



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

<b>Name(s)</b> <p align="center"><b>Chloe L. Jenniches</b></p>	<b>Project Number</b>          <p align="right">34416</p>
<b>Project Title</b> <p align="center"><b>The World Is Your Oyster</b></p>	
<p align="center"><b>Abstract</b></p> <p><b>Objectives/Goals</b>          My science project is about the filter-feeding Olympia oyster (<i>Ostrea Lurida</i>) native to the Pacific coast of North America. I did an experiment to see if Olympia oysters change the biological and chemical contents of bay water.          In my experiment, I believe that if I compare two tanks of bay water and micro-plankton, one with Olympia oysters and one without, then after 13 hours the tank with the oysters will have decreased algae and turbidity.</p> <p><b>Methods/Materials</b>          Materials: -At least 20 gallons of Bay water; -Approximately 90 to 100 Olympia oysters cleaned of debris and other organisms collected from the coast of San Rafael; -Two 10-gallon fish tanks; -Two bubble bars; -Phyto-feast marine micro-plankton; -Low-cost green estuary monitoring kit; -2 pipettes; -Toothbrush (to clean oysters); -Microscope; -Microscope slide.           Method: -Add nine gallons of water to each tank then test for the responding and controlled variables (RV and CV) and count the number of algae cells in a microscope grid; -Add 310 drops of micro-plankton to each tank and add 42 oysters to the test tank then test each tank for the (RV and CV) and count the number of algae cells in the microscope grid; -Photograph tanks every 15 minutes for 13 hours; -Count algae cells in the microscope grid from each tank every two hours; -After 13 hours, test both tanks for responding variables and control variables; -Remove the oysters from the tanks into a bucket of bay water; -Clean the tanks and put new bay water in them; -Repeat steps then return all oysters to their original habitat.</p> <p><b>Results</b>          After 13 hours, I found that the level of turbidity and the number of algae cells in the test tank dropped significantly. I repeated this experiment twice and found very similar results.</p> <p><b>Conclusions/Discussion</b>          In conclusion, my experiment answered my question: Will a group of Olympia oysters change the biological and chemical contents of the water surrounding them? I found that the oysters did clarify the water. I know this because the number of algae cells decreased in the test tank.          My experiment supports the idea that oysters and oyster reefs can improve water clarity, but improving clarity is not all oysters can do for the environment. Oyster reefs can lower nitrogen levels, stabilize sediment, provide food and shelter for other marine animals and plants, and possibly help protect the bay</p>	
<p><b>Summary Statement</b>          A group of native Olympia oysters affects the biological and chemical contents of bay water in a controlled tank experiment.</p>	
<p><b>Help Received</b>          Parents helped me gather supplies and oysters; Project Manager for Living Shorelines project helped me with research and best location to find the oysters.</p>	