



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

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Project Title The Effects of Vegetation and Urbanization on Bird Abundance	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals We monitor the bird species of San Lorenzo Valley High School in order to compare the diversity and abundance of birds in garden and urban settings. We categorize our sites as garden or urban based on the amount of foliage in each plot. Our null hypothesis is that the bird abundance will not be affected by vegetation level of the plot.</p> <p>Methods/Materials For our study at the high school, we designated six circular, fifty meter radius plots (three urban and three garden) separated by at least one hundred fifty meters to avoid duplicate bird counts. A bird is recorded in our data sheet, if the bird is heard, seen, or flushed from the plots. We also record abiotic factors at each plot, including temperature, wind speed, cloud cover and noise level.</p> <p>Results We have been monitoring since late October 2015, and our results do not indicate greater abundance of birds in garden plots. In consideration of the results, they do however indicate a strong correlation between bird abundance and distance from highway as well as bird abundance and distance from forest. This presents the new null hypothesis that there is no causation between bird abundance and distance from forest and bird abundance and distance from highway.</p> <p>Conclusions/Discussion As birds are key indicator species, this project informs us about the diversity of species and the environmental health of our campus. We hope that with further data this information found on bird abundance correlation with the forest and highway can be used with the information found on garden and urban areas affecting bird abundance to inform city planners on what types of vegetated areas are needed in rural areas, like the San Lorenzo Valley High School, in order to maintain a healthy bird abundance.</p>	
Summary Statement In monitoring the birds at San Lorenzo Valley High School there have been correlations discovered between bird abundance and distance from highway as well as forest, and these abundances appear unaffected by if the plot is garden or urban.	
Help Received The school AP Environmental Science teacher explained how to set up the monitoring project, and has assisted with focusing the project on a specific bird topic. Additionally, she set us up with the mentors of Jeff Smith and Alex Rinkert. They have assisted in giving insight on poster set-up, what graphs to use,	