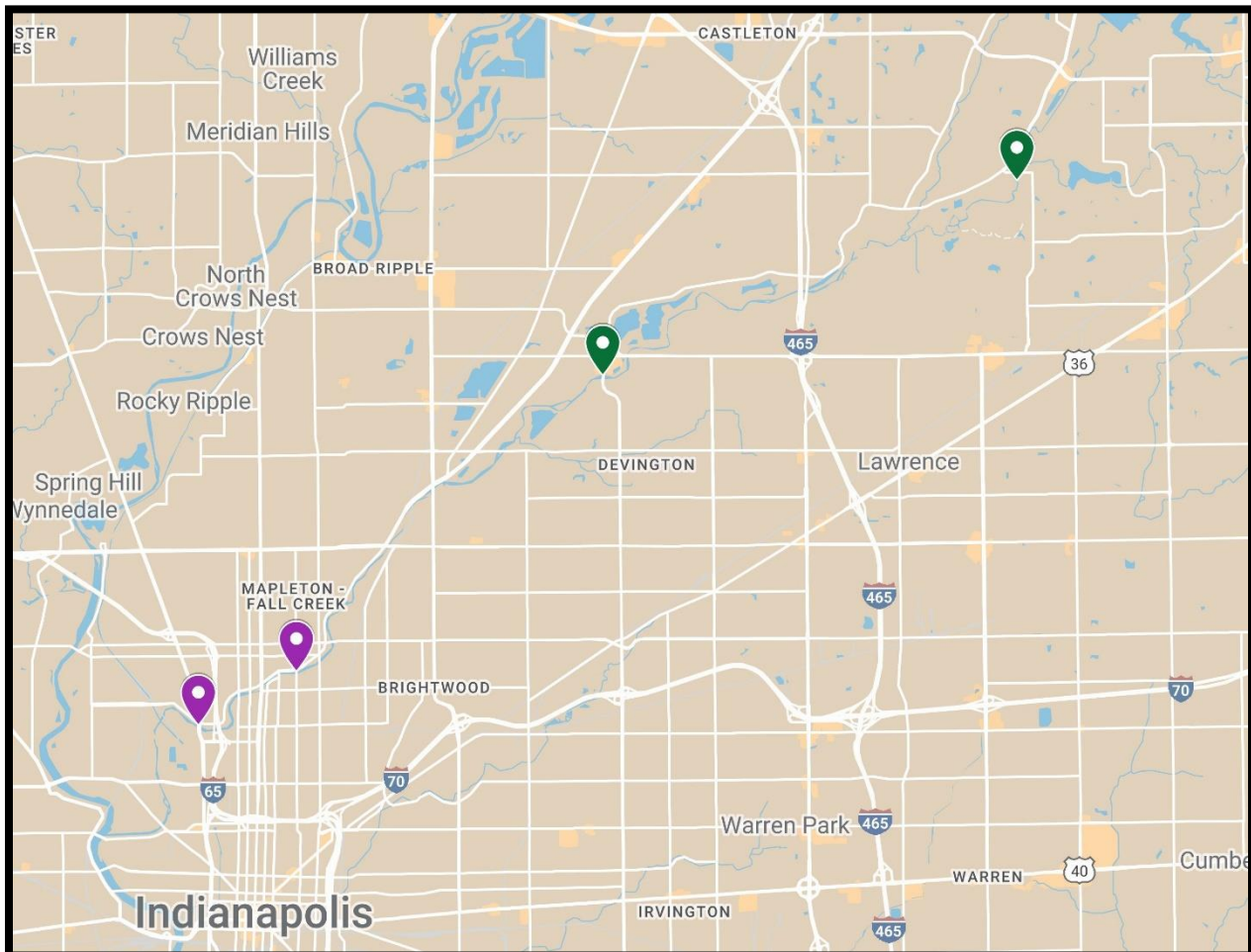
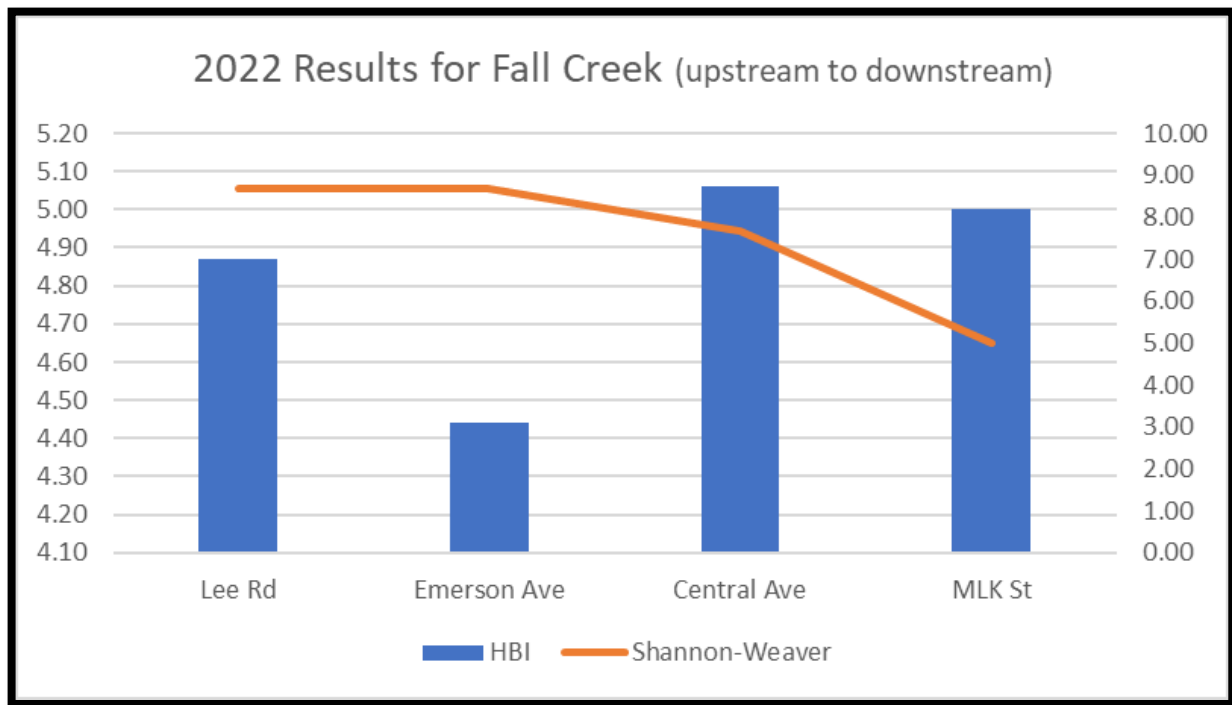


## 2022 Fall Creek Macroinvertebrate Sampling Summary

Macroinvertebrate sampling on Fall Creek consists of four sites, each sampled once per year. Metrics, such as HBI and Shannon-Weaver Diversity are monitored and compared from year to year to track any possible trends in the macroinvertebrate community. These trends can help identify possible water quality issues. Sites are selected both upstream and downstream of combined sewer overflows to compare results. Sites with green markers are upstream, and those with purple are downstream.



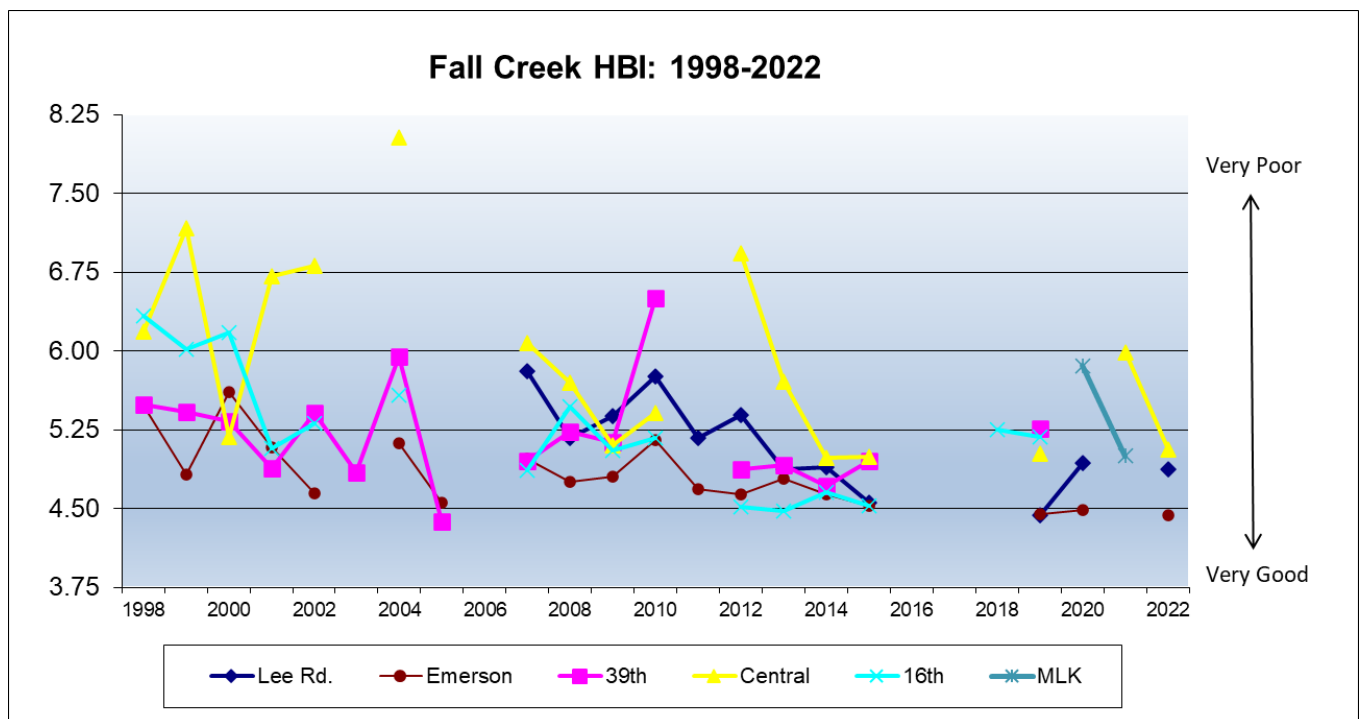
SITE NAME	COORDINATES
Fall Creek @ Lee Rd	39.52865, -86.00188
Fall Creek @ Emerson Way	39.51152, -86.04998
Fall Creek @ MLK	39.797404, -86.169300
Fall Creek @ Central Ave	39.48334, -86.08979



Note: Good water quality is indicated by low HBI and high Shannon-Weaver values.

**Hilsenhoff Biodiversity Index (HBI)**

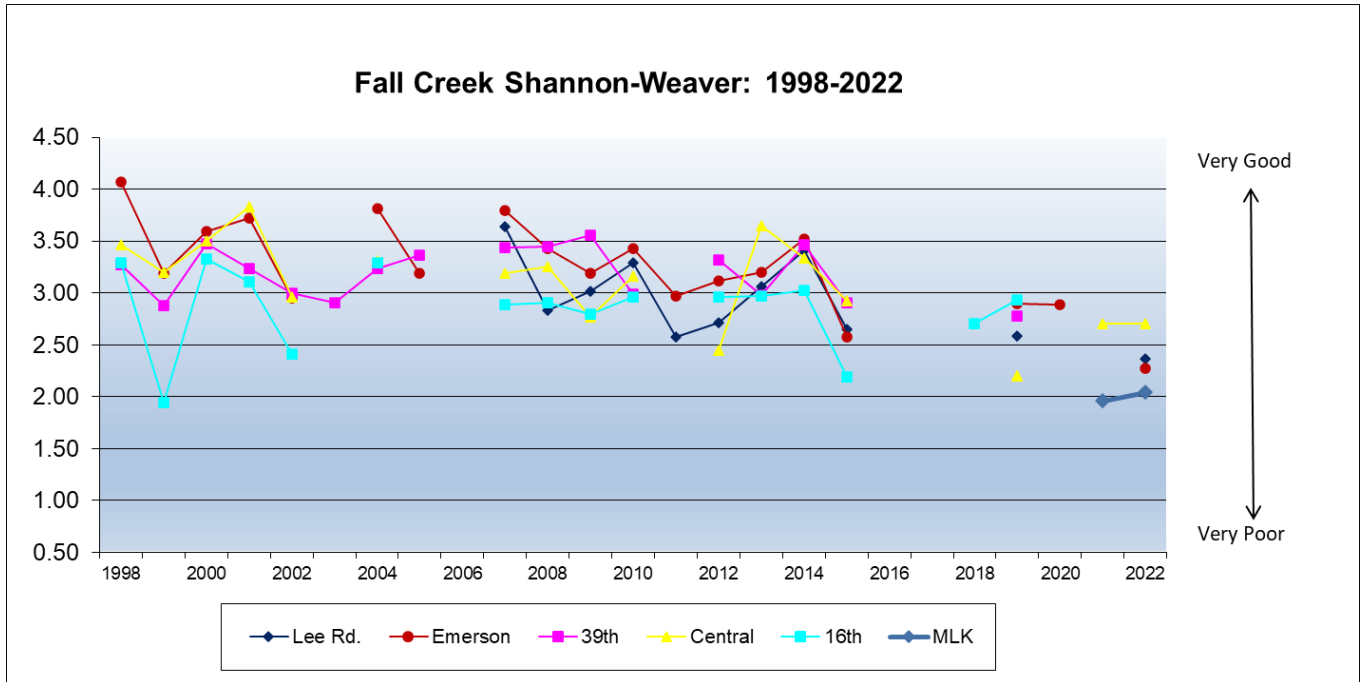
HBI is one parameter that is used to determine the overall health of each stream sampled. This index is calculated by using the tolerance levels of various aquatic macroinvertebrates to estimate the overall water quality of the stream. The lower the HBI, the higher the water quality (less pollutants, etc.). HBI numbers were equal, or slightly below, previous years at the four sites sampled, indicating lower pollutant levels may be present.



Note: breaks in line indicate years where the site was not sampled due to circumstances such as weather, construction, habitat degradation, etc.

### Shannon-Weaver Mean Diversity

This parameter is designed to gauge the diversity of each site by using both the total number of individuals and the number of species found. The higher the number, the more diverse the stream’s macroinvertebrate community, indicating healthier habitat and water quality. Diversity numbers for 2022 were consistent with those from previous years, with the downstream site having poorer quality than the upstream site. This is expected due to the number of combined sewer overflows in this area.



Note: breaks in line indicate years where the site was not sampled due to circumstances such as weather, construction, habitat degradation, etc.