



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Rosalind N. Cox</b>	<b>Project Number</b> <b>J0905</b>
<b>Project Title</b> <b>A Baseline Study of the Water Quality of the Teichert Ponds</b>	
<b>Abstract</b> <b>Objectives/Goals</b> I wanted to set up a multi year environmental engineering project by first establishing a baseline for the water quality of the Teichert Ponds in Chico. I assumed that pollution including heavy metals may be leaching from the old Chico dump upstream and making their way down to the ponds along with storm drain runoff. <b>Methods/Materials</b> I collected water samples and conducted 13 different water analysis tests using LaMotte Water Pollution Detection Outfit-Model Am-12 Code 5905-01 at three different sites. Site 1 was at the north end of the ponds just east of what appeared to be the outlet area. Site 2 was on the west side of the ponds near the freeway. Site 3 was also on the west side, but toward the south where an inlet ditch carrying street runoff ran into the ponds. I took the temperature and ran the Dissolved Oxygen and Carbon Dioxide tests at the ponds for all three sites. I ran all of the other tests for Site 1 at the ponds as well. I ran the remaining tests for Site 2 and Site 3 at home after collecting water in a clean plastic bottle. It was easier to run the tests on the counter in my kitchen. I followed the instructions for each test and recorded the results. <b>Results</b> I did not find any heavy metals that might be coming from the dump. The oxygen levels seem right for a pond environment in cold weather and the pH is neutral; however, there are some pollutants in the ponds. There are definite levels of nitrates and phosphates. There was also coliform at the testing sites. <b>Conclusions/Discussion</b> According to my water analysis tests, the pond overall seems to be healthy in some regards like heavy metals, but it does have quite a bit of nitrates and phosphates in it, as well as coliform, which comes from animal and human waste. These pollutants are most likely coming from the storm drains from the street and caused by animal waste, fertilizers, and detergents.	
<b>Summary Statement</b> The purpose of my project was to develop a baseline for various pollutants within the Teichert Ponds in order to form a basis for a future environmental engineering project.	
<b>Help Received</b> I used books and water test kits provided by Anne Stephens, March Jr. High. My father drove my to the test sites and helped be construct my backboard. My sister helped me with my tables and graphs on the computer and my mother helped type my final draft.	