Water is a scarce resource on planet earth and human activities can greatly affect water quality. The goal of our experiment was to see how human effects had influenced the water quality in Boulder and how our water quality compared to national standards. We tested for pH level, phosphate content, turbidity, dissolved oxygen content, and temperature at four different sites along Bear Creek in Boulder. We used a LaMotte Green Water Monitoring Kit and an YSO Digital Water Tester. We found that the water in Bear Creek had extremely high phosphate content compared to national standards, particularly at our fourth site. Though our turbidity, temperature and dissolved oxygen measurements were inconclusive, we also found that pH measurements would support all aquatic life. Our project implied certain conclusions about the water quality of Bear Creek. The phosphate content was very high, and, though pH levels were in the optimal range for healthy aquatic life, the creek would not support a healthy ecosystem.