Analyzing the Relationship Between Concentrated Animal Feeding Operations (CAFOs) and Heavy Metal Content in North Carolina Drinking Water

This study aims to evaluate the extent to which treated North Carolina drinking water is contaminated with waste originating from Concentrated Animal Feeding Operation (CAFO) lagoons. Through this project a profile of six heavy metals associated with CAFO pollution was developed for nine different North Carolina River Basins. The mean values of heavy metal concentrations in parts per billion were calculated for each basin, then contrasted with the number of CAFOs per square kilometer in each basin. Arsenic concentrations had a significant positive correlation ($R^2 = 0.5131$) with proportion of CAFOs even in treated drinking water. Other heavy metals did not have significant correlations with proportion of CAFOs in treated drinking water. All heavy metal concentrations were below the National Primary Drinking Water Regulations set by the Environmental Protection Agency.