



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Gabriel S. Hulbert	Project Number J2409
Project Title Dialoguing with Dolphins	
Abstract Objectives/Goals The objective is to figure out if dolphins become more social when the crowd size around them increases. Methods/Materials Dolphins at Sea World San Diego were identified by their distinct markings and names. Trainers helped to learn some certain marks on each dolphin. Then the dolphins were observed around large crowds and around small crowds in order to look for social behaviors such as clicking, splashing, and whistling. Every thirty seconds the behaviors of a dolphin were tallied on an ethogram created for the project. The ethogram included a crowd estimation on a ranking system of ten with ten being a very large crowd and one being a very small crowd. The ethogram also included a slot for dolphin interaction and human interaction as well as a ranking system of how social the dolphin was over that time interval based on a scale of ten. Results Observations and tallies indicated that as the crowd size at the Rocky Point Preserve at Sea World increased, the number of unsocial behaviors, such as swimming around the pool, decreased while the number of social behaviors, such as clicking, whistling and splashing, increased. It was observed that certain dolphins had particular social behaviors, and it was determined that certain dolphins had more social behaviors as the crowd size increased. The correlation of dolphin behaviors and crowd size was sorted with a computer program called MATLAB. Conclusions/Discussion The observations as well as the raw data and data correlation between social behaviors and crowd size sorted by MATLAB demonstrated that the dolphins' social behaviors such as clicking increased as crowd size increased, and anti social behaviors, such as swimming around the tank, decreased as crowd size increased.	
Summary Statement This project was done to determine if dolphins exhibit more social behaviors as crowd size increases.	
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