



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

Name(s) Cheyenne E. Newallis	Project Number S2208
Project Title An Examination on the Factors that Contribute to Egg-laying of Pacific Swell Shark (<i>Cephaloscyllium ventriosum</i>)	
<div><div>Objectives/Goals<p>Information on factors affecting their breeding season in both captivity and the wild are not well known in the literature. Being informed about breeding seasons of sharks is important to conservation efforts, allowing appropriate protections to be put in place. This study investigates what factors contribute to the egg-laying behavior of <i>C. ventriosum</i>, with the goal of further understanding their breeding season while in captivity. The hypothesis of this project is that longer photoperiods will trigger an increase in the frequency of egg-laying.</p></div><div>Methods/Materials<p>Eggs were collected, tagged, and recorded weekly for a period of one year.</p></div><div>Results<p>There was no statistical significance between the number of fertile eggs laid and day length.</p></div><div>Conclusions/Discussion<p>There are several possible explanations for a lack in correlation. Day length stimulates the maturation of the <i>C. ventriosum</i> reproductive organ (Wiebe, 1968). However, it is possible that the community holding tank is not receiving the full effect of day length exposure. The aquarists close the tank lids at a consistent time everyday, so the sharks may never experience a true #breeding season#. There is also a built in awning that reduces sunlight. It is equally possible that the sharks do not experience a cue to stop laying eggs. Since the sharks are kept in fairly constant ideal conditions in captivity, they may not be experiencing any cues that mark the change in seasons. Future research could explore effects of day length and could examine the shark male to female ratio, or examine individuals to infer their ages and to see which sharks are laying eggs. Continuing research on this topic is important because many sharks are critically endangered. Finding out what causes them to lay eggs can promote healthy husbandry practices and knowledge of how to protect this crucial species. Promoting shark conservation is a necessary part of keeping the ocean ecosystems healthy.</p></div></div>	
Summary Statement <p>This research was to attempt to find a cue to the mating season of the Pacific Swell shark (<i>Cephaloscyllium ventriosum</i>).</p>	
Help Received <p>Researched at Cabrillo Marine Aquarium</p>	