



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> <b>Emily K. Denny</b>	<b>Project Number</b> <b>J2306</b>
<b>Project Title</b> <b>Diesel Ducks and Gassy Grebes: How Fuel Spills Affect Birds</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My project is to determine which fuel, gasoline or diesel, is most damaging to a bird's ability to insulate itself.</p> <p><b>Methods/Materials</b> Nine chicken breasts (bone in, skin on) were cooked in an oven to 325 degrees F. for 25 minutes each. When they were removed from the oven, the breasts were covered in bird feathers that were soaked in either gasoline or diesel fuel, or in dry feathers. I measured the drop in temperature of the chicken breasts for 45 minutes.</p> <p><b>Results</b> The gasoline and diesel fuel both had an average temperature loss of 0.54 degrees F per minute. The chicken breast covered in dry feathers had an average temperature loss of 0.34 degrees F per minute.</p> <p><b>Conclusions/Discussion</b> I found out that gasoline and diesel fuel have the same effect on the insulating quality of a bird's feathers. I also found out that feathers not soaked in any kind of fuel will insulate a bird more effectively.</p>	
<b>Summary Statement</b> My project will determine which oil is most damaging to a bird's ability to insulate itself, gasoline or diesel fuel.	
<b>Help Received</b> My Dad helped me with the project by supervising when I was working with hazardous fuels. I had help in my research from the Sequoia Park Zoo and the Humboldt Wildlife Care Center.	