is nearing completion of the rehabilitation of Cub Creek 12A public use area this spring. With the accomplishment of the installation of conservation practices in the watershed the District focused on improving the reservoir water quality conditions. This project includes sediment removal, installation of jetties to increase travel time of water to the beach area, the creation of wetlands, and shoreline stabilization.

The Wilber #1 dam rehabilitation project was also recently completed. This project is located in the town of Wilber and involved upgrades to the structure. The lake was dredged, and a safety berm and sand diaphragm was installed. The NRD again worked with a stakeholders group. The City of Wilber will now maintain the 20 acre area and has developed walking trails, a shelter, and fishing access points. This area is located near the High School, future plans include development of an outdoor classroom.

Little Indian 15A, a rehabilitation project, which began in 2019 has been completed. We are actually just waiting to make sure we have a good stand of grass before we close out the project. The hazard classification was changed to high hazard which meant the emergency spillway needed to be widened and a new principal spillway pipe needed to be installed.

The LBBNRD continues to use principal spillway tube inserts, which allow for repair of rusted and leaking corrugated metal pipe. The inserts do not require excavation of the dam and are therefore much more economical to use. This past year the LBBNRD assisted the UBBNRD with the installation of an insert, in addition to two of our own.

The LBBNRD is in the middle of completing a Voluntary Integrated Management Plan with the NDNR. A stakeholder group has been discussing goals and objectives to be included in the plan. The joint agency plan will provide a framework to manage hydrologically connected surface water and groundwater.

The LBBNRD is currently reviewing our Groundwater Rules and Regulations. These went into effect in 2014. They included rules that new Irrigation wells are required to meet certain criteria in a scoring system before a permit can be issued. And all new wells must be equipped with a flow meter. Most new recommended changes will be minor to improve and clarify language and definitions.

The Lower Big Blue NRD, in collaboration with three other NRDs and NDNR, continue work on the Blue Basin Groundwater Model Study. Marie with the Upper Big Blue has been leading this effort.

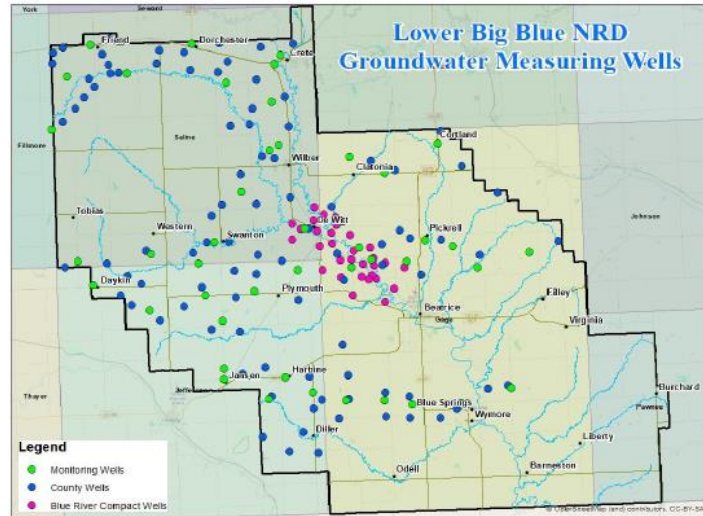
The Spring of 2021 static water level measurements again showed increases from a year ago. The Spring water levels have increased by .60 feet from the Spring of 2020. Groundwater levels are currently over one foot above our 1982 baseline levels. The LBBNRD measures 93 irrigation wells and 43 dedicated monitor wells across the district. The LBBNRD also measures 32 wells for the Blue River Compact. The Compact wells increased .65 feet from last spring.

A National Water Quality Area Initiative (NWQI) was approved last year in the Lower Turkey Creek drainage. Water quality impairments to be addressed are E. Coli, Atrazine and nitrates. A watershed assessment is currently in progress. Strategies to resolve water quality problems will be coordinated with NRCS.

The LBBNRD has recently received USDA Watershed and Flood Prevention Operations Funding, WFPO, to evaluate the Little Indian watershed in northern Gage County. The project aims to reduce flood damage to the City of Beatrice and agricultural lands, improve flood resiliency, stabilize streambanks and examine recreation opportunities.

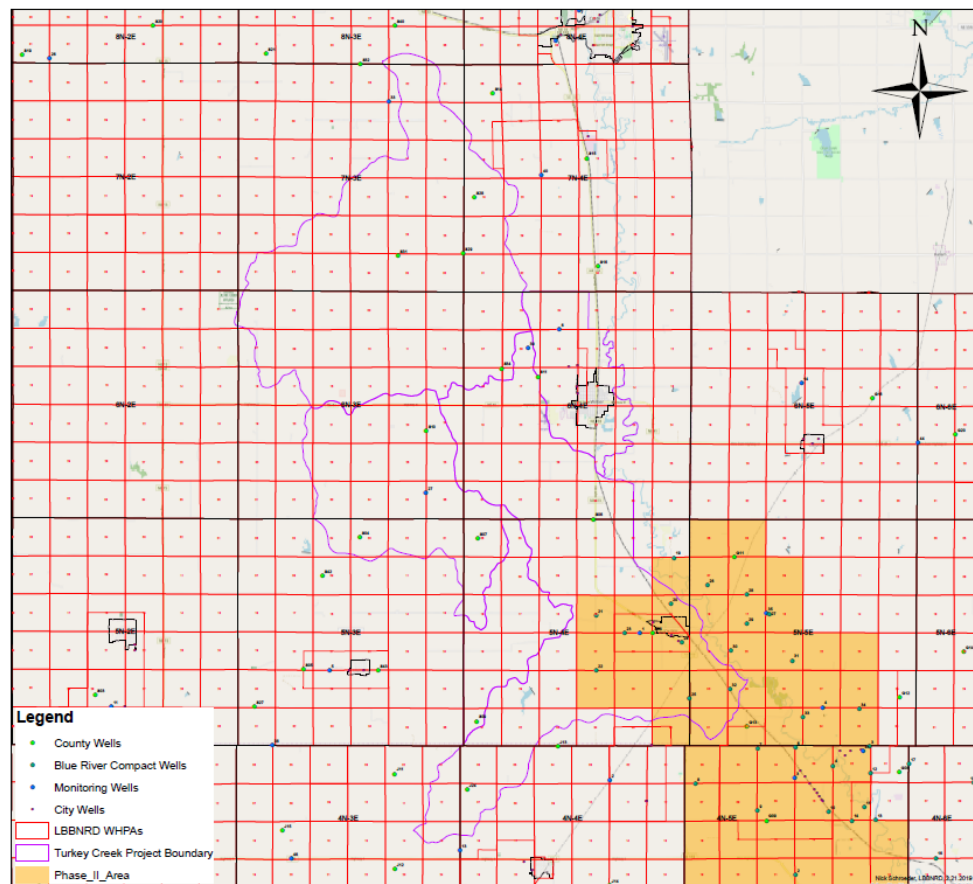
The Lower Big Blue NRD has received three grants from the Nebraska Environmental trust. The three grants will provide nearly \$800,000 in additional funding to the NRD for water quality and quantity efforts. The first grant awarded is within the Phase II Quality Area-in the Beatrice and DeWitt Area. A second grant will service the Diller/Odell area. These grants are focused on providing additional cost share for flow meters within these areas. The grants allow the district to double flow meter cost share to \$1,200 or 50% of the actual cost for wells within the project area. The two grants will provide additional cost share for one-quarter of the high-capacity wells within district. The third grant will provide funding to address nutrient loading and nitrates. A watershed assessment is currently in progress.

Wells	Number of Wells	Water Level Change From Spring 2020 to Spring 2021	Water Level From Baseline
Gage County	27	0.06	2.73
Jefferson County	24	1.03	-1.02
Saline County	42	0.59	2.30
Dedicated Monitoring Wells	45	0.65	3.03
Blue River Compact Wells	32	0.65	-1.84
District-Wide	170	0.596	1.04



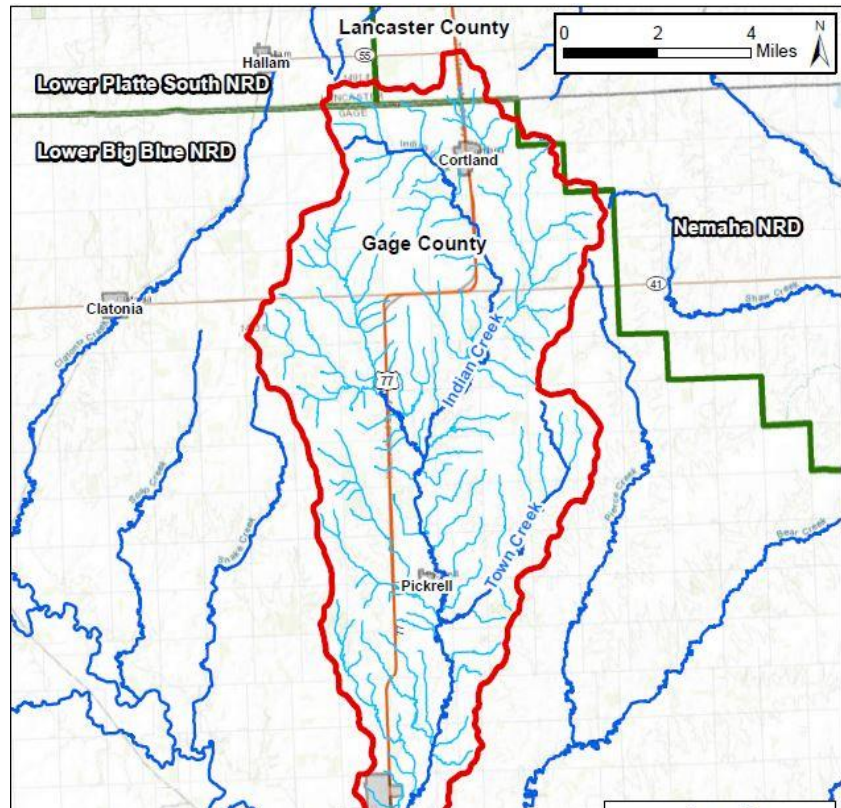
Appendix 1

A National Water Quality Area Initiative (NWQI) was approved last year in the Lower Turkey Creek drainage. Water quality impairments to be addressed are E. Coli, Atrazine and nitrates. A watershed assessment is currently in progress. Strategies to resolve water quality problems will be coordinated with NRCS and a producer advisory council. (Appendix 2)

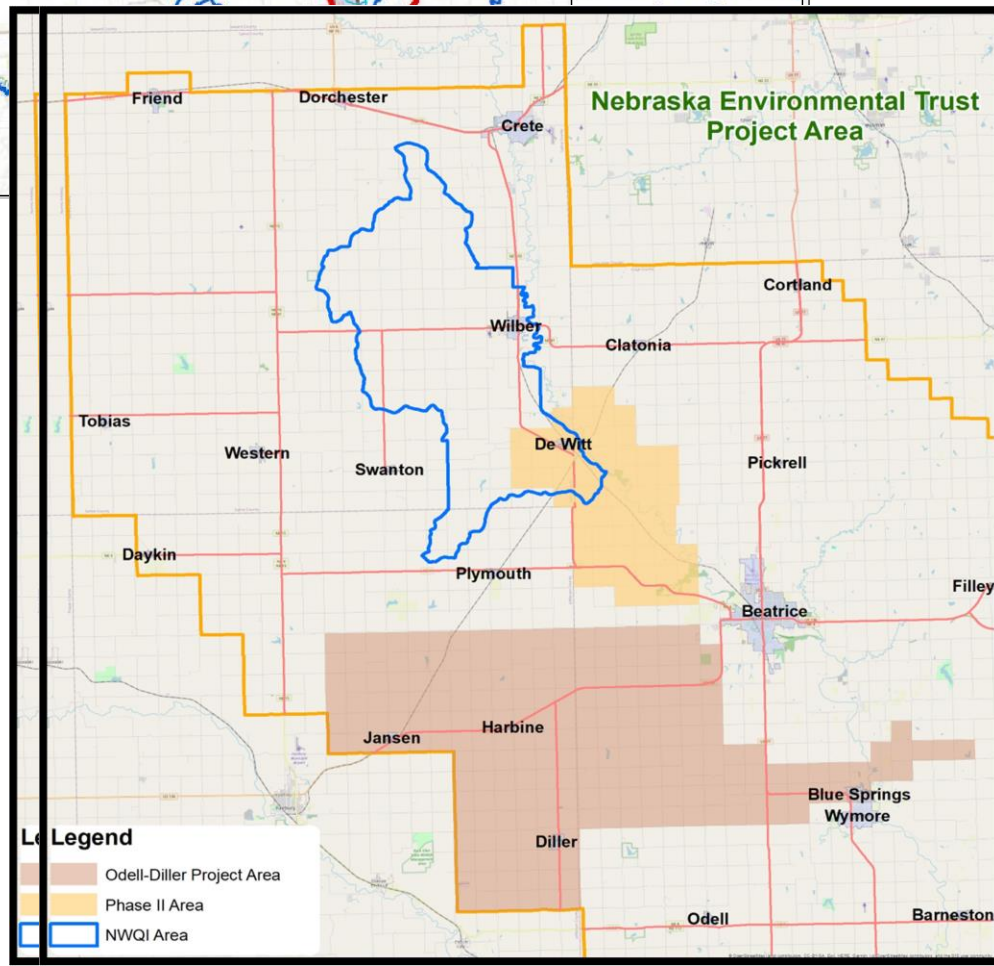


Appendix 2

The Lower Big Blue NRD has recently received USDA Watershed and Flood prevention Operations Funding to evaluate the Little Indian watershed in northern Gage County. The project aims to reduce flood damage to the City of Beatrice and agricultural lands, improve flood resiliency, stabilize streambanks and examine recreation opportunities. (appendix 3)



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runoff concerns in the Turkey Creek watershed. Landowners in the area will be given the opportunity to apply for cost share to implement management practices to help limit runoff from fields and livestock confinements.