



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Christopher J. Stout; Allison G. Suarez	Science Fair Use Only <h1 style="margin: 0;">J0721</h1>
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) The Mokelumne River Chinook Salmon Run and the Significance of Point Two	Division <u>X</u> Junior (6-8) _ Senior (9-12)
Preferred Category (See page 5 for descriptions.) 7 - Environmental Biology	
Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.	
<p>Objective: There are two objectives: 1) to successfully predict the 2000 fall Mokelumne River salmon run, 2) to determine the highest expected percent return for the Mokelumne River salmon based on limiting factors by man and nature.</p> <p>Materials and Methods: The scientific method was used to do this project. Key factors that affect the Mokelumne River salmon were identified. Data was collected and analyzed for: salmon outmigration and escapement, river flow and temperature, watershed runoff, fisheries management, the ocean catch, and weather patterns: el nino/la nina. We used the formula that we developed last year to predict the 2000 run. It is based on 0.2% of the salmon outmigration three years earlier (1997). This formula depends on specific criteria being met.</p> <p>Results: We discovered an important tool for salmon fisheries management on the Mokelumne River. The 2000 Mokelumne River salmon run was 7,395 or 0.21% of the 1997 outmigration. Our prediction was 7,077. We were off by 318 salmon or 0.01%. We could not prove our second hypothesis that 0.21% is the highest expected return, however it has been the highest for the last eleven years. The return has also been 0.21% for three of the last five years.</p> <p>Discussion: This project is a follow-up to our project from last year. The scope of this project is much greater than last year where we focused on finding a method to make a prediction. This year we looked at how man and nature affect the runs. The Mokelumne River salmon runs are cyclical and are affected by many variables. The six year drought from 1987 to 1992 was devastating to the Mokelumne River salmon runs. Salmon fisheries management has improved in the Pacific Ocean, the Delta, and the Mokelumne River since the drought. Mother nature has also brought above average precipitation for six straight years.</p>	
Summary Statement (In one sentence, state what your project is about.) This project shows how man and nature affect the Mokelumne River salmon run.	
Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Salmon run data was obtained from EBMUD fisheries biologists, salmon data also from Mokelumne River Fish Hatchery and Pacific Fishery Management Council, Dad helped with typing and graphs.	