



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Robbie E. Gray	Project Number 29145
Project Title Investigating a Practical Eradication Method for the Invasive Parrot Feather	
Objectives/Goals The purpose of my science project was to determine if light deprivation would kill parrot feather. I looked at blocking out light for 7, 14, and 21 days. I predicted that after 21 days the parrot feather would be dead and wouldn't grow back. Abstract Methods/Materials I located a fresh water natural flowing drainage ditch with parrot feather growing in the streambed. 40 identical plastic plant containers with the bottoms cut out were placed over parrot feather plants and tapped into the streambed/mud. Using a counting grid, identically matched to the opening of the containers, a grid square count of parrot feather was recorded for each of the 40 containers. 10 containers would remain uncovered (control). Each of the remaining 30 trials were covered with a heavy-duty trash bag that had been folded 4 times and secured with rubber bands. 10 trials were covered for 7 days (var. 1), 10 for 14 days (var. 2), and 10 for 21 days (var. 3). When the trials were uncovered a recording of the grid square count of live parrot feather was made. Recordings of the grid square count would then be made on every trial every 7 days until day 70. Results The control grew (320%) to full grid square count in 35 days. 7 days (var. 1) of light deprivation slowed the growth down but the parrot feather reached full grid count by day 49. 14 days (var. 2) of light deprivation reduced growth 33% by day 35 but by day 70 the growth had reached 117% of original grid square count. After being covered for 21 days (var. 3) there was no green growth. There was no growth until day 35. At day 70 the average grid square count remained below the original square count by 38%. 3 trials of var. 3 (30%) never had re-growth. Conclusions/Discussion Depriving a plant of light is an obvious way to kill a plant but I chose to test this method because conventional ways of eradicating parrot feather have been unsuccessful (herbicides, mechanical harvesting, natural predators). Light deprivation has potential of knocking down the population and leads to further investigation of herbicide use when the plant is weakened.	
Summary Statement Covering parrot feather for 21 days was successful at reducing the growth as compared to the control but it did not totally eradicate it, evidencing that parrot feather is a very difficult plant to kill.	
Help Received My mom helped type the report and take pictures.	