CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
Molly K. Estes

Project Number
S1603

Project Title
Cattails in the Water

Abstract

Objectives/Goals
How to minimize the number of cattails in a cattail-clogged marsh / oxbow lake so that an endangered species may be introduced.

Methods/Materials
The materials used are as follows: a meter stick, some garden shears, plastic marking tape, a camera, paper, a pencil, and a clipboard. The method used can be summarized in eight simple steps. 1) Pick out three clumps of cattails of about equal diameter. 2) Cut the first group 5 cm below the water line. 3) Cut the second group 30 cm above the water line. 4) Leave the third group as it is 5) Wrap a length of plastic marking tape either around each group of cattails or around a cattail located close by in order for identification purposes. 6) Take pictures of each group for recording purposes. 7) Once a week, come back to the three clumps of cattails and record the average height of three cattails in each group. 8) After several weeks of recording data, return the environment to the way that it was found by removing the plastic tape.

Results
At the end of September, I collected all of the information that I had amassed over the previous four weeks. According to the data, the clump of cattails that I cut 5 cm below the water line had completely died, with exception of a total of six that had grown back. The clump that was cut 30 cm above the water line showed significant grow back and remained healthy for the duration of the experiment.

Conclusions/Discussion
Based on the research collected over the course of my experiment, I have come to conclude that cutting cattails 5 centimeters below the water line is a more effective way of killing them than cutting them 30 centimeters above the water line. After 4 weeks, the cattails I had cut below the water line had completely died with very few growing back. However, the cattails I had cut above the water line had only continued to grow with a minimal death rate. Based on this raw data, and the graph I created from it, I determined that my hypothesis was correct and that cutting cattails 5 centimeters below the water line is a more effective way of killing them as compared to cutting them 30 centimeters above the waterline.
This experiment was performed only once with only one control group because it was designed to see if this method would be able to work on a small scale project. The next step would be to see if this method would be just as effective on a large scale project (e.g. the entire marsh).

Summary Statement
My project is a fair test designed to see if cutting cattails below the water line might be a better way of killing them than cutting them above the water line; this study was done to help further the introduction of an endangered species.

Help Received
Mother helped in assembly of board; Teacher assisted in research and background information; Friends helped in data gathering.