Difference in Antibiotic Resistance on Biofilms vs. Whole Water Samples in an Aquatic Environment

Barreto, Gabrielle

This research examines the hypothesis that intrinsic antibiotic resistance differs according to habitat. I think that the biofilm is creating an environment that is causing the microbes on the rocks to have to fight off other threats before they are tested, causing them to be more resistant. I used the Kirby Bauer method to test the resistance of microbes in the water, on rocks, along the shore and on the dry banks of the South Platte River. I have found that when tested against tetracycline and ciprofloxacin the resistance from in microbes on the rocks comes out much higher than the resistance of the microbes in the water. I will also be using the Kirby Bauer method to do the same test on the rocks and water of assorted fish tanks. This research will help the human condition by making sure people are aware that maybe instead of testing the water for potentially dangerous microbes you should really be testing the rocks. Many children play in rivers and the parents worry about there being anything that their kids could get e.coli or other diseases carried in water but they never think about what their children are stepping on that could be equally as or potentially more dangerous.

Awards Won: