

Centennial Honors College
Western Illinois University
Undergraduate Research Day 2012

Poster Presentation

**Suspended Sediment Concentrations in Tributaries of Spring Lake, McDonough
County, Illinois**

Ryan Anderson and Dan Markowski

**Faculty Mentors: Steve Bennett and Chad Sperry
Geology**

This project was initiated to better understand the suspended sediment loads of tributary streams to Spring Lake, near Macomb, IL. Samples were collected from seven locations over the course of about two months. When sediment concentration data collected from the different streams is compared to land-use data for each of the stream's watersheds it allows for an understanding of where the sediments are originating and in what quantities are they being transported by the streams into the lake.

Initial findings suggest that the streams with the greatest amount of suspended sediment per hectare are located on the western-most side of the lake's watershed. This is most likely due to the lack of tree cover (0.5–2%) in the vicinity of the streams on this side and the high percentage (86%) of the watershed used for crop land. The eastern-most streams in the lake's watershed had lower suspended sediment levels after rain fall than those to the west. It is thought that the reason for this is the larger riparian buffer zone on either side of the stream. Preliminary findings suggest that there is a correlation between the area of the watershed used for farming and the amount of suspended sediment in the streams. Our data shows that the streams with less cropland produce less suspended sediment per hectare than those streams with a higher percentage of row crops.