Elk River Turbidity: Survey of Reduction Strategies

In order to meet the water quality goals for the Elk River a 57 percent reduction in nutrient inputs is required. This is a difficult goal to reach but doable. The quality of water will improve with the implementation of each best management practice. It will be up to everyone to help improve water quality. We want to develop an implementation plan that works for both the SWCD and the landowners who will be implementing the practices. This is not going to be a plan that sits on the shelf, this is going to be a working document, please do your part and fill out the survey below to help us effectively develop our strategies. Please answer each question as it pertains to you. For each question please let us know what "barriers" you may have to implementing the practice.

Would you be interested in:

Rural and Urban Landowners:

1. Installing a buffer of native vegetative cover at the lake, river or ditch:
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____
2. Installing a rain garden to capture and filter stormwater:
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____

Agricultural Landowners:

1. Installing a buffer of native vegetative cover (instead of cropping or pasture) along river, lake, or ditch:
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____
2. Installing a buffer of native vegetative cover (instead of pasture) along river, lake, or ditch and practicing flash grazing.
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____
3. Developing an alternative source for watering livestock:
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____
4. Developing a comprehensive manure/nutrient management plan:
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____
5. Participation in Grid based Soil testing and precise fertilizer application:
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____
6. Installing riparian filter strips that cannot receive manure but can be managed for hay (converting riparian areas from row crops to grass/legumes):
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____

All Landowners

1. Upgrading a septic system
   ○ Yes ○ Maybe ○ No ○ Have done this
   Barriers:_____
2. What are preferred methods to educate the public on Best management practices needed to improve water quality?_____

Other/Comments:_____

If you would like to be contacted to learn if you quality for a best management practice please give us your name and phone number, someone will contact you as soon as possible.

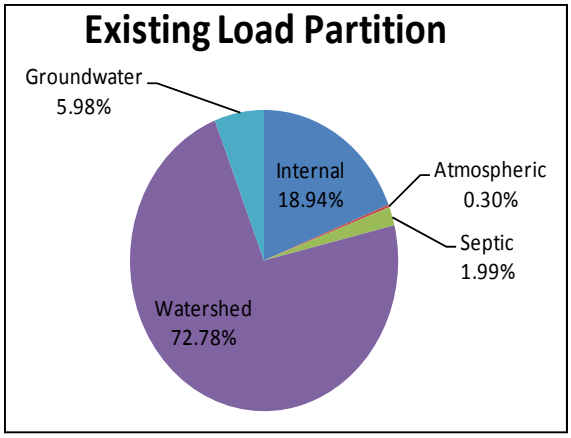
Thank you for participating in developing this plan to improve water quality!

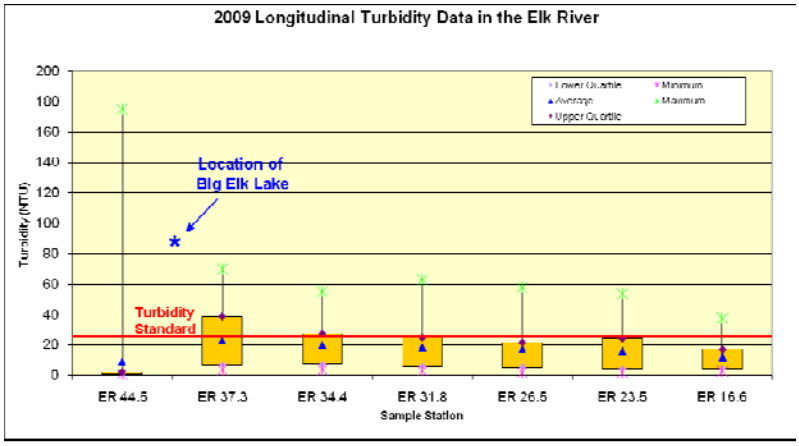
Elk River (Big Elk Lake to St. Francis River)

Impairment: ***Turbidity***

Turbidity refers to how clear the water is; it is caused by the suspension of sediment, organic matter or algae in the water making it appear green or brown. Too much turbidity limits the beneficial uses of streams in including aquatic life and recreation; additionally turbidity in source water areas can increase the cost of treatment for drinking water. Turbidity exceedances in this reach appear to be caused by extreme algae blooms in Big Elk Lake at the upstream end of the impaired reach.

Nutrient load reductions and best management practices required to meet the endpoint for Big Elk Lake will result in turbidity levels which meet the State established standard, The required nutrient reduction is 78 %.





Reduction Strategies For Turbidity

Phosphorus reduction strategies for Big Elk Lake/ Elk River reach 579 focus on reducing nutrient input from watershed riparian areas (areas near rives, ditches and lakes) after spring runoff including:

<u>Watershed :</u>

- Shoreline restoration
- Raingardens
- Vegetative buffers along ditches, streams and lakes
- Livestock exclusion
- Alternative watering sources
- Manure and nutrient management
- Septic system compliance

<u>Internal :</u>

- Native aquatic plant establishment
- Rough fish management

<u>Other:</u>

- Education
- Capital projects

Contact: Benton SWCD: 320-968-5300 x 3 or Sherburne SWCD: 763-241-1170 x 3 or tdeterman@sherburneswcd.org