



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Marcie Brendlen; Esther Viera</b>	<b>Project Number</b> <b>S0602</b>
<b>Project Title</b> <b>Four Features, Three Lakes</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective is to determine if hardness in water correlates to nitrogen, phosphorus, and potassium in soil in three Northern California lakes.</p> <p><b>Methods/Materials</b> We collected water from Lake Mendocino, Clear Lake, and Blue Lake and used CaCo<sub>3</sub> strips to test for hardness. We gathered soil from the banks of the three lakes to test for nitrogen, phosphorus, and potassium testing kits.</p> <p><b>Results</b> We discovered that of the three lakes Blue Lake was the hardest, although all of the lakes tested highest for hardness in the water. All of the lakes had high levels of potassium, medium levels of phosphorus, and depleted levels of nitrogen.</p> <p><b>Conclusions/Discussion</b> Our results are inconclusive regarding a correlation between the nutrient content of soil with the hardness of the water in three Northern California lakes. There may be a negative correlation between nitrogen in soil and hardness in water, but more research must be done.</p>	
<b>Summary Statement</b> My project explores whether hardness in water correlates with three major elements in soil.	
<b>Help Received</b> Our teacher edited our papers and my dad drove us to the three lakes.	