Supplemental Tables

Supplemental Table 1. Test statistics for all response variables measured in clam and control mesocosms in 2009 and 2010. All results are from non-parametric Wilcoxon rank sum tests, and significance was determined at $\alpha \leq 0.05$. Water column chlorophyll $a$ was not measured in 2009, and water column nutrients were only analyzed in Run 2 that year.

<table>
<thead>
<tr>
<th></th>
<th>Macro-algal biomass (g)</th>
<th>Macro-algal % cover</th>
<th>Water column chl $a$ (µg/L)</th>
<th>Porewater PO$_4$ (µM)</th>
<th>Porewater NH$_4$ (µm)</th>
<th>Porewater NO$_3$ (µm)</th>
<th>Water column PO$_4$ (µM)</th>
<th>Water column NH$_4$ (µM)</th>
<th>Water column NO$_3$ (µm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Run 1: $\chi^2$ = 2.08, $p$ = 0.15</td>
<td>Run 1: $\chi^2$ = 6.09, $p$ = 0.01</td>
<td>N/A</td>
<td>Run 1: $\chi^2$ = 5.65, $p$ = 0.02</td>
<td>Run 1: $\chi^2$ = 23.27, $p$ &lt; 0.00</td>
<td>Run 1: $\chi^2$ = 0.28, $p$ = 0.60</td>
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<td>Run 1: N/A</td>
<td>Run 1: N/A</td>
</tr>
<tr>
<td></td>
<td>Run 2: $\chi^2$ = 5.33, $p$ = 0.02</td>
<td>Run 2: $\chi^2$ = 6.0, $p$ = 0.01</td>
<td>Run 2: $\chi^2$ = 0.0004, $p$ = 0.98</td>
<td>Run 2: $\chi^2$ = 12.55, $p$ = 0.00</td>
<td>Run 2: $\chi^2$ = 3.27, $p$ = 0.07</td>
<td>Run 2: $\chi^2$ = 4.54, $p$ = 0.03</td>
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<td>Run 2: N/A</td>
<td>Run 2: N/A</td>
</tr>
<tr>
<td>2010</td>
<td>Run 1: $\chi^2$ = 11.29, $p$ = 0.0008</td>
<td>Run 1: $\chi^2$ = 40.51, $p$ &lt; 0.0001</td>
<td>Run 1: $\chi^2$ = 3.00, $p$ = 0.08</td>
<td>Run 1: $\chi^2$ = 14.08, $p$ &lt; 1.74, $p$ &lt; 0.19</td>
<td>Run 1: $\chi^2$ = 35.09, $p$ &lt; 12.58, $p$ &lt; 0.0001</td>
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<td>Run 1: N/A</td>
<td>Run 1: N/A</td>
<td>Run 1: N/A</td>
</tr>
<tr>
<td></td>
<td>Run 2: $\chi^2$ = 11.29, $p$ = 0.0008</td>
<td>Run 2: $\chi^2$ = 40.51, $p$ &lt; 0.0001</td>
<td>Run 2: $\chi^2$ = 0.14, $p$ = 0.71</td>
<td>Run 2: $\chi^2$ = 14.71, $p$ = 0.0001</td>
<td>Run 2: $\chi^2$ = 35.09, $p$ &lt; 0.0001</td>
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<td>Run 2: N/A</td>
<td>Run 2: N/A</td>
<td>Run 2: N/A</td>
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<td></td>
<td>Run 1: $\chi^2$ = 11.29, $p$ = 0.0008</td>
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<td>Run 2: N/A</td>
</tr>
</tbody>
</table>
SF 1. Mean (±SE) chlorophyll a content of algae siphoned from sediment surfaces and mesocosm walls in 2011. Solid bars are Run 1, open bars Run 2, and striped bars are Run 3. We quantified chlorophyll a in each mesocosm at the end of each run. That year, chlorophyll a was used as a proxy for algal growth because macroalgal growth was lower due to low light levels in the grow room. Different letters above bars within each run denote statistically significant differences as determined by Tukey’s HSD tests; test statistics are given in manuscript Table 1.
SF 2. Mean (±SE) water column chlorophyll $a$ for Run 2, 2010. Test statistics are given in Supplemental Table 1.
SF 3. Mean (±SE) water column chlorophyll a in mesocosms by week in Runs 2 and 3, 2011; 3A is Run 2 and 3B is Run 3. Test statistics are given in manuscript Table 1.
SF 4. Mean (±SE) sediment porewater PO$_4$ in clam and control mesocosms by week in 2009 and 2010. Number after each treatment name represents run number (e.g., Clams 1 = Clam treatment, run 1). Test statistics are given in Supplemental Table 1.
SF 5. Mean (±SE) sediment porewater PO$_4$ in mesocosms by week in Runs 2 and 3, 2011; 5A is Run 2 and 5B is Run 3. Test statistics are given in manuscript Table 1.
SF 6. Mean (±SE) sediment porewater NH₄ in clam and control mesocosms by week in 2009 and 2010. Number after each treatment name represents run number (e.g., Clams 1 = Clam treatment, run 1). Test statistics are given in Supplemental Table 1.
SF 7. Mean (±SE) sediment porewater NH$_4$ in mesocosms by week in 2011, Runs 2 and 3; 7A is Run 2 and 7B is Run 3. Test statistics are given in manuscript Table 1.
SF 8. Mean (±SE) sediment porewater NO$_3$ in clam and control mesocosms by week in 2009 and 2010. Number after each treatment name represents run number (e.g., Clams 1 = Clam treatment, run 1). Test statistics are given in Supplemental Table 1.
SF 9. Mean (±SE) sediment porewater NO\textsubscript{3} in mesocosms by week in 2011, Runs 2 and 3; 9A is Run 2 and 9B is Run 3. Test statistics are given in manuscript Table 1.
SF 10. Mean (±SE) water column PO₄ in clam and control mesocosms by week in 2009 and 2010. In 2009, water column nutrient analyses were only performed in Run 2. Number after each treatment name in 2010 represents run number (e.g., Clams 1 = Clam treatment, run 1). Test statistics are given in Supplemental Table 1.
SF 11. Mean (±SE) water column PO$_4$ in mesocosms by week in Runs 2 and 3, 2011; 11A is Run 2 and 11B is Run 3. Test statistics are given in manuscript Table 1.
SF 12. Mean (±SE) water column NH$_4$ in clam and control mesocosms by week in 2009 and 2010. In 2009, water column nutrient analyses were only performed in Run 2. Number after each treatment name in 2010 represents run number (e.g., Clams 1 = Clam treatment, run 1). Test statistics are given in Supplemental Table 1.
SF 13. Mean (±SE) water column NH₄ in mesocosms by week in Runs 2 and 3, 2011; 13A is Run 2 and 13B is Run 3. Test statistics are given in manuscript Table 1.
SF 14. Mean (±SE) water column NO$_3$ in clam and control mesocosms by week in 2009 and 2010. In 2009, water column nutrient analyses were only performed in Run 2. Number after each treatment name in 2010 represents run number (e.g., Clams 1 = Clam treatment, run 1). Test statistics are given in Supplemental Table 1.
SF 15. Mean (±SE) water column NO$_3$ in mesocosms by week in Runs 2 and 3, 2011; 15A is Run 2 and 15B is Run 3. Test statistics are given in manuscript Table 1.