



WSF 2024 Annual Report

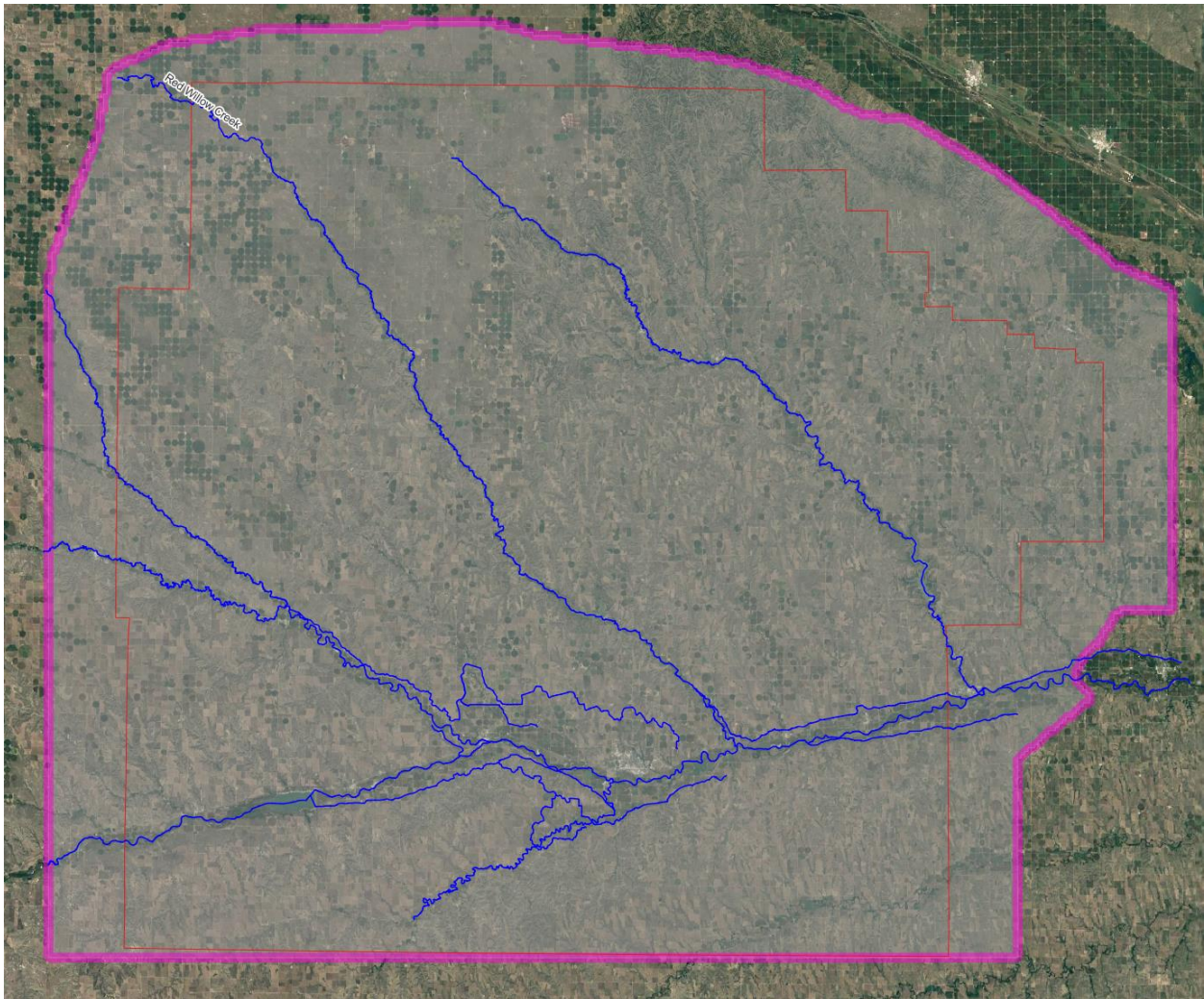
Grant Application No. 5249

Titled: MRNRD Hydrogeologic Mapping

Grant Amount: \$785,764.80

**Project Progress:**

The MRNRD groundwater modeling has made good progress for this year. The boundaries, grid, and layers of the model have been determined for phase one.



These parameters may be altered slightly once AEM data is compiled. The grid size for this phase of modeling is 1320ft x 1320ft and 600ftx600ft around streams, lakes, and reservoirs. Our

consultants have also finalized all the modeling packages and are preparing to run model calibration.

#### Project Activities for coming year:

Activities for the upcoming year will include model calibration and assessment of the accuracy of the groundwater model without AEM data included. This will be our baseline to determine how much of an impact using AEM data is to creating groundwater models. We will also be defining how the MRNRD will make use of this groundwater model going forward and the impact it will have on management decisions. Along with this a GUI (graphical user interface) will be developed in the upcoming year so that common model scenarios can be run with ease. An instance of this would be if we wanted to transfer a well from one area of our district to another and be able to assess the impacts to the aquifer.

#### Reassessment of the Project Benefits:

The main project benefits have not changed much from the initial assessment. We do think this will make developing rules and regulations for groundwater transfers a much simpler process.

#### Summary:

The MRNRD basin model is has had a great deal development completed, and we should have an operation model at the end of the year. We look forward to seeing how AEM compares to traditional model development techniques and the additional impacts they have on making water management decisions.