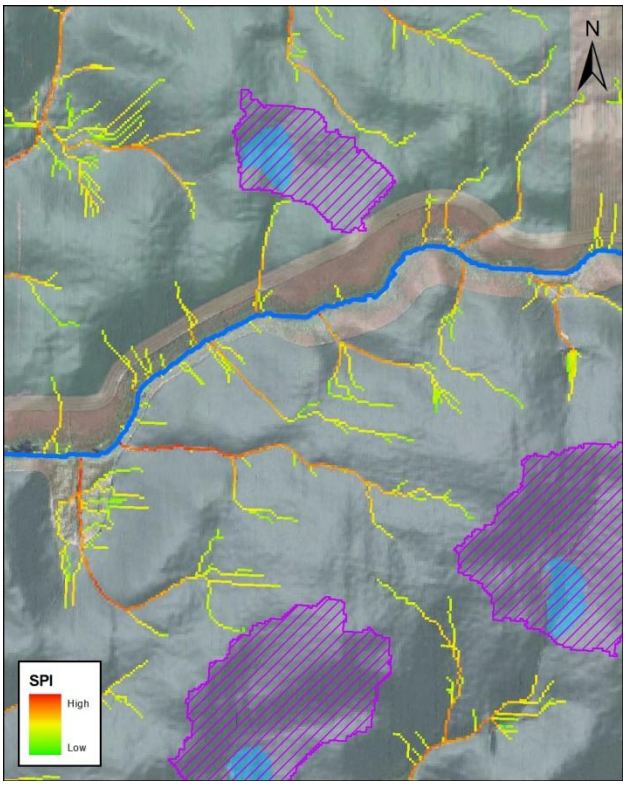
Targeting BMPs on the Upper South Branch of the Buffalo River

Featured Project

The Buffalo-Red River Watershed District partnered with the Wilkin and West Otter Tail Soil and Water Conservation District (SWCDs) to develop a method for determining the most effective locations for Best Management Practices (BMP) to be implemented in the upper watershed of the South Branch of the Buffalo River. Two primary waterways in the project area, Deerhorn Creek and the Buffalo River - South Branch, are impaired for turbidity. Additionally, sediment build-up in the channels has resulted in reduced flow capacity which leads to over-bank flooding. This project identifies areas of high sediment contribution. SWCD staff will target their marketing efforts of BMPs to these areas to reduce sediment loads and runoff.

Advanced Geographic Information Systems (GIS) techniques applied across the 154 square miles watershed rank the sediment contributions from 'catchment areas' based on Stream Power Index (SPI) and the Revised Universal Soil Loss Equation. The GIS results were then provided to the SWCDs to aid in marketing BMPs installation within the project area. Marketing will start with landowners in catchments areas with the highest ranking or highest sediment contribution. SWCD staff can determine exactly where to place BMPs to maximize benefits and make the best use of their limited staff resources. Sediment control basins and side inlet structures are examples of BMPs that will reduce sediment traveling downstream and reduce peak flows within the watershed by storing water on the land longer.



The Upper South Branch project is a great example of locally led conservation in action. "Landowners in the project area identified specific resource concerns that they would like addressed and asked us to help. As resource professionals, we constantly evaluate the programs, resources and tools we have available to get a job done", said Don Bajumpaa, Wilkin SWCD District Manager. "With this project, we recognized how LiDAR photography and GIS technologies could help us identify areas with higher sediment loading and erosion. Promoting and installing BMPs in priority areas ensures that limited resources are spent wisely and provide the greatest benefit to the public", said Bajumpaa.

Location: Northeast Wilkin County and Northwest Otter Tail County just south of Barnesville, MN

Partners: Buffalo Red River Watershed District, Wilkin SWCD and West Otter Tail SWCD

BWSR Featured Project

Project Timeline: The Watershed District's completed GIS work in the fall of 2011. Wilkin and West Otter Tail SWCD staff are currently utilizing the products for marketing BMPs to landowners.

Project Costs / Funding Sources: GIS based Strategic Plan cost was $27,430 ($21,762 Clean Water Fund grant and $5,668 local match from the Watershed District)

Keys to Success: The cooperative partnership between the Buffalo Red-River Watershed District and Wilkin and West Otter Tail SWCDs has been a critical component of their success. They have a common understanding of resource concerns and goals and use the strengths of each organization. The Watershed and its engineering firm have the technical capacity to develop the GIS products in format easily used by SWCD staff. The SWCD staff use the product to more effectively target conservation practices and market these BMPs to landowners.

BWSR role(s): BWSR administers the Clean Water Fund competitive grant program. BWSR received these funds as part of the state's overall effort to address its impaired waters and protect high-quality resources. Grants were awarded through a competitive process that emphasized selecting projects identified in local water plans, watershed district overall plans or contained in approved TMDL implementation plans.

Measurable Outcomes: The project outcome is the identification of highest priority areas to focus implementation efforts. The watershed area of concern is 153.6 square miles, but the highest priority for BMPs is the 11 square miles making up 20% of the highest catchments scores.

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