What Is the Effect of Canopy Cover on Salvinia molesta and Salvinia minima?

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The purpose of this senior project was to investigate the effect of canopy cover on Salvinia molesta and Salvinia minima. The hypothesis for this project states: If Salvinia spp. are growing in a bayou with canopy cover, then the Salvinia spp. populations will be comparable to populations growing without canopy cover. This investigation took place at Jean Lafitte National Park, where Salvinia floating aquatic vegetation have recurrently invaded the park's waterways in varying severities. Clogging the waterways, Salvinia restrict boats from passing and cast fishing lines from reaching the water. To gather data, randomly collected Salvinia samples were taken from several sites along the canals. The weight of these samples represented the amount of Salvinia at the site. In this way, if bayous with canopy cover consistently yielded small Salvinia samples then the conclusion would be made that canopy cover decreases the growth of Salvinia. Additionally, the water quality of the sites was tested and canopy cover was assessed using a densitometer. To investigate the hypothesis, 11 sites that displayed optimum water conditions for Salvinia were chosen from the more than 33 sites the park had been monitoring. The variable left unrestricted in this site selection was canopy cover—which varied among the 11 sites. After retesting the selected sites, further data analysis was conducted through the creation of graphs and the calculation of correlation coefficients to uncover the relationship between canopy cover and Salvinia. This project concluded with the affirmation of the alternate hypothesis that, despite varying canopy cover, Salvinia thrives.

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