Macronvertebrates are aquatic insects that feed on phosphorus nutrients (Brosse et al. 2003) in the watersheds. Land development can lead to significant alteration of stream habitats. Agricultural, and urban land uses can increase sediment loading to streams. Significantly elevated sediment loads can impair water quality and also the habitat value of streams. When particulates are deposited in streams, they can fill essential macroinvertebrate microhabitats and embed larger sediments in fine sediments. Because phosphorous binds to and travels with fine sediments, any land use that increases soil erosion tends to increase P loading to streams. Benthic macroinvertebrates respond to both the physical and chemical changes that urbanization can cause in stream habitats (Kauffman et al. 1999).

Objective
• Find the biodiversity of macroinvertebrates in different channelized and sinuous urban streams.
• Find if the Phosphorus and the TSS affect the macroinvertebrates communities.

Methodology
Materials
• To collect samples, different materials were used: kick net, forceps, whirl pack and ethanol to take all the macroinvertebrate samples.
Methods
• Water samples were taken using plastic containers, for the analysis of Phosphorus (P) and Total Suspended Solids (TSS). For the macroinvertebrate collection, samples were stored in a plastic bag with 100% ethanol for specimen preservation.
• For the macroinvertebrate search, which was in every quadrant, a light was used to collect around eighty at least in three quadrants per sample in every tray.
• Every insect was observed with the microscope to identify and classify it by family and genus.
• Every specimen was separated, identified and classified in the laboratory by physical characteristics (wings, tale's quantity and legs).

Study Area
The Study areas for work on this research are:
• Potash Brook
• Centennial Brook
• Englesby Brook
• Indian Brook
• Munroe Brook
• North Branch Deerfield
• Beaver Brook
• Bartlett Brook
• Mill Brook (3 sites)
• Malletts Creek
• Rugg Brook
• Hungerford Brook

Discussion
• This graphs represent a direct correlation between Total Suspended Solids, Total Phosphorus and macroinvertebrates.
• The streams are very inhibited by a good spread of species and quantity.

Future Work
• More study sites may give more accurate results and more data for analysis.
• Water samples may be compared with macroinvertebrates
• Correlations may be found between pH, temperature, stream depth, and discharge.

References

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