Upper Mississippi River TSS TMDL fact sheet

- **The report,** known as a total maximum daily load (TMDL), is specific to Total Suspended Solids (TSS) in three reaches of the Upper Mississippi River that are on Minnesota's 2018 list of impaired waters: from the Swan River to the Willow River; the Willow River to the Pine River; and the Pine River to the Crow Wing River.
- **Past monitoring efforts** identified TSS, or specifically sediment, impairments within these reaches of the river. This TMDL is a follow up study stemming from the Upper Mississippi River Monitoring and Assessment Report.
- **The dominant source of sediment** within this TMDL study area is nonpoint sources, in particular bed and bank erosion of the finely grained, easily erodible Glacial Lake Aitkin/Upham clay deposits. Past ditching in peatlands has resulted in a significant amount of altered watercourses in the study area.

Consequences of altered watercourses can include channel instability characterized by bank erosion and riverbed alteration, and increasing the amount of water in downstream reaches. Land use conversions near the river channel also contribute sediment through greater soil erosion from physical trampling of the banks from livestock, less stabilization of the soil from shallow rooted plants, more areas of exposed soil, and more concentrated runoff. Watershed runoff and regulated wastewater and stormwater sources contribute a small fraction of the total sediment to this part of the Upper Mississippi River.

This TMDL report will help guide local, state, and federal partnerships to develop and implement strategies to minimize sediment impairments, including:

- Land conservation through easements and acquisition.
- Working with landowners to exclude livestock from direct access to riverbanks.
- Riparian buffers and filter strips along riverbanks.
- Stormwater best management practices.