Health of the Lee Branch on the Midway University Campus: Biological stream assessments and stream habitat assessments. JOHN DELFINO\*, Department of Mathematics and Sciences, Midway University, Midway, KY 40347. GUIPSY LOPEZ, 2052 Alexandria Drive, Lexington, KY 40504.

The Clean Water Act (CWA) is United States (U.S.) federal law protecting U.S. surface waters from pollution. The Environmental Protection Agency (EPA) is the enforcer of CWA tenets and shows latitude in its jurisdiction helping states if necessary to meet CWA goals. Yet, the CWA authorizes states to design and execute programs to meet its goals. Benthic macroinvertebrates are sensitive to water pollution; they are real time living indicators of water quality. Two stream reaches of the Lee Branch on the Midway University Campus are surrounded by natural terrestrial habitat. In accordance with the CWA, we wanted to determine the health of the Lee Branch on our campus by performing biological stream assessments and stream habitat assessments of these reaches during the summer, 2016. We identified aquatic habitats as riffles, runs, pools, and glides and generally randomly sampled each. Microhabitats within habitats were randomly sampled when appropriate. We sampled for benthic macroinvertebrates by kicking substrates into a D-frame net, with contents emptied into buckets and typically sieved in the lab. Kept specimens were preserved and identified; crayfish were released. We formulated integrity ratings from biotic indices and habitat ratings from habitat scores allowing categorization of stream reach conditions. Reach 1 rated “fair” for both integrity and habitat; when contiguous upstream and downstream habitats were included, habitat rating increased to “good”. Reach 2 rated “fair” for both integrity and habitat. Water chemistry at benthic macroinvertebrate collection sites with two exceptions showed both reaches within Kentucky’s acceptable ranges for aquatic life.

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