

Phase II Results



Field to Stream Partnership

The Root River Field to Stream Partnership (RRFSP) is a multi-organizational effort to evaluate agricultural practices and water quality at multiple scales and landscape settings. The strategic selection of these study watersheds allows findings to be applied to similar areas across southeastern Minnesota.

Phase II

Accelerate the adoption of targeted conservation practices over a five-year period from 2017-2021. Continued monitoring will provide a unique opportunity to statistically compare a twelve-year baseline period to a twelve-year post best management practice period.

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Phase II- accelerate the adoption of conservation practices in targeted locations with high runoff risk.

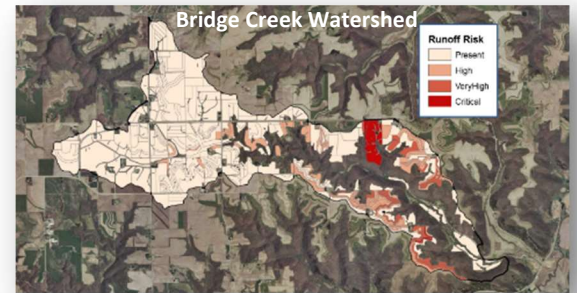
High runoff risk areas- areas of a field or watershed that contribute a disproportionate amount of sediment and nutrient loss in surface runoff.



Ephemeral gully in a high runoff risk area in the bluffland landscape.

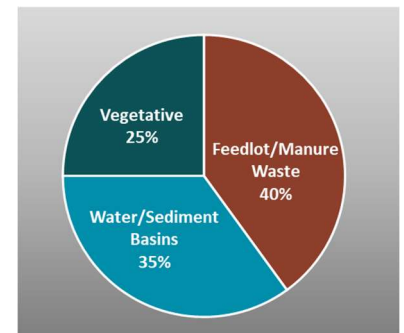
Precision conservation mapping

tools were used to identify and target sites with the greatest impact on water quality. For example, the dark red field in this map was identified as one of the highest runoff risk fields in the Bridge Creek watershed (critical runoff risk).

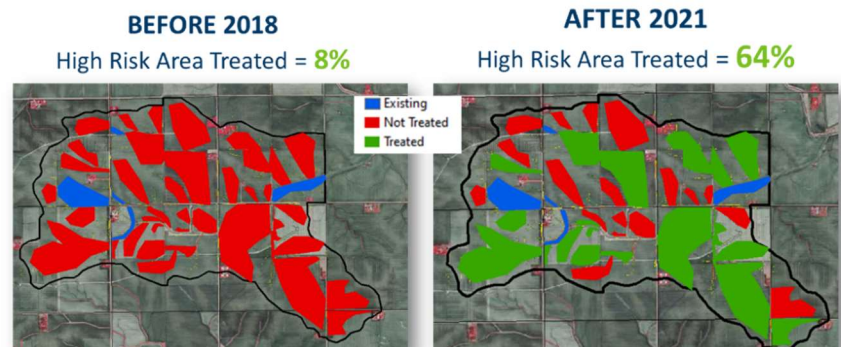


This field was recently converted to conservation reserve program (CRP) prairie grasses. New grassed waterways and water and sediment control structures were installed to make the field more resilient when converted back to cropland.

\$1.8 million in state and federal conservation funds were distributed across three study watersheds over a five-year period. 60% of the funds were spent on vegetative and structural practices and 40% on feedlot and manure waste improvements.



Before and After: In the glacial till headwaters watershed a significant amount of watershed land area was improved using grassed waterways and targeted perennials. Before Phase II 8% of the high-risk areas were treated. **Remarkably, after Phase II this percentage increased to 64%.**



Field Walkovers

- A field walkover is a visual assessment of erosion, erosion potential and an inventory of existing conservation practices and their quality.
- 100% of the watershed producers (56) participated. About 400 fields and 90% of the crop acres were assessed.
- Over 400 potential projects were identified of which 25% were considered a high priority.
- Over 30% of the high priority resource needs were practices that producers had already implemented on their farm. These were considered 'low hanging fruit' since a small investment could achieve large results.
- The most common practices needed to improve water quality included: 1) grassed waterways 2) contouring or reducing a tillage pass 3) grade stabilization near grassed waterway outlets or near the cropland/ravine interface.



Results

- Within three years, over 70% of the farmers added additional, targeted practices. This was a direct result of the walkover and precision mapping process.
- 32% of the farmers addressed all resource needs, going above and beyond what was asked.
- 27% of the farmers installed some of their practices without public cost-share assistance.
- An initial \$50,000 investment in the conservation specialist produced over \$1.8 million in conservation cost-share assistance within a five-year period.
- **Keys to success:** Consistent local coordination, dedicated walkover technician, experienced leadership combined with multiple/flexible funding sources.

Results



100,000+ feet of new and repaired grassed waterways



200+ acres of targeted perennials



14 new water/sediment control basins

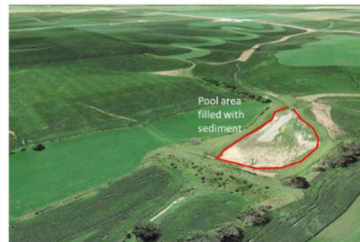


Sediment clean-out of 1950s era flood control structure (E3). Picture Nov. 2017.

1956



2013



After rehabilitation, June 2020



Rehabilitation of a 1950s era flood control structure (E3) in the Crystal Creek Watershed. This one structure treats 45% of the watershed. Over 23,000 tons of stored sediment was removed from the pool area in 2017. This cost-effective project will extend the sediment and nutrient trapping benefits for an additional 50 years.

Special Thanks to Watershed Farmers, Landowners and Partners



Root River Field to Stream Partnership



Minnesota Department of Agriculture
Minnesota Agricultural Water Resource Center
The Nature Conservancy

Mower SWCD
Fillmore SWCD
Root River SWCD