



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) David Franck; William Lawton; Chad Townsend	Project Number S2405
Project Title Birds as Indicator Species	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of our monitoring project is to raise environmental awareness of an ecosystem's health by using riparian birds as indicator species. We monitor two sites, the Covered Bridge Park -- a riparian site heavily impacted by urbanization -- and the Zayante Trail -- a pristine riparian habitat. We hypothesize that urbanization has affected the riparian bird species at the Covered Bridge more than those at the Zayante trail.</p> <p>Methods/Materials Using binoculars, a wind/temperature gauge and a record sheet we observe the bird populations of Felton's Covered Bridge Park as compared to Zayante Trail. Twice a week we visit our sites and document observed birds by sight and call.</p> <p>Results By analyzing our data through the use of a chi squared analysis, we were able to determine that our results show a significantly larger number of urbanized bird species, such as the European Starling and the Brewer's Blackbird, are found at the Covered Bridge park. We have also found that a large number of native riparian species, such as the Yellow-rumped Warbler and the Wood Ducks are more abundant at the Zayante trail site.</p> <p>Conclusions/Discussion Our results from the chi square analysis, observation data, and site maps lead us to believe that because the Covered Bridge Park is more heavily impacted by anthropogenic influences because species favoring these conditions are more prevalent. The proportionally high number of urban adapted bird species and low number riparian species sensitive to urbanization suggests that our hypothesis is correct. Our findings also confirm that the Zayante Trail site is pristine in comparison; we spotted few urban adapted birds and a proportionally greater number of riparian birds. We believe that the discrepancies between the bird populations found at the Covered Bridge Park and Zayante Trail are caused by increased urbanization at the Covered Bridge Park. This could affect the utility that the public park gives the residents of Felton negatively because of the increased stress on the Covered Bridge Park ecosystem.</p>	
Summary Statement Our focus for this project is to compare two disparate ecosystems using riparian bird species as indicators of environmental health	
Help Received Parents with ransportation, David Suddjian helped get us started on the Zayante Trail site, Jane Orbuch helped motivate and encourage the growth of our project	