

Memorandum

To: Papio-Missouri River Natural Resources District Programs Projects and Operations Subcommittee

From: Paul W. Woodward, PE, Groundwater Management Engineer

Date: November 4, 2019

Re: Groundwater Monitoring Joint Funding Agreement with USGS

The purpose of the Platte and Elkhorn River Integrated Water Monitoring study was to gain a better understanding of the interaction between the Platte River, the Elkhorn River, and the alluvial aquifer between them. Objectives of the study were to quantify gains or losses from each river, determine the capability of the Elkhorn River to receive groundwater flow, and better estimate a timing of flow between the two rivers. The recently published report from USGS is available at: <https://pubs.er.usgs.gov/publication/sir20195048>.

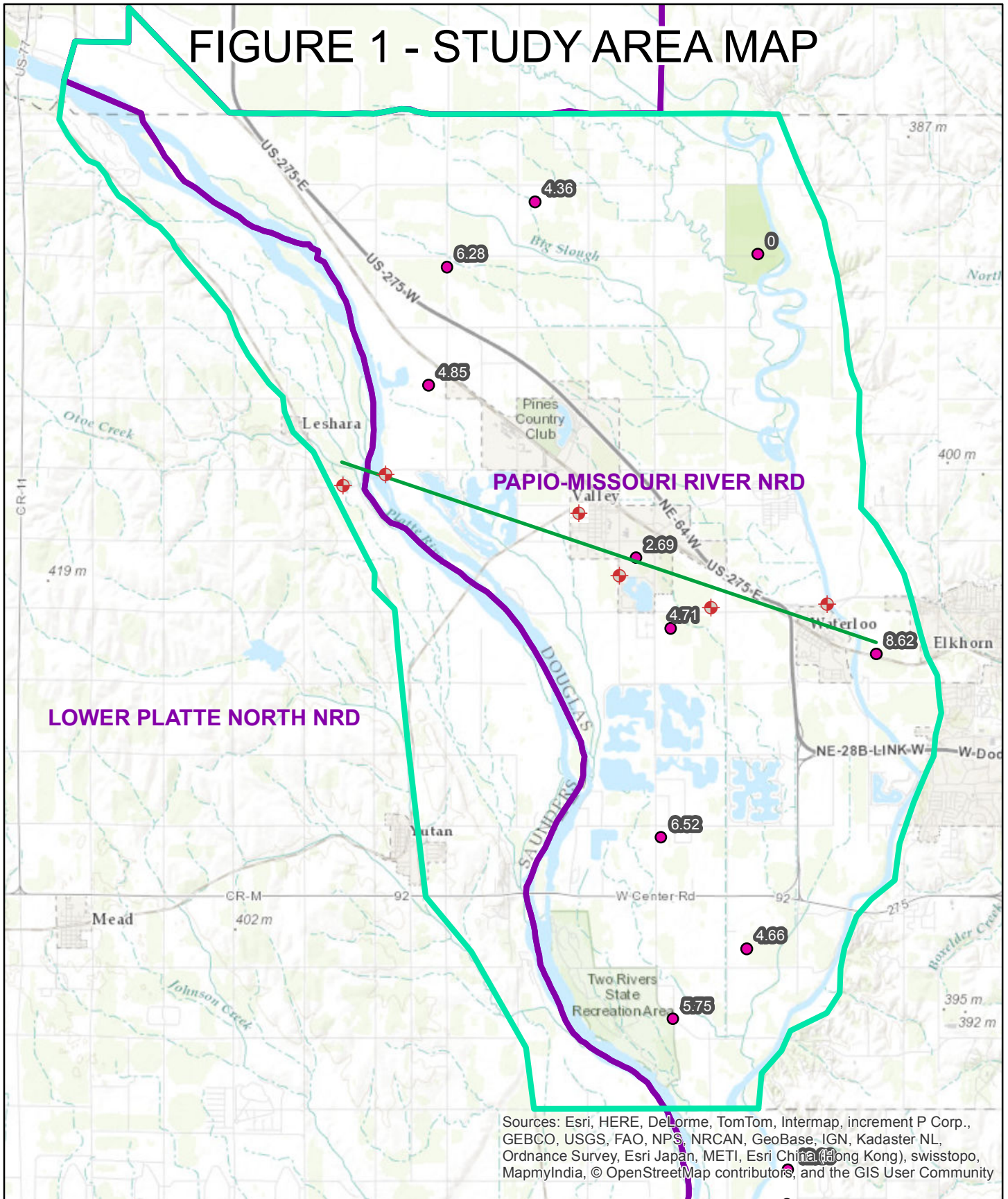
Through various methods, the study was able to determine rough quantities of gains and losses and provide data on where and how much flow is gained in the Elkhorn River. One challenge during the study period was the nearly continuous above normal flows in the Elkhorn River. This higher than normal flow likely affected (reduced) flows being gained by the Elkhorn River and most definitely affected any timing calculations about how the groundwater elevations react to higher than normal flows in the Platte ending up as additional baseflow in the Elkhorn.

As a result, recommendations from the study suggested that groundwater monitoring across the valley continue in order to improve understanding of timing and water movement between the Platte and Elkhorn River. The location of the six existing groundwater monitoring sites is shown in Figure 1.

A Joint Funding Agreement between the USGS and the District has been prepared to have USGS continue the operation of these six groundwater monitoring sites and is attached. A detailed cost breakdown for each site is also attached for reference. The total cost for all six sites is \$17,390 and the USGS would provide cooperative funding of approximately 25% (same as last year). The duration of the agreement is for one year, from Oct. 1, 2019 to Sept. 30, 2020.

Staff recommends that the subcommittee recommend to the Board of Directors that the General Manager be authorized to execute a Joint Funding Agreement with U.S. Geological Survey for a total cost to the District of \$13,040 for the continuation of groundwater monitoring in the Platte and Elkhorn River valley, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

FIGURE 1 - STUDY AREA MAP





United States Department of the Interior

U.S. GEOLOGICAL SURVEY

Nebraska Water Science Center

5231 South 19th Street

Lincoln, NE 68512-1271

September 25, 2019

John Winkler
Papio-Missouri River Natural Resources District
8901 South 154 Street
Omaha, NE 68138

Dear Mr. Winkler:

Enclosed are two copies of Joint Funding Agreement No. 20NRJFA00080 for the operation of six groundwater gages, as listed in the enclosed summary of proposed funding (Table 2). The total amount of the agreement is \$17,390 or \$4,350 for the U.S. Geological Survey and \$13,040 for the Papio-Missouri River Natural Resources District. Please sign one copy of the agreement and return it to this office as soon as possible. The second copy is for your records. Work cannot be continued until we receive the signed agreement.

Work performed with funds from this agreement will be conducted on a fixed price basis under the authority of statute 43 USC 36C. Billings will be rendered quarterly. The results of all work under this agreement will be available for publication by the U.S. Geological Survey.

For more information or any questions concerning this agreement, please contact Jason Lambrecht at 402-328-4124.

Sincerely,

Jill Frankforter, Acting Director
USGS Nebraska Water Science Center

3 Enclosures

DUNS No. 949286512

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 600000134
Agreement #: 20NRJFA00080
Project #: NR00GS1
TIN #: 47-0542469

Fixed Cost Agreement YES[X] NO[]

THIS AGREEMENT is entered into as of October 1, 2019, by the U.S. GEOLOGICAL SURVEY, Nebraska Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation **the operation of six groundwater gages**, herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of \$0.00

- (a) \$4,350 by the party of the first part during the period
October 1, 2019 to September 30, 2020
- (b) \$13,040 by the party of the second part during the period
October 1, 2019 to September 30, 2020
- (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: \$0

Description of the USGS regional/national program:

- (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.
- (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website <https://www.usgs.gov/about/organization/science-support/science-quality-and-integrity/fundamental-science-practices> (<https://www2.usgs.gov/fsp/>).

U.S. Department of the Interior
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9. Billing for this agreement will be rendered quarterly. Invoices not paid within 60 days from the billing date will bear Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. § 3717) established by the U.S. Treasury.

USGS Technical Point of Contact

Name: Jason Lambrecht
Hydrologic Data Section Chief
Address: 5231 South 19th
Lincoln, NE 68512
Telephone: (402) 328-4124
Fax: (402) 328-4101
Email: jmlambre@usgs.gov

Customer Technical Point of Contact

Name: Marlin Petermann
Assistant General Manager
Address: 8901 South 154th St.
Omaha, NE 68138
Telephone: (402) 444-6222
Fax:
Email: mpetermann@papiionrd.org

USGS Billing Point of Contact

Name: Lisa Dietsch
Administrative Officer
Address: 5231 South 19th
Lincoln, NE 68512
Telephone: (402) 328-4116
Fax: (402) 328-4101
Email: ldietsch@usgs.gov


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U.S. Geological Survey
United States
Department of Interior

Papio-Missouri River Natural Resources District

Signature

By  Date: 09/25/2019
Name: Jill Frankforter
Title: Acting Director

Signatures

By  Date: 10/16/19
Name: John Winkler
Title: General Manager

By _____ Date: _____
Name:
Title:

By _____ Date: _____
Name:
Title:

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U.S. Geological Survey
United States
Department of Interior

Papio-Missouri River Natural Resources District

Signature

By  Date: 09/25/2019
Name: Jill Frankforter
Title: Acting Director

Signatures

By _____ Date: _____
Name:
Title:

By _____ Date: _____
Name:
Title:

By _____ Date: _____
Name:
Title:

Table 2. Summary of proposed funding for operation of six groundwater gages supported by the Papio-Missouri River Natural Resources District and other partners for period October 1, 2019 -- September 30, 2020.

[CR, continuous-record; CMF, USGS, Cooperative matching funds; PMR NRD, Papio-Missouri River Natural Resources District; USGS, U.S. Geological Survey; WL, Water Level]

| USGS Station number | Station name | Supported Since Water Year | | | | Gage type(s) |
|------------------------|--|----------------------------------|-------------|------------|----------|-------------------|
| | | | USGS CMF | PMR NRD | Total | |
| *411736096170201 | 15N 10E 3CDDA1 Waterloo | 2015 | \$545 | \$1,620 | \$2,165 | CR - 12 month: WL |
| 411757096202501 | 15N 10E 6ACCC1 MUD-95 | 2015 | \$815 | \$2,450 | \$3,265 | CR - 12 month: WL |
| 411845096211201 | 16N 9E 36NESE (Valley City Park shallow, P-Va1) | 2017 | \$815 | \$2,450 | \$3,265 | CR - 12 month: WL |
| 411903096245501 | 16N 9E33ABCD1 LPNNRD-80 | 2016 | \$815 | \$2,450 | \$3,265 | CR - 12 month: WL |
| *411911096241601 | 16N 9E34BBBD1 Leshara | 2016 | \$545 | \$1,620 | \$2,165 | CR - 12 month: WL |
| 411733096185501 | 15N 10E 5DDCB1 Valley-15 | 2016 | \$815 | \$2,450 | \$3,265 | CR - 12 month: WL |
| Funding partner totals | | | \$4,350 | \$13,040 | \$17,390 | |

* Reduced cost for groundwater site due to proximity with adjacent streamgage