

## Chronology of Selected Planning and Research Efforts in the St. Croix Basin

“Plans are worthless, but planning is everything.”

-- attributed to U.S. Army, Dwight Eisenhower, and Winston Churchill --

“That’s God’s green Earth. Now what are you going to do about it?”

-- Hubert Humphrey, regarding funding for the Lower St. Croix --

### *I. Chronology of federal and state policy regarding the St. Croix and some of the science behind it*

- 1965-2001: Minnesota-Wisconsin Boundary Area Commission (MWBAC; 5 MN appointees, 5 WI appointees, 5 staff). Jim Harrison serves on staff from 1968-2001 (and with Basin Team afterwards).
- **1968: Upper St. Croix** designated National Scenic Riverway (Namekagon to St. Croix Falls) thanks to legislation by Walter Mondale (MN) and Gaylord Nelson (WI). The only original Riverway administered by the National Park Service (NPS).
- **1972: Lower St. Croix** added to the system (St. Croix Falls to Prescott). Riverway corridor along Lake St. Croix administered by state and local agencies. Funding debate (1974) settled by Humphrey (see quote above).
- **1976: Met Council** begins systematic **water-quality sampling** at Stillwater & Prescott. Critical nutrient loads calculated.
- **1993:** St. Croix Basin Water Resources Planning Team (“**Basin Team**”) formed. NPS, WDNR, MDNR, & MPCA signatory members, plus a dozen cooperating agencies and institutions. The Basin Team still meets.
- **1995-97: NPS-funded Water Resources Management Plan** (Holmberg et al. 1997) identifies nutrient and sediment inputs as the top two threats (out of 133) to the St. Croix. Long-term threats include urban development and invasive species.
- 1995-98: USGS National Water Quality Assessment (NAWQA) study of Upper Mississippi Basin, including the St. Croix.
- **1997-99:** Benchmark study by USGS on **sediment and nutrient loads in major St. Croix tributaries** (Lenz et al. 2003) and modeled response of Lake St. Croix (Robertson and Lenz 2002).
- **2003: Lake-sediment core data** show sediment and phosphorus (P) loading to Lake St. Croix is 3x the natural rates (Triplett, Edlund, & Engstrom at St. Croix Watershed Research Station). Increase escalated during 1940-60 with inorganic fertilizers and mechanized agriculture, prior to water monitoring programs.
- 2004-06: Based largely on the sediment work, the Basin Team adopts (2004) a goal to reduce P loading to Lake St. Croix by 20%, relative to the 1990s, and both WDNR & MPCA sign (2006) an agreement adopting this goal.
- **2008: Lake St. Croix declared impaired** from eutrophication caused by excessive P loads by both states, triggering a Total Maximum Daily Load (TMDL) study.

- **2012: TMDL plan** completed, with a goal of reducing P loads by 27%, based on the sediment studies, ecoregion target P concentrations, and margin of safety considerations.
- 2016: Watershed modeling report for the St. Croix Basin (Almendinger 2016). Reduction of P loads to Lake St. Croix will likely require significant changes in agriculture (more perennials on the land).
- 2018: Lake St. Croix modeling report by USGS to relate nutrient inputs to algal response (Smith et al. 2018).
- 2018+: Basin Team reports on annual progress made on TMDL Implementation Plan.

## *II. Relevant planning efforts & documents*

- Holmberg, K.L., J.A. Perry, R.S. Ferrin, and D.L. Sharrow, 1997. **Water Resources Management Plan** -- St. Croix National Scenic Riverway. National Park Service, St. Croix Falls, WI. 155 p. [Available at SCWRS library. Identifies nutrient loading as top risk to the St. Croix.]
- SCBWRPT (St. Croix Basin Water Resources Planning Team), 2010. Monitoring Plan for the St. Croix River: 2010. Minnesota Pollution Control Agency. 110 p. [Available on MPCA web site.]
- WRC (Water Resources Center), 2011. Minnesota **Water Sustainability Framework**. Water Resources Center, University of Minnesota. 139 p. [Available on Water Resources Center web page. Statewide, not just St. Croix.]
- MPCA (Minnesota Pollution Control Agency) and WDNR (Wisconsin Department of Natural Resources), 2012. **Lake St. Croix Nutrient Total Maximum Daily Load**. MPCA report wq-iw6-04e, Minnesota Pollution Control Agency, St. Paul, MN. 93 p. [Available on MPCA web page. Gives suggested P reductions per tributary watershed.]
- LimnoTech, 2013. **Implementation Plan** for the Lake St. Croix Nutrient Total Maximum Daily Load. Prepared for the Minnesota Pollution Control Agency in cooperation with the Wisconsin Department of Natural Resources and the St. Croix Basin Water Resources Planning Team. 185 p. [Available on MPCA web page.]
- SCBWRPT (St. Croix Basin Water Resources Planning Team), 2017. Strategic Plan, St. Croix Basin Water Resources Planning Team. Minnesota Pollution Control Agency, St. Paul, Minnesota. 15 p. [Available on MPCA web page.]

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### *For further information:*

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