

## ALAN E. LEVITON STUDENT RESEARCH AWARD REPORT



### *Nutrient dynamics and production in San Francisco Bay eelgrass (*Zostera marina*) beds: food web and restoration implications.*

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Gwen Conahan is one of two recipients of the 2009 AAAS, Pacific Division Alan E. Leviton Student Research Awards. Katharyn E. Boyer, Ph.D. is her advisor.

This research award was used to analyze samples and gain preliminary results that will determine the direction of my thesis project. Nutrient analysis is an important part of my thesis project and it is also a costly component. This research award enabled me to submit preliminary samples and determine the progress of my experimental research. Establishing nutrient compositions in nitrogen manipulated eelgrass will help solidify my hypothesis, that excess nutrients in an eelgrass ecosystem impact all trophic levels by increasing algae biomass, grazer populations, while simultaneously decreasing eelgrass robustness.

This research was composed of two laboratory experiments, each of which was enhanced with nutrient additions. Eelgrass plants were grown under varying conditions in these nutrient enhanced environments. In order to detect differences between treatments, plants and their rhizomes had to be analyzed for carbon, hydrogen, and nitrogen content. Below are graphs depicting these elemental percentages. Figure 1 depicts the carbon/nitrogen ratios for eelgrass above-ground tissues. The sample size analyzed is too low to calculate standard error, which would indicate if there are significant differences between treatments. However, the graph does show subtle differences between treatments, indicating that further analysis may reveal treatment differences. Figure 2 depicts eelgrass rhizome nutrient content between treatments. 📊

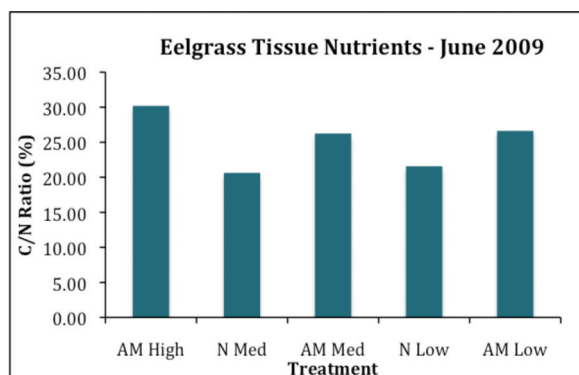


Figure 1. Carbon/nitrogen ratios for eelgrass above-ground.

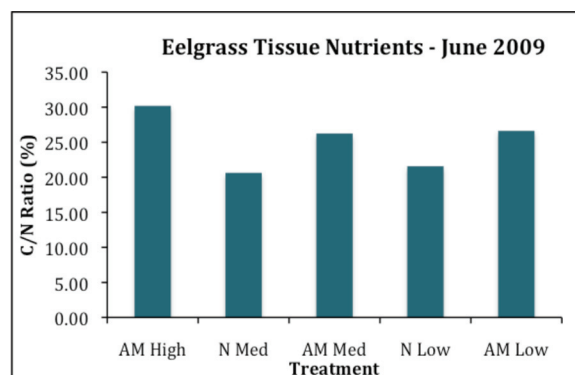


Figure 2. Carbon/nitrogen ratios for eelgrass rhizomes.

After 19 April, higher registration fees will be charged: full-meeting professional, \$105; program planners/presenters, \$75; K-12, community college teachers, post-docs, and retirees/emeritus, \$52.50; students and unemployed persons, \$40; and participating spouses/family members, \$35. One-day professional registration during this period is \$75. Advance registration closes on 31 May. All requests for advance registration must be received in the Pacific Division office by this date to avoid the higher on-site fees. Beyond 31 May, on-site registration will be charged for both pre-meeting and on-site registrations. On-site registration fees for the full meeting will be:

professional, \$120; program planners/presenters, \$85; K-12, community college teachers, post-docs, and retirees/emeritus, \$60; students and unemployed individuals, \$50; and participating spouses/family members, \$40. One-day on-site professional registration will be \$85. Note that If you attend more than one day, you must pay the full registration fee.

The first twenty K-12 and community college instructors that register in advance for this meeting will receive, upon request, a \$75 stipend to help defray their expenses to attend the meeting. The stipend is not available to teachers who register on-site. Note that