



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Hailey A. Wilder	Project Number J1336
Project Title Water: To Drink or Not To Drink, That Is the Question	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to see if coliform, E. coli, and overall bacterial counts substantially increased in body contact versus non-body contact water sources.</p> <p>Methods/Materials Materials needed: Water samples, Tetrazolium salt pre-treated petri dishes, Test tubes, Eye droppers, Coliscan bottles, Total count bottles, Ice and ice chest, Towel, Labels for petri dishes and test tubes, Permanent marker, Oven disposal bag, Incubation area, Thermometer. Method used: Collect water samples. Store them wrapped in a towel on ice in ice chest. Using permanent marker and labels, label petri dishes with: name, date, water sample source, and medium type (TC 1, TC 2, TC 3, C 1, C 2, and C 3). Also label test tubes with same information as above. Determine the proper amount of inoculum. Using the dropper, measure the correct amount of water. After measuring the correct amount of water, open a bottle of total count (TC) and deposit the water into the bottle. Replace the cap and swirl gently. Remove the cap and pour into the correct pretreated petri dish. Repeat the steps above for the other tests including coliscan (C). Incubate for 24 hours at 35 degrees Celsius. Remove dishes from the incubated area and count all colonies on the total count dish, report results in terms of colonies per milliliter of water. Count all of the purple colonies on the coliscan dish, and report the results in terms of E. coli per milliliter of water. Count all of the red, pink, and purple colonies on the coliscan dish, and report the results in terms of coliform per milliliter of water.</p> <p>Results Of the body contact water sources, Lake Perris had the most total bacterial colonies overall, as well as the highest numbers of coliform and E. coli. The pond water showed large amounts of bacteria including coliform but no E. coli. Massacre Canyon Stream also showed high overall bacterial counts and coliform counts. E. coli was also present. The non-body contact Lake, Diamond Valley Lake, had very low bacterial and coliform counts and no E. coli. My control, tap water, had no bacteria present.</p> <p>Conclusions/Discussion My conclusion is that body contact water sources have more overall bacteria, more coliform and more E. coli bacteria than non-body contact water sources.</p>	
Summary Statement My project is a comparison of bacterial levels in different body contact versus non-body contact water sources.	
Help Received Mother helped type report; Father took me to test sites; Action Construction donated test kit; Tyler Skrove recommended where to get the test kit.	