

## ORAL PRESENTATION

### THE EFFECTS OF NUTRIENTS AND CURRENT ON THE GROWTH AND STALK PRODUCTION OF *DIDYMOSPHENIA GEMINATA*

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The St. Mary's River (Sault Ste Marie, Michigan, USA), like many other oligotrophic systems, has recently experienced nuisance blooms of the diatom *Didymosphenia geminata*. The occurrences of these blooms is not well understood. We placed nutrient diffusing substrata (treatments = control, N, P, and N+P), already inoculated with *D. geminata*, within the river in both high and low current areas. After two weeks, the nutrient diffusing substrata were retrieved and both *D. geminata* stalk and cell densities were assessed. The health of *D. geminata* cells were estimated by the robustness of their chloroplasts. In high current: stalk production was significantly reduced by P additions along but not P +N additions, and while overall cell density was not significantly different between treatments we found significantly more asexually reproducing and healthier cells in the P+N treatments. No significant differences were found among treatments from the low current site. Our data supports the idea that stalk production (the major component of nuisance growth) is triggered by low P conditions while mesotrophic conditions likely increase cell densities.