

Memorandum

To: Papio-Missouri River Natural Resources District Board of Directors
From: Paul W. Woodward, PE, Groundwater Management Engineer
Date: March 2, 2022
Re: Review of USGS Groundwater Monitoring Joint Funding Agreement cost comparison

Since 1992, the District has implemented a groundwater quality monitoring program as a requirement of the NRD's Groundwater Management Plan through a joint funding agreement (JFA) with the US Geological Survey (USGS). The previous joint funding agreement expires on March 31, 2022. Approval of the new JFA for groundwater monitoring from 2022 thru 2025 was tabled at the February 10, 2022 Board Meeting with the expectation that additional information be provided to support the ongoing annual costs of groundwater monitoring.

District staff contacted several adjacent NRDs to determine the extent and costs of their groundwater monitoring program. Lower Platte South, Lower Platte North, and Lower Elkhorn NRD each responded to this request and provided comparable costs based on budgets for what it takes them to conduct annual groundwater monitoring. Their information is included in the table below.

District staff also prepared a cost estimate of what it would take to implement the same USGS groundwater sampling program using our staff and an independent water quality lab. Midwest Laboratories in Omaha was contacted to provide a quote to perform the same laboratory tests as USGS does each year. This involves 62 individual tests for many different constituents. Midwest Labs also reported that they are not able to conduct 10 tests that USGS does, including Uranium which has been a primary analyte reported by USGS. P-MRNRD personnel costs and direct benefits are based on actual billing rates ranging from \$50 to \$70 per hour. Implementing groundwater quality monitoring in-house would likely require additional staffing and equipment.

Water Quality Monitoring Program Cost Comparison

	LPSNRD (1.5 FTEs)	LPNDRD (3 FTE + 2 Interns for 3 months)	LENRD (1080 total staff hrs)	PMNRD Estimate (1080 staff hrs)	USGS Annual Cost Paid by NRD (1080 staff hrs)
Personnel	\$ 75,000	\$ 60,000	\$ 40,500	\$ 43,924.21	\$ 42,914.72
Direct Benefits	\$ 30,000	\$ 24,000	\$ 14,175	\$ 23,651.50	\$ 23,107.92
Overhead Equipment, Office, Leave	\$ 30,000	\$ 24,000	\$ 16,200	\$ 17,569.68	\$ 38,077.10
Laboratory Analysis	\$ 120,000	\$ 15,000	\$ 50,000	\$ 52,312.50	\$ 30,426.27
Sampling Equipment	\$ 25,000	\$ 10,500	\$ 15,000	\$ 25,000.00	\$ 14,672.53
Data Subscriptions	\$ 3,000	\$ 8,400	\$ -	\$ -	
Other Sampling, Training, Certifications	\$ 10,000	\$ 7,500	\$ 17,500	\$ 10,000.00	\$ 8,501.46
TOTAL	\$ 293,000	\$ 149,400	\$ 153,375	\$ 172,458	\$157,700

The primary focus of the new four-year groundwater monitoring program is to expand our sampling and coverage to better meet the requirements of the P-MRNRD’s Groundwater Management Plan. Sampling from 2022-2025 will include annual sampling, instead of bi-annual sampling, of all 45 clustered monitoring wells (Figure 1) plus 30 sample locations each year in one of the 4 primary groundwater aquifers. This is an increase of 15 to 20 samples each year that will help improve the geographic extent and number of groundwater monitoring sites available for Groundwater Quality Management Area determinations.

The existing agreement covered four years of monitoring from 2018 through 2021 for a total cost of \$691,500. The proposed Joint Funding Agreement splits P-MRNRD payments to USGS out over five fiscal years (FY 22 - FY 26) and covers monitoring during 2022 – 2025. Per the enclosed Joint Funding Agreement, the maximum cost to the District is \$622,500 and USGS is providing a higher percentage of cooperative funding, see table below:

Program	District	USGS	Total
Previous Agreement	\$582,800 (84.3%)	\$108,700 (15.7%)	\$691,500
Proposed Agreement	\$622,500 (80.3%)	\$152,400 (19.7%)	\$774,900

In addition, the P-MRNRD receives funding each year from the Natural Resources Water Quality Fund (NRWQF) established by the Nebraska Legislature in 2001 and funded from the receipt of certain pesticide registration and applicator license fees. This has resulted in approximately \$40,000 each year reimbursed to the P-MRNRD and it is used to offset our groundwater quality monitoring program costs. The table below shows how these funds would be applied in each NRD fiscal year:

	NRD FY 22	NRD FY 23	NRD FY 24	NRD FY 25	NRD FY 26	TOTAL
ESTIMATED TOTAL PROJECT REQUIREMENTS	\$108,450	\$196,200	\$196,200	\$196,200	\$77,850	\$774,900
Total USGS Contribution	\$20,375	\$38,500	\$38,500	\$38,500	\$16,525	\$152,400
Total NRD Contribution	\$88,075	\$157,700	\$157,700	\$157,700	\$61,325	\$622,500
Less NRWQF	-\$40,000	-\$40,000	-\$40,000	-\$40,000	-\$40,000	-\$200,000
Net NRD Contribution	\$48,075	\$117,700	\$117,700	\$117,700	\$21,325	\$422,500

Management recommends that the Board approve the Subcommittee’s recommendation that the General Manager be authorized to execute the Joint Funding Agreement with USGS for the 2022-2026 Groundwater Quality Monitoring with a not to exceed amount of \$622,500, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

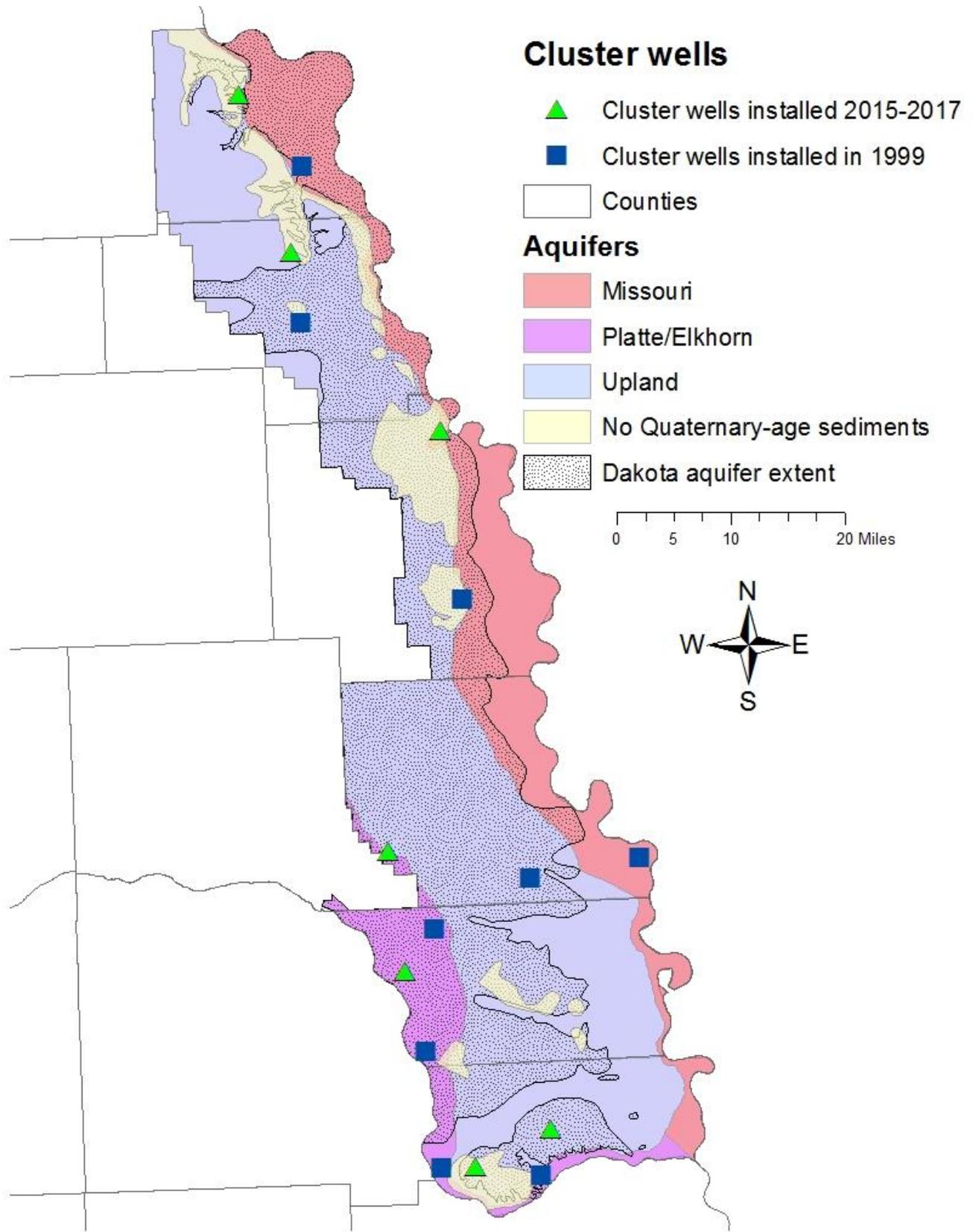


Figure 1. Location of P-MRNRD owned dedicated monitoring wells to be used as annual network monitoring wells for NDEE.