



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> Tyler H. Taylor	<b>Project Number</b> <b>S0427</b>
<b>Project Title</b> DNA Barcoding as a Tool to Identify Commercially Marketed Fish	
<b>Abstract</b> <b>Objectives/Goals</b> Overfishing is a major factor in the decline of fish diversity, and productivity of fisheries worldwide. In order to combat overfishing, DNA barcoding could be utilized to identify mislabeled seafood and enforce fishing restrictions. This experiment was intended to test the feasibility of barcoding using a small-scale lab as a species identification tool. <b>Methods/Materials</b> In this study, DNA was extracted from five generically labeled samples collected in San Diego seafood markets. DNA from each sample was isolated, and Polymerase Chain Reaction (PCR) was performed, in order to amplify the cytochrome c oxidase subunit 1 (CO1) section of mitochondrial DNA for sequencing. <b>Results</b> Of the five samples, the CO1 fragment was amplified for three, and two yielded an accurate species ID. <b>Conclusions/Discussion</b> These results demonstrated the possibility of implementing small-scale barcoding operations to expose market substitution and in turn help put an end to overfishing.	
<b>Summary Statement</b> This project is intended to test the ability of DNA barcoding using a small-scale lab to identify commercially marketed fish in the context of conservation forensics.	
<b>Help Received</b> Used lab equipment at High Tech High under the partial supervision of advisor, Dr. Jay Vavra	