



## PROGRESS REPORT

PROJECT TITLE: Pushing the Limits on Nitrate Removal: A Watershed-scale Bioreactor

PROJECT NUMBER:

REPORTING PERIOD: January 1 to March 31, 2022

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1.) PROJECT ACTIVITIES COMPLETED DURING THE REPORTING PERIOD. *(Describe project progress specific to goals, objectives, and deliverables identified in the project workplan.)*

During this quarter, flow was quiet due to cold temperatures and scant precipitation. We used the winter months to review last year's flow and chemistry data. We continued routine checks of equipment to ensure things were in working order for spring melt and runoff.

2.) IDENTIFY ANY SIGNIFICANT FINDINGS AND RESULTS OF THE PROJECT TO DATE.

There was no new news over the past quarter. 2021 was a very dry year resulting in a fraction of normal drainage runoff. Nonetheless, we calculated (preliminarily) the nitrate-N load from CD62 using the flow and nitrate sensor data: 1.9 lb N/ac. The result was very close to the nitrate-N load from CD30, which we are trying to pair: 2.0 lb N/ac. (see figure below).

3.) CHALLENGES ENCOUNTERED. *(Describe any challenges that you encountered related to project progress specific to goals, objectives, and deliverables identified in the project workplan.)*

We encountered no unusual challenges this quarter.

4.) FINANCIAL INFORMATION *(Describe any budget challenges and provide specific reasons for deviations from the projected project spending.)*

Project spending is on target.

5.) EDUCATION AND OUTREACH ACTIVITIES. *(Describe any conferences, workshops, field days, etc attended, number of contacts at each event, and/or publications developed to disseminate project results.)*

There were no formal education or outreach activities this quarter. We continued informal communication with a key producer in the CD62 watershed.

## Appendix.

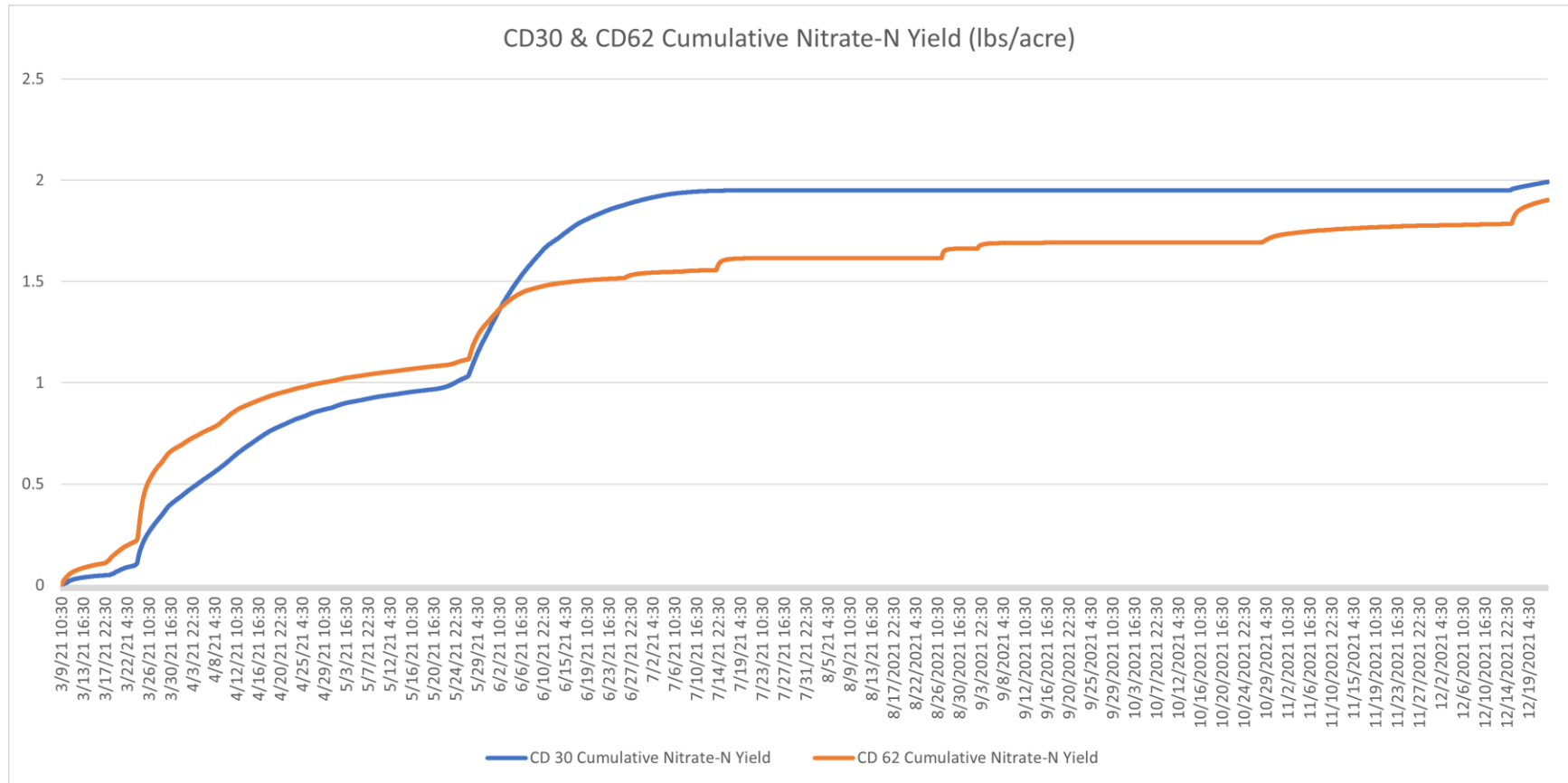


Fig. 1. Cumulative nitrate-N load for Faribault County CD62 (orange) and CD30 (blue) watersheds from March 2021 thru December 2021, which was a dry period. This is the first year we have tracked the two watersheds together. The values,  $\approx 2$  lb N/ac, are a little less than half of what we would expect in a “normal” year.