

WATERSHED MANAGEMENT PLAN ST. JOSEPH RIVER WATERSHED, MICHIGAN & INDIANA

A Section 319 Watershed Management Planning grant from the Michigan Department of Environmental Quality, Water Division (MDEQ) was obtained by Kieser & Associates, LLC (K&A) on behalf of the Friends of the St. Joseph River. The grant was used to develop the first of its kind, bi-state Watershed Management Plan (WMP) for the St. Joseph River Watershed. Located in the southwest portion of the Lower Peninsula of Michigan and the northern portion of Indiana, the St. Joseph River Watershed spans the Michigan-Indiana border and empties into Lake Michigan at St. Joseph, Michigan. The watershed is largely agricultural. More than 50% of the riparian habitat is agricultural/urban, while 25-50% remains forested.

The working framework for this project secured partnerships amongst municipalities, townships, county, MDEQ, IDEM, industry, private sector, conservation and environmental groups, and other watershed stakeholders. A project web page (www.stjoeriver.net) created by K&A hosted all major project components for communication, dissemination and cost-effective updates. Various technical analyses were completed by K&A including use of a calibrated SWAT model for the entire simulating baseline flow and loading conditions of TP, TN, and sediment for each of the

229 subwatersheds, and atrazine loads at the outlets of three major agricultural tributary watersheds.

An empirical model was used by K&A to estimate NPS pollutant loadings from urban areas. This study showed that in the St. Joseph River watershed, urban storm runoff is a significant source of TP and TSS loads in subwatersheds with the substantial presence of urban land uses. A "build-out" analysis also identified sensitive and vulnerable areas of the watershed potentially subject to urban sprawl. Urban non-point source modeling analyses provided vital information to identify current and future impacts of growth as well as the costs for urban stormwater retrofits. The final WMP was approved by MDEQ, IDEM and EPA in 2005.

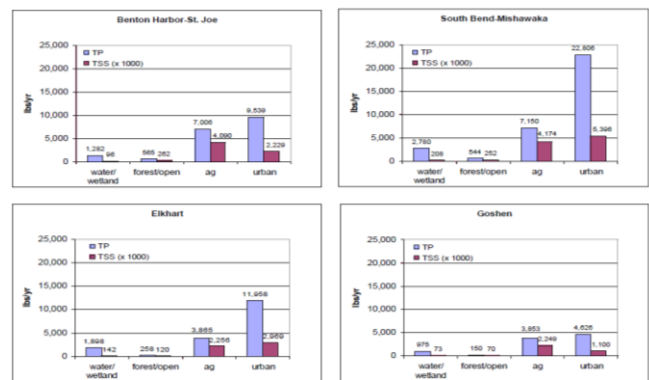
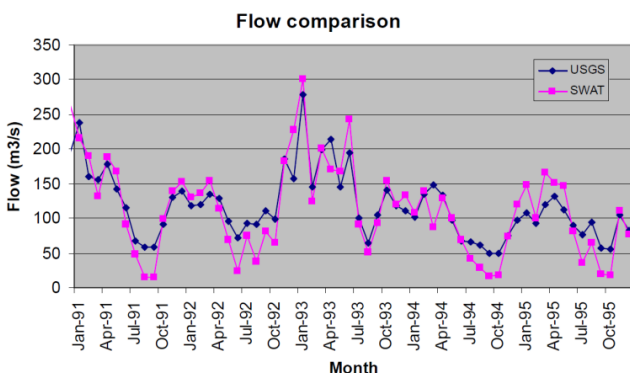


Figure 7: Total TP and TSS loadings from subwatersheds of the urban centers. (Note: TSS values shown in the graphs are in 1000 lbs.)



Contact:

Ms. Christine Bauer
Environmental Quality Analyst
MDEQ-WD, Kalamazoo District
7953 Adobe Road
Kalamazoo, MI 49009
(269) 567-3578

Project Costs:
\$125,000 (K&A)
\$275,000 (Total)

Project Duration:
2002 - 2005