

## Relationships between reproduction in suspension-feeding hard clams *Mercenaria mercenaria* and phytoplankton community structure

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*Marine Ecology Progress Series 387: 179–196 (2009)*

Table S1. Tukey post hoc comparisons of gamete volume fraction (GVF) between sites or seasons. Italicized sites (a) or seasons (b) in the rows are compared to column sites or seasons. Significant differences ( $\alpha = 0.05$ ) in GVF between sites are indicated as + when the value at the italicized site is greater than that at the non-italicized site and by – when the value at the italicized site is less than that at the non-italicized site. Samples collected by Kassner (1982) in 1979 from the eastern Great South Bay (GSB) are also included in these analyses

|                        | Central<br>GSB | Eastern<br>GSB | Kassner | Middle<br>Bay | Sandy Hook<br>906A | Sandy Hook<br>918 | Shinnecock<br>Bay | Western<br>GSB |
|------------------------|----------------|----------------|---------|---------------|--------------------|-------------------|-------------------|----------------|
| <b>(a) Site</b>        |                |                |         |               |                    |                   |                   |                |
| <i>Central GSB</i>     |                |                |         | –             | –                  | –                 | –                 |                |
| <i>Eastern GSB</i>     |                |                |         | –             | –                  | –                 | –                 |                |
| <i>Kassner</i>         |                |                |         |               |                    |                   |                   |                |
| <i>Middle Bay</i>      |                |                |         |               |                    |                   |                   | +              |
| <i>Sandy Hook 906A</i> |                |                |         |               |                    |                   |                   | +              |
| <i>Sandy Hook 918</i>  |                |                |         |               |                    |                   |                   | +              |
| <i>Shinnecock Bay</i>  |                |                |         |               |                    |                   |                   | +              |
|                        | Fall           | Spring         | Summer  |               |                    |                   |                   |                |
| <b>(b) Season</b>      |                |                |         |               |                    |                   |                   |                |
| <i>Fall</i>            |                | –              | –       |               |                    |                   |                   |                |
| <i>Spring</i>          |                |                | –       |               |                    |                   |                   |                |

Table S2. *Mercenaria mercenaria*. Mean ( $\pm$ SD; n = 15) condition index (%) for hard clams from the 5 sampling sites on the south shore of Long Island and 2 sites in Sandy Hook Bay during 2000 and 2001. Only approximate sampling dates are given because sampling of the 7 sites was extended over a period of several days. nd: no data; GSB: Great South Bay

| Date      | Shinnecock    | Eastern<br>GSB | Central<br>GSB | Western<br>GSB | Middle<br>Bay | Sandy Hook<br>906A | Sandy Hook<br>918 |
|-----------|---------------|----------------|----------------|----------------|---------------|--------------------|-------------------|
| 2000      |               |                |                |                |               |                    |                   |
| Oct       | 8.5 $\pm$ 4.1 | 4.8 $\pm$ 1.1  | ND             | 4.3 $\pm$ 0.7  | nd            | 5.8 $\pm$ 1.7      | 6.7 $\pm$ 1.1     |
| Nov       | 7.9 $\pm$ 1.2 | 4.6 $\pm$ 1.0  | 5.0 $\pm$ 0.7  | 5.0 $\pm$ 0.8  | 9.1 $\pm$ 1.9 | 6.7 $\pm$ 0.9      | 7.2 $\pm$ 3.9     |
| 2001      |               |                |                |                |               |                    |                   |
| Mar       | 6.7 $\pm$ 2.1 | 4.4 $\pm$ 1.2  | 4.7 $\pm$ 1.0  | 4.7 $\pm$ 1.0  | 7.2 $\pm$ 1.1 | 5.7 $\pm$ 1.1      | 5.71 $\pm$ 1.10   |
| Early Apr | 7.3 $\pm$ 1.7 | 3.9 $\pm$ 0.8  | 4.3 $\pm$ 1.2  | 4.3 $\pm$ 1.2  | nd            | nd                 | nd                |
| Late Apr  | 6.9 $\pm$ 1.1 | 5.3 $\pm$ 0.7  | 4.8 $\pm$ 0.8  | 4.8 $\pm$ 0.8  | 9.1 $\pm$ 1.0 | 6.8 $\pm$ 0.7      | 6.7 $\pm$ 0.9     |
| May       | 7.9 $\pm$ 1.1 | 6.4 $\pm$ 1.1  | 6.4 $\pm$ 1.2  | 6.4 $\pm$ 1.2  | 8.1 $\pm$ 2.2 | 7.4 $\pm$ 1.0      | 7.0 $\pm$ 1.2     |
| Early Jun | 7.6 $\pm$ 1.4 | 6.5 $\pm$ 1.2  | 6.2 $\pm$ 1.3  | 6.2 $\pm$ 1.3  | 8.3 $\pm$ 1.7 | nd                 | 6.9 $\pm$ 1.2     |
| Late Jun  | 6.8 $\pm$ 1.9 | 5.9 $\pm$ 1.1  | 5.7 $\pm$ 1.2  | 5.7 $\pm$ 1.2  | 8.1 $\pm$ 1.2 | 7.5 $\pm$ 1.0      | 7.2 $\pm$ 1.3     |
| Early Jul | 7.7 $\pm$ 1.1 | 6.1 $\pm$ 0.8  | 5.1 $\pm$ 1.7  | 5.1 $\pm$ 1.7  | 7.4 $\pm$ 0.9 | 13.5 $\pm$ 2.7     | 7.7 $\pm$ 1.1     |
| Late Jul  | 6.9 $\pm$ 0.9 | 5.7 $\pm$ 1.1  | 5.9 $\pm$ 1.5  | 5.9 $\pm$ 1.5  | 8.1 $\pm$ 1.3 | 7.1 $\pm$ 0.7      | 7.7 $\pm$ 1.1     |
| Early Aug | 7.2 $\pm$ 0.7 | 6.5 $\pm$ 2.5  | 5.7 $\pm$ 0.9  | 5.7 $\pm$ 0.9  | 9.2 $\pm$ 1.7 | 7.9 $\pm$ 3.8      | 7.7 $\pm$ 1.1     |
| Late Aug  | 7.4 $\pm$ 0.7 | 6.1 $\pm$ 2.3  | 4.6 $\pm$ 0.8  | 4.6 $\pm$ 0.8  | 8.8 $\pm$ 2.0 | 7.7 $\pm$ 1.7      | 7.5 $\pm$ 1.8     |
| Sep       | 7.2 $\pm$ 0.9 | 5.5 $\pm$ 0.5  | 4.3 $\pm$ 0.9  | 4.3 $\pm$ 0.9  | 8.3 $\pm$ 1.7 | 7.1 $\pm$ 0.7      | 6.8 $\pm$ 1.0     |

Table S3. Tukey post hoc comparisons of condition index (CI) between sites and seasons. Italicized sites (a) or seasons (b) in the rows are compared to column sites or seasons. Significant differences ( $\alpha = 0.05$ ) in CI between sites are indicated as + when the value at the italicized site is greater than that at the non-italicized site and by - when the value at the italicized site is less than that at the non-italicized site; GSB: Great South Bay

|                        | Central<br>GSB | Eastern<br>GSB | Middle<br>Bay | Sandy Hook<br>906A | Sandy Hook<br>918 | Shinnecock<br>Bay | Western<br>GSB |
|------------------------|----------------|----------------|---------------|--------------------|-------------------|-------------------|----------------|
| <b>(a) Site</b>        |                |                |               |                    |                   |                   |                |
| <i>Central GSB</i>     |                |                | -             | -                  | -                 | -                 |                |
| <i>Eastern GSB</i>     |                |                | -             | -                  | -                 | -                 |                |
| <i>Middle Bay</i>      |                |                |               | +                  | +                 | +                 | +              |
| <i>Sandy Hook 906A</i> |                |                |               |                    |                   |                   | +              |
| <i>Sandy Hook 918</i>  |                |                |               |                    |                   | -                 | +              |
| <i>Shinnecock Bay</i>  |                |                |               |                    |                   |                   | +              |
|                        | Fall           | Spring         | Summer        |                    |                   |                   |                |
| <b>(b) Season</b>      |                |                |               |                    |                   |                   |                |
| <i>Fall</i>            |                |                | -             |                    |                   |                   |                |
| <i>Spring</i>          |                |                | -             |                    |                   |                   |                |

Table S4. Mean ( $\pm$ SD; n = 3) Chlorophyll *a* concentrations ( $\mu\text{g l}^{-1}$ ) in 3 size classes (0.7 to 2  $\mu\text{m}$ , 2 to 5  $\mu\text{m}$ , >5  $\mu\text{m}$ ) collected at the 5 hard clam sampling sites on the south shore of Long Island and 2 sites in Sandy Hook Bay. Only a mean value is presented for the >5  $\mu\text{m}$  size class because this was calculated as the difference in concentration between total chl *a* and the sum of the 0.7 to 2  $\mu\text{m}$  and 2 to 5  $\mu\text{m}$  size classes. Only approximate sampling dates are given because sampling of the 7 sites was extended over a period of several days. nd: no data; GSB: Great South Bay

| Date  | Shinnecock<br>Bay | Eastern<br>GSB | Central<br>GSB | Western<br>GSB | Middle<br>Bay  | Sandy Hook<br>906A | Sandy Hook<br>918 |
|---|-------------------|----------------|----------------|----------------|----------------|--------------------|-------------------|
| <b>0.7 to 2 <math>\mu\text{m}</math> size class</b> |                   |                |                |                |                |                    |                   |
| 2000  |                   |                |                |                |                |                    |                   |
| Nov   | 0.7 $\pm$ 0.2     | 5.5 $\pm$ 0.9  | 6.5 $\pm$ 0.5  | 0.4 $\pm$ 0.1  | 0.5 $\pm$ 0.2  | nd                 | nd                |
| 2001  |                   |                |                |                |                |                    |                   |
| Late Apr  | 0.8 $\pm$ 0.4     | 7.1 $\pm$ 0.7  | 2.1 $\pm$ 0.1  | 0.9 $\pm$ 0.2  | 1.1 $\pm$ 0.3  | 3.6 $\pm$ 0.6      | 6.9 $\pm$ 0.3     |
| May   | 0.6 $\pm$ 0.1     | 2.1 $\pm$ 0.1  | 2.3 $\pm$ 0.3  | 1.3 $\pm$ 0.2  | 1.2 $\pm$ 1.0  | 1.1 $\pm$ 0.1      | 2.1 $\pm$ 1.6     |
| Early Jun   | 0.3 $\pm$ 0.1     | 8.6 $\pm$ 2.2  | 10.6 $\pm$ 1.4 | 1.5 $\pm$ 1.2  | 0.7 $\pm$ 0.3  | 2.9 $\pm$ 0.7      | 19.7 $\pm$ 2.2    |
| Late Jun  | 0.1 $\pm$ 0.0     | 5.8 $\pm$ 0.1  | 17.8 $\pm$ 1.1 | 1.6 $\pm$ 0.3  | 0.6 $\pm$ 0.2  | 1.7 $\pm$ 0.6      | 1.5 $\pm$ 0.7     |
| Early Jul   | 0.4 $\pm$ 0.1     | 2.2 $\pm$ 0.1  | 6.7 $\pm$ 0.9  | 2.8 $\pm$ 0.7  | 1.2 $\pm$ 0.4  | nd                 | nd                |
| Late Jul  | 0.9 $\pm$ 0.1     | 8.3 $\pm$ 0.4  | 5.4 $\pm$ 0.3  | 1.3 $\pm$ 0.4  | 1.0 $\pm$ 0.2  | 2.6 $\pm$ 0.4      | 9.2 $\pm$ 3.2     |
| Early Aug   | 2.1 $\pm$ 0.2     | 11.6 $\pm$ 0.2 | 11.9 $\pm$ 2.1 | 2.0 $\pm$ 0.3  | 2.2 $\pm$ 0.9  | 9.2 $\pm$ 1.5      | 26.9 $\pm$ 13.5   |
| Late Aug  | 3.9 $\pm$ 0.5     | 10.9 $\pm$ 0.7 | 12.3 $\pm$ 1.2 | 2.2 $\pm$ 0.2  | 2.1 $\pm$ 0.7  | 25.8 $\pm$ 5.6     | 14.2 $\pm$ 0.9    |
| Sep   | 1.1 $\pm$ 0.3     | 3.8 $\pm$ 0.1  | 7.6 $\pm$ 0.3  | 1.0 $\pm$ 0.1  | 0.2 $\pm$ 0.1  | 8.0 $\pm$ 4.5      | 11.9 $\pm$ 1.0    |
| <b>2 to 5 <math>\mu\text{m}</math> size class</b>   |                   |                |                |                |                |                    |                   |
| 2000  |                   |                |                |                |                |                    |                   |
| Nov   | 0.2 $\pm$ 0.1     | 0.7 $\pm$ 0.2  | 1.1 $\pm$ 0.1  | 0.5 $\pm$ 0.1  | 0.3 $\pm$ 0.0  | nd                 | nd                |
| 2001  |                   |                |                |                |                |                    |                   |
| Late Apr  | 0.3 $\pm$ 0.1     | 1.6 $\pm$ 0.3  | 0.9 $\pm$ 0.3  | 0.9 $\pm$ 0.4  | 0.5 $\pm$ 0.0  | 16.7 $\pm$ 5.1     | 19.5 $\pm$ 4.2    |
| May   | 0.4 $\pm$ 0.1     | 1.8 $\pm$ 0.2  | 1.6 $\pm$ 0.8  | 2.3 $\pm$ 0.6  | 0.6 $\pm$ 0.6  | 2.3 $\pm$ 0.6      | 4.8 $\pm$ 0.3     |
| Early Jun   | 0.1 $\pm$ 0.0     | 1.9 $\pm$ 0.2  | 2.7 $\pm$ 0.6  | 1.6 $\pm$ 0.2  | 0.5 $\pm$ 0.2  | 14.7 $\pm$ 1.9     | 8.7 $\pm$ 1.4     |
| Late Jun  | 0.2 $\pm$ 0.0     | 1.3 $\pm$ 0.3  | 8.4 $\pm$ 0.3  | 0.8 $\pm$ 0.1  | 0.6 $\pm$ 0.3  | 12.2 $\pm$ 1.2     | 5.6 $\pm$ 0.1     |
| Early Jul   | 0.4 $\pm$ 0.3     | 3.7 $\pm$ 1.3  | 1.6 $\pm$ 0.3  | 1.6 $\pm$ 0.1  | 0.8 $\pm$ 0.3  | nd                 | nd                |
| Late Jul  | 0.3 $\pm$ 0.1     | 0.8 $\pm$ 0.1  | 0.9 $\pm$ 0.1  | 0.6 $\pm$ 0.1  | 0.6 $\pm$ 0.2  | 9.7 $\pm$ 1.3      | 4.7 $\pm$ 0.1     |
| Early Aug   | 0.8 $\pm$ 0.1     | 1.3 $\pm$ 0.2  | 1.5 $\pm$ 0.2  | 1.7 $\pm$ 0.3  | 4.4 $\pm$ 1.0  | 3.0 $\pm$ 1.1      | 3.1 $\pm$ 0.9     |
| Late Aug  | 2.1 $\pm$ 0.5     | 2.9 $\pm$ 0.0  | 2.2 $\pm$ 0.1  | 1.7 $\pm$ 0.3  | 2.2 $\pm$ 0.4  | 2.2 $\pm$ 2.1      | 3.3 $\pm$ 1.6     |
| Sep   | 2.5 $\pm$ 2.4     | 1.7 $\pm$ 0.2  | 1.7 $\pm$ 0.2  | 1.0 $\pm$ 0.2  | 1.31 $\pm$ 0.2 | 11.6 $\pm$ 1.1     | 3.3 $\pm$ 0.3     |
| <b>&gt;5 <math>\mu\text{m}</math> size class</b>    |                   |                |                |                |                |                    |                   |
| 2000  |                   |                |                |                |                |                    |                   |
| Nov   | 0.4               | 0.1            | 1.2            | 0.6            | 0.4            | nd                 | nd                |
| 2001  |                   |                |                |                |                |                    |                   |
| Late Apr  | 1.4               | 3.3            | 1.0            | 0.5            | 0.6            | 45.1               | 33.3              |
| May   | 1.0               | 2.5            | 1.5            | 0.9            | 0.1            | 1.8                | 1.9               |
| Early Jun   | 0.2               | 2.7            | 1.9            | 0.41           | 1.1            | 8.7                | 8.5               |
| Late Jun  | 0.2               | 0.6            | 1.8            | 3.2            | 3.5            | 66.4               | 61.1              |
| Early Jul   | 0.5               | 1.2            | 0.6            | 1.0            | 3.5            | nd                 | nd                |
| Late Jul  | 0.7               | 1.8            | 0.7            | 2.6            | 3.3            | 6.1                | 0.6               |
| Early Aug   | 0.9               | 0.5            | 1.5            | 4.9            | 20.5           | 7.8                | 18.7              |
| Late Aug  | 3.8               | 3.9            | 2.8            | 3.5            | 18.2           | 12.9               | 1.7               |

Table S5. Tukey post hoc comparisons of total whole water and size fractionated chl *a* concentrations between sites. Italicized sites in the rows are compared to column sites. Significant differences ( $\alpha = 0.05$ ) in chl *a* concentrations between sites are indicated as + when the value at the italicized site is greater than that at the non-italicized site and by - when the value at the italicized site is less than that at the non-italicized site; GSB: Great South Bay

|  | Central<br>GSB | Eastern<br>GSB | Middle<br>Bay | Sandy Hook<br>906A | Sandy Hook<br>918 | Shinnecock<br>Bay | Western<br>GSB |
|--|----------------|----------------|---------------|--------------------|-------------------|-------------------|----------------|
| <b>Total in whole water</b>                            |                |                |               |                    |                   |                   |                |
| <i>Central GSB</i>                                     |                |                | +             | -                  | -                 | +                 | +              |
| <i>Eastern GSB</i>                                     |                |                | +             | -                  | -                 | +                 | -              |
| <i>Middle Bay</i>                                      |                |                |               | -                  | -                 | +                 |                |
| <i>Sandy Hook 906A</i>                                 |                |                |               |                    |                   | +                 | +              |
| <i>Sandy Hook 918</i>                                  |                |                |               |                    |                   | +                 | +              |
| <i>Shinnecock Bay</i>                                  |                |                |               |                    |                   |                   | -              |
| <b>&gt;5 <math>\mu\text{m}</math> size fraction</b>    |                |                |               |                    |                   |                   |                |
| <i>Central GSB</i>                                     |                |                |               |                    |                   |                   |                |
| <i>Eastern GSB</i>                                     |                |                |               |                    |                   |                   |                |
| <i>Middle Bay</i>                                      |                |                |               |                    |                   |                   |                |
| <i>Sandy Hook 906A</i>                                 |                |                |               |                    |                   | +                 |                |
| <i>Sandy Hook 918</i>                                  |                |                |               |                    |                   |                   |                |
| <i>Shinnecock Bay</i>                                  |                |                |               |                    |                   |                   |                |
| <b>2 to 5 <math>\mu\text{m}</math> size fraction</b>   |                |                |               |                    |                   |                   |                |
| <i>Central GSB</i>                                     |                |                | +             | -                  | -                 | +                 |                |
| <i>Eastern GSB</i>                                     |                |                | +             | -                  | -                 | +                 |                |
| <i>Middle Bay</i>                                      |                |                |               | -                  | -                 |                   |                |
| <i>Sandy Hook 906A</i>                                 |                |                |               |                    |                   | +                 | +              |
| <i>Sandy Hook 918</i>                                  |                |                |               |                    |                   | +                 | +              |
| <i>Shinnecock Bay</i>                                  |                |                |               |                    |                   |                   | -              |
| <b>0.7 to 2 <math>\mu\text{m}</math> size fraction</b> |                |                |               |                    |                   |                   |                |
| <i>Central GSB</i>                                     |                |                | +             |                    |                   | +                 | +              |
| <i>Eastern GSB</i>                                     |                |                | +             |                    |                   | +                 | +              |
| <i>Middle Bay</i>                                      |                |                |               | -                  | -                 |                   |                |
| <i>Sandy Hook 906A</i>                                 |                |                |               |                    |                   | +                 | +              |
| <i>Sandy Hook 918</i>                                  |                |                |               |                    |                   | +                 | +              |
| <i>Shinnecock Bay</i>                                  |                |                |               |                    |                   |                   |                |

Table S6. Mean ( $\pm$ SD; n = 3) seston particulate organic carbon and nitrogen content ( $\text{mg l}^{-1}$ ) for seston collected in 2001 at the 5 hard clam sampling sites on the south shore of Long Island. No samples were collected for the 2 sites in Sandy Hook Bay. Only approximate sampling dates are given because sampling of the 5 sites was extended over a period of several days. nd: no data; GSB: Great South Bay

| Date            | Shinnecock Bay     | Eastern GSB         | Central GSB         | Western GSB         | Middle Bay         |
|-----------------|--------------------|---------------------|---------------------|---------------------|--------------------|
| <b>Carbon</b>   |                    |                     |                     |                     |                    |
| Mar             | 902.6 $\pm$ 81.0   | 1220.6 $\pm$ 206.2  | 1327.4 $\pm$ 371.1  | 682.9 $\pm$ 23.5    | 441.2 $\pm$ 24.4   |
| Early Apr       | 474.9 $\pm$ 344.2  | 1623.5 $\pm$ 179.9  | 2448.9 $\pm$ 291.8  | 1168.4 $\pm$ 224.4  | nd                 |
| Late Apr        | 838.1 $\pm$ 74.5   | 2816.7 $\pm$ 291.1  | 1560.8 $\pm$ 442.1  | 618.5 $\pm$ 136.3   | 520.9 $\pm$ 98.8   |
| May             | 557.2 $\pm$ 80.6   | 1210.8 $\pm$ 432.6  | 1241.3 $\pm$ 80.5   | 518.8 $\pm$ 158.1   | 440.1 $\pm$ 159.9  |
| Early Jun       | 446.1 $\pm$ 69.2   | 1743.0 $\pm$ 1305.2 | 2729.5 $\pm$ 369.6  | 706.40 $\pm$ 201.03 | 562.2 $\pm$ 136.4  |
| Late Jun        | 661.5 $\pm$ 103.2  | 1394.7 $\pm$ 307.7  | 3376.2 $\pm$ 1980.6 | 919.0 $\pm$ 337.4   | 938.3 $\pm$ 58.0   |
| Early Jul       | 727.3 $\pm$ 97.7   | 1463.5 $\pm$ 107.6  | 1877.0 $\pm$ 690.4  | 1192.0 $\pm$ 109.5  | 935.0 $\pm$ 545.0  |
| Late Jul        | 491.6 $\pm$ 131.3  | 4101.8 $\pm$ 242.3  | 3326.7 $\pm$ 393.5  | 1118.7 $\pm$ 174.3  | 778.9 $\pm$ 104.1  |
| Early Aug       | 898.2 $\pm$ 128.2  | 3368.9 $\pm$ 865.4  | 2962.8 $\pm$ 680.0  | 809.4 $\pm$ 254.6   | 1442.6 $\pm$ 340.1 |
| Late Aug        | 1524.7 $\pm$ 189.1 | 3829.0 $\pm$ 461.5  | 2851.7 $\pm$ 106.6  | 1012.2 $\pm$ 82.4   | 910.6 $\pm$ 31.1   |
| Sep             | 775.7 $\pm$ 154.1  | 1835.1 $\pm$ 187.9  | 1815.0 $\pm$ 378.4  | 471.5 $\pm$ 24.5    | 535.3 $\pm$ 38.5   |
| <b>Nitrogen</b> |                    |                     |                     |                     |                    |
| Mar             | 93.6 $\pm$ 25.0    | 213.0 $\pm$ 25.9    | 224.8 $\pm$ 65.5    | 99.0 $\pm$ 9.5      | 77.8 $\pm$ 9.1     |
| Early Apr       | 75.3 $\pm$ 63.4    | 290.3 $\pm$ 30.6    | 381.2 $\pm$ 63.2    | 215.8 $\pm$ 53.4    | nd                 |
| Late Apr        | 113.4 $\pm$ 11.0   | 421.8 $\pm$ 50.8    | 222.7 $\pm$ 54.9    | 77.2 $\pm$ 24.4     | 71.7 $\pm$ 3.5     |
| May             | 75.8 $\pm$ 9.0     | 156.2 $\pm$ 65.0    | 168.7 $\pm$ 10.4    | 75.1 $\pm$ 26.5     | 65.6 $\pm$ 24.6    |
| Early Jun       | 66.3 $\pm$ 9.6     | 234.1 $\pm$ 179.6   | 362.0 $\pm$ 53.3    | 96.9 $\pm$ 31.2     | 82.6 $\pm$ 17.2    |
| Late Jun        | 60.6 $\pm$ 2.9     | 166.0 $\pm$ 46.2    | 370.5 $\pm$ 237.0   | 136.5 $\pm$ 51.3    | 129.1 $\pm$ 1.5    |
| Early Jul       | 67.7 $\pm$ 16.3    | 190.1 $\pm$ 29.2    | 238.5 $\pm$ 105.2   | 161.5 $\pm$ 10.5    | 151.4 $\pm$ 79.5   |
| Late Jul        | 58.6 $\pm$ 17.2    | 529.5 $\pm$ 35.8    | 389.8 $\pm$ 51.2    | 144.2 $\pm$ 18.1    | 92.2 $\pm$ 9.4     |
| Early Aug       | 128.7 $\pm$ 23.1   | 484.8 $\pm$ 123.7   | 405.7 $\pm$ 99.6    | 113.2 $\pm$ 27.4    | 202.6 $\pm$ 68.7   |
| Late Aug        | 162.3 $\pm$ 17.2   | 549.5 $\pm$ 68.4    | 379.3 $\pm$ 15.4    | 142.2 $\pm$ 17.9    | 139.7 $\pm$ 6.8    |
| Sep             | 106.9 $\pm$ 22.8   | 298.2 $\pm$ 28.5    | 275.6 $\pm$ 54.4    | 77.1 $\pm$ 5.5      | 78.5 $\pm$ 9.4     |

Table S7. Tukey post hoc comparisons of seston particulate organic carbon and nitrogen content for seston collected at the 5 hard clam sampling sites on the south shore of Long Island. No samples were collected for the 2 sites in Sandy Hook Bay. Significant differences ( $\alpha = 0.05$ ) in carbon or nitrogen concentrations between sites are indicated as + when the value at the italicized site is greater than that at the non-italicized site and by - when the value at the italicized site is less than that at the non-italicized site; GSB: Great South Bay

|                       | Central GSB | Eastern GSB | Middle Bay | Shinnecock Bay | Western GSB |
|-----------------------|-------------|-------------|------------|----------------|-------------|
| <b>Carbon</b>         |             |             |            |                |             |
| <i>Central GSB</i>    |             |             | +          | +              | +           |
| <i>Eastern GSB</i>    |             |             | +          | +              | +           |
| <i>Middle Bay</i>     |             |             |            |                |             |
| <i>Shinnecock Bay</i> |             |             |            |                |             |
| <b>Nitrogen</b>       |             |             |            |                |             |
| <i>Central GSB</i>    |             |             | +          | +              | +           |
| <i>Eastern GSB</i>    |             |             | +          | +              | +           |
| <i>Middle Bay</i>     |             |             |            |                |             |
| <i>Shinnecock Bay</i> |             |             |            |                |             |