

Working Together Toward Sustainable Growth in the Fox River Watershed

The Fox River Watershed

From its headwaters near Waukesha, the Fox River drains 938 square miles in southeastern Wisconsin prior to entering Illinois. Between the McHenry County/Wisconsin border and its junction with the Illinois River near Ottawa, the river runs for 115 miles and drains an additional 1,720 square miles. Although it is only 3% of the total area in Illinois, the watershed is home to about 450,000 people (11% of the state total); a number that is likely to increase by more than 30% over the next 20 years. The Fox River is a multi-purpose resource that contributes critical habitat for wildlife, serves as a valuable resource for recreation, receives and assimilates pollutants from point and non-point sources and provides source water for public water supplies. Habitat modifications may also play a significant role in the dynamics of the river. Because of the rapid pace of development in the Fox River watershed, maintaining these resources requires comprehensive planning.

The Fox River Study Group

The Fox River Study Group (FRSG) is a diverse coalition of stakeholders working together to assess water quality in the Fox River watershed. Participants include Friends of the Fox River, Sierra Club, Fox River Water Reclamation District (Elgin), Fox Metro Water Reclamation District (Aurora), Fox River Ecosystem Partnership, Illinois Environmental Protection Agency (IEPA), Northeastern Illinois Planning Commission, as well as representatives from Algonquin, Aurora, Batavia, Crystal Lake, Elgin, Geneva, Island Lake, Kane County, Lake in the Hills, St. Charles and Yorkville.

The FRSG began meeting in the summer of 2001 to plan how to prepare for the upcoming Total Maximum Daily Load (TMDL) study on the River. A TMDL study is required by federal law because three segments of the Fox River appeared on the Illinois Environmental Protection Agency's list of impaired waters (the 1998 303(d) list). These segments, which lie between Holiday Hills and North Aurora, were listed because results from at least one water sample suggest there are water quality concerns. The most common concerns include low dissolved oxygen levels or high concentrations of fecal coliform bacteria. The 303(d) listing was updated in 2002, and now includes the entire length of the Fox River from the Wisconsin state line to the river's mouth at Ottawa with the most numerous causes listed as flow alteration, habitat alteration, low dissolved oxygen, nutrients, organic enrichment, PCBs, siltation or suspended solids.

Although the emphasis in the original meetings was on monitoring water quality, it soon became clear that the FRSG presented a unique opportunity to foster sustainable growth throughout the watershed. To guide those efforts, the FRSG reached a consensus on the following work plan.

The Work Plan

The work plan is made up of four phases. Brief descriptions of the objectives of each phase, the schedule, and estimated costs are given in the table below. Phase I work is being conducted by the Illinois State Water Survey and funded by the IEPA. Part of the Phase II effort also began in April 2002 when the FRSG water quality monitoring program started collecting samples at seven sites along the Fox River. This program, an all-volunteer effort organized by the Fox River and Fox Metro water reclamation districts, was carefully designed to satisfy rigorous data quality requirements of the IEPA. Results from this program will be combined with results from Phase I

to identify times and locations where additional information is needed. Those data, especially information describing how the watershed responds to storm events, will be used in Phase III to calibrate a model of the Fox River watershed.

The fourth and final phase of the work plan is to implement and maintain the watershed model as a management tool. The model will be used to:

- Ensure efficient use of taxpayer and private moneys on watershed projects
- Assess the effect of various development options throughout the watershed
- Educate stakeholders
- Evaluate management priorities
- Identify sensitive regions within the watershed
- Develop effective continuing monitoring programs

Funding

The estimated cost to complete the first three phases of the work plan is \$1,560,000.

Phase	Tasks	Estimated Cost	Schedule	
I	Critical and comprehensive review of existing water quality and quantity and land use data	\$160,000	April 2002-October 2003	
II	Design and implement watershed monitoring and initial modeling	\$500,000	April 2002-begin monitoring Nov. 2003-July 2005 - develop model	
III	Watershed model calibration	\$900,000	August 2005-July 2008	
IV	Watershed model application and TMDL implementation		July 2008 onward	

That total does not include costs of the all-volunteer FRSG monitoring program, conservatively estimated at \$100,000. In Phase IV it will be important to continue monitoring to maintain and adapt the model to changes in the watershed. We expect those costs to average about \$100,000 per year.

Residents of and visitors to the Fox River watershed as well as all the receiving waters downstream from the Fox River will benefit from these efforts. All stake holders, including federal, state, local governments, corporate citizens and private foundations, who enjoy the benefits the Fox River watershed and will further benefit from sustainable growth in the the watershed need to share in the cost of the study, planning and adaptive management of the watershed.

The Fox River Study Group is currently seeking federal funding for Phase II of the work plan through the Watershed Initiative and other USEPA initiatives. The Group is soliciting local matching funds by asking Fox River Valley communities to budget 25¢ per capita into their yearly budgets to support the study. The towns of Aurora and Elgin, which take their drinking water from the Fox River, are being asked to contribute 50¢ per capita.