

# Mississippi Valley Division Regional Technical Specialist

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# Hydraulic Engineer – Environmental Restoration And Water Quality

#### **EDUCATION**

- Master of Science Degree, Civil Engineering, University of Minnesota (1988)
- ➤ Bachelor of Science Degree, Civil Engineering, University of Minnesota (1983)

## LICENSES/CERTIFICATES

➤ Professional Engineer, State of Minnesota, No. 21460, registered since 1991

## **WORK EXPERIENCE**

January 1986 – Present, Hydraulic Engineer, U.S. Army Corps of Engineers, St. Paul District Performed hydraulic and sediment engineering duties in support of environmental and navigation missions including habitat restoration projects, channel maintenance projects, and shoreline stabilization. Planned hydraulic, sediment transport, and water quality monitoring programs and developed numerical hydrodynamic (HEC-RAS, RMA-2V) and sediment transport (SED-2D, HEC-RAS, SAM) models. Work has been conducted at all levels between reconnaissance and construction including ITR and VE studies. Have worked on numerous multi-agency and multi-district studies.

- Upper Mississippi River Environmental Management Program Habitat Restoration Projects Hydraulic engineer on over 30 projects. Worked on interdisciplinary teams to develop design criteria based on desired biologic response, develop monitoring plans to assess pre-project conditions and project effects, model hydraulic conditions, and develop a design handbook based on lessons learned.
- Navigation and Ecosystem Sustainability Program Team leader for ecosystem restoration project and regional support member for Science Panel. Developing relations between project objectives, physical/biological responses, projects and actions, monitoring and modeling needs.
- ➤ Weaver Bottoms Resource Analysis Program Worked on a 10 year multi-agency effort to monitor hydraulics, sediment transport, water quality, and fish and wildlife habitat associated with a backwater restoration project. Collected discharge measurements, suspended sediment, bathymetry, and wind speed to quantify the hydrodynamic and sediment transport regimes in this 5000 acre backwater.
- Navigation Pool Water Level Drawdowns Conducted monitoring and modeling to determine the impacts of water level drawdowns on hydrodynamics, sediment transport, and dredging. Worked with ERDC personnel and used GIS to measure the increase in sediment transport potential in the navigation channel.
- ➤ Pool 8 Islands Worked on an interagency team to develop project objectives, design criteria, monitoring plans, and modeling tools for this project, which won the 2004 Chief of Engineers Design and Environmental Award.
- Trempealeau National Wildlife Refuge Developed hydrologic budget to determine pump station size, spillway design, and levee heights for this habitat restoration project.