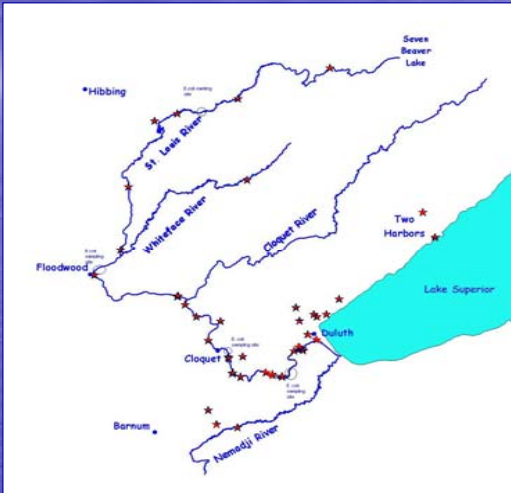


Comparison of *E.coli* Monitoring Kits on the St. Louis River

Sharon O'Leary, Fond du Lac Tribal & Community College; Courtney Kowalczak, SLR River Watch, Fond du Lac Tribal & Community College; Alyxis Feltus, Fond du Lac Tribal & Community College

Introduction

During the summer of 2005 the St. Louis River – River Watch program along with the Citizens Monitoring Bacteria program sampled the St. Louis River for *E. coli* bacteria. This research was to determine which of two bacteria test kits were the most accurate in determining *E. coli* in the river water. We sampled four sites on the St. Louis River weekly for 3 months throughout the summer analyzing and recording the data to compile with other sampling site data entries collected by volunteers throughout the state.



E. coli sampling sites were located at four sites in the St. Louis River watershed. Red stars indicate where St. Louis River – River Watch participants sample water quality parameters twice a year.

Methods

We sampled four different locations on the St. Louis River. Water samples were taken using sterile techniques. The weather conditions, both current and the previous 48 hours were recorded. Air and water temperature along with transparency data was gathered along with the water samples. Water samples were placed on ice and transported back to the lab at Fond du Lac Tribal & Community College. The Coliscan Easy Gel and 3M Petrifilm test kits were incubated and read at 24 and 48 hours to determine the amount of *E. coli* colonies in each sample. A replicate sample from each site was sent the same day as collected to an independent analytical laboratory for an accurate *E. coli* colony measurement. Processed test kits were treated with bleach and placed in Ziploc baggies and disposed of in the trash.



Coliscan Easy Gel media and pre-treated petri dishes.



Transparency readings were taken at each site using a transparency tube along with temperature data.



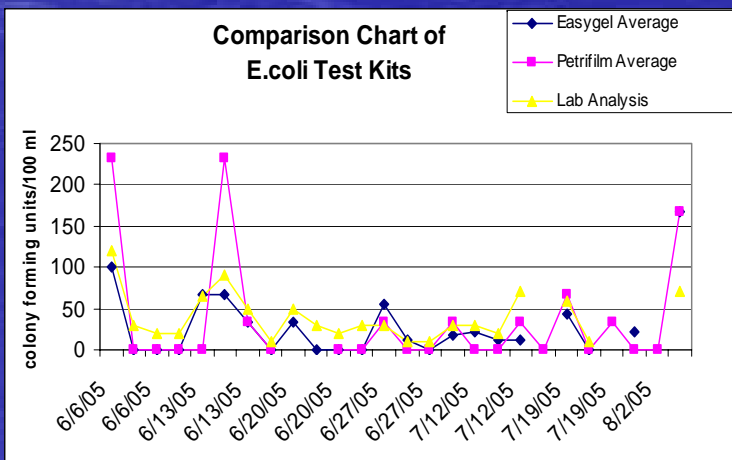
The bucket and sample bottle was rinsed 3 times with stream water before sample was taken.



River water was poured from the sample bottle into a sterile container.



3M Petrifilm bacteria test kit.



Preliminary results indicates that the Coliscan Easy Gel method agrees more closely with analytical lab analysis of *E. coli* colonies in the St. Louis River.

Results

Preliminary data analysis suggests that the Coliscan Easy Gel bacteria test kit was more accurate than the 3M Petrifilm when compared to the analytical lab results. Statistical analysis for the data we collected will be conducted in the future. *E. coli* counts in the St. Louis River during this summer were below state standards for safe recreational use.