

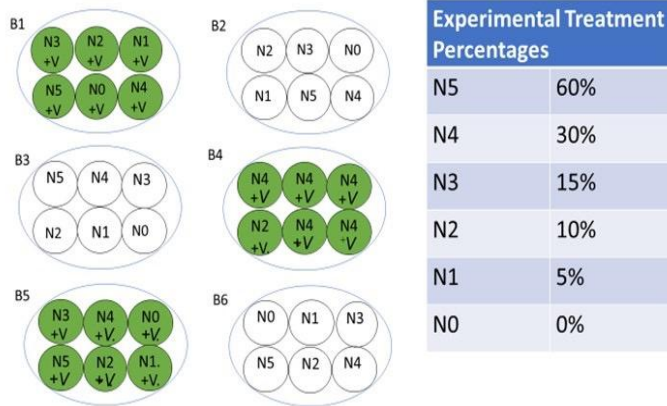
Evaluating tape grass (*Vallisneria Americana*) and water quality responses to varying degrees of nutrient enrichment in small mesocosms

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Introduction

The main objective of this experiment was to evaluate tape grass (*Vallisneria americana*) and water quality responses to varying degrees of nutrient enrichment in small mesocosms. Water quality response variables were analyzed in relation to nutrient loading level and the presence or absence of *Vallisneria*. The experimental results showed that increasing nutrient loading resulted in increased water Chl-a concentrations, while lower nutrient levels given allowed the tape grass' presence to reduce excessive concentrations. The results are to improve our understanding of tape grass' survival in the environment, and the effects they have here in Southwest Florida's aquatic environment.

Experimental Design



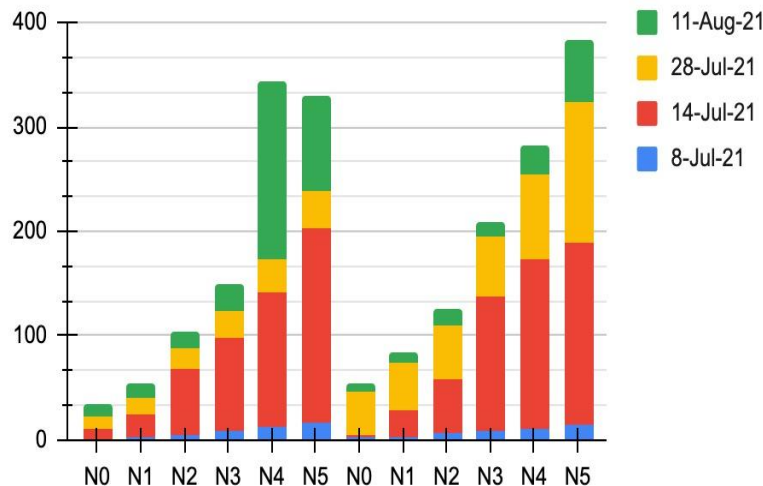
Experiments' Factors, Levels, Replication, and Blocking

The two factors in this study were nutrient loading and *Vallisneria americana* presence/absence. The levels of *Vallisneria americana* will be five or zero shoots planted per mesocosm. Nutrient loading will be achieved through different masses of Osmocote N:P:K 14:14:14 slow-release fertilizer diffusing into nylon mesh bags. The levels of nutrient loading will be from 60% to 0% of the dosage found to cause hyper eutrophication of mesocosms in the previous study; from 0, 0.012, 0.024, 0.036, to 0.144 g/L of fertilizer. The two levels of the tape grass' presence and the six levels of nutrient loading will result in 12 unique experimental treatments. The experiment was preformed, resulting in 36 total mesocosms. The treatments were partially blocked by nesting groups of six buckets within six large 110 gallon tanks.

No bloom with 0% of dosage



Average of EXO Chl a (ug/L)



Vallisneria presence vs. absence

Eutrophication of 60% nutrient loading

