



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Anneli Macdonald; Mathilde Macdonald	Project Number J1209
Project Title Jammin' Freshwater: The Influence of Log Jams on Macroinvertebrates in Freshwater Creek	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals We wanted to find whether log jams affect the number of macroinvertebrates in Freshwater creek.</p> <p>Methods/Materials Stopwatch, 170 cm kick-net. Counted macroinvertebrates at 2 natural log jams and 2 human intervention areas with cleared log jams in Freshwater Creek on 3 different days.</p> <p>Results In the combined results of our 3 trials there were 50 macroinvertebrates in log jam areas and 27 macroinvertebrates in human intervention areas. For this comparison the P value of a Student's t-test was 0.21, suggesting this difference could have been the result of chance.</p> <p>Conclusions/Discussion Our results supported, but did not prove, our hypothesis. It may be that making more measurements or making measurements in more areas would allow us to prove our hypothesis true or false. Additionally, the presence or absence of log jams may affect macroinvertebrates in an entire stream and not just in the immediate log jam area. We learned that macroinvertebrates are an important part of the food chain and thus stream health.</p>	
Summary Statement The presence of natural log jams positively influences the quantity of macroinvertebrates in Freshwater Creek.	
Help Received Scientific advice from our teacher, Diana Skiles. Background research guidance from hydrologist Mark Morris, Ph.D., and ecologist Arthur Morris, Ph.D.	