CENTER FOR CIVIC LEADERSHIP
RICE UNIVERSITY

HOUSTON ACTION RESEARCH TEAM

WHITE OAK BAYOU ASSOCIATION SINCE 1988

Will Deaderick, Kevin Czachura, Avery Zaleski, Qiu Wong

White Oak Bayou – Water Quality Investigation, Spring 2017

This HART, made up of undergraduate students from Mechanical Engineering, Civil and Environmental Engineering, Statistics, Math, and Ecology and Evolutionary Biology, designed and implemented a water quality study for the White Oak Bayou Association. The team conducted water sampling over a six week period along portions of White Oak Bayou in order to determine whether there is a significant difference in water quality between grass-lined and concrete-lined sections of the bayou. Using testing equipment from the City of Houston, the team was able to measure nine different water quality parameters. The team conducted a statistical analysis of this data to determine differences in water quality between the grass-lined and concrete-lined sections. This analysis found that concrete sections of the bayou have significantly higher temperature and pH, both of which can endanger aquatic species life. However, none of these metrics exceeded environmental standards. The team also found that all sections of the bayou contain high levels of nitrates that approached or exceeded environmental standards.