## Fig S1

| Summer Growth (mm/day) | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| group |  | Estimate | Standard Error | df | statistic | p-value |
| Fixed effects | | | | | | |
|  | (Intercept) | 6.140 | 0.194 | 255 | 31.695 | <0.0001 |
|  | TreatmentShell | -0.265 | 0.189 | 255 | -1.401 | 0.1624 |
|  | Collection.monthAug | -0.592 | 0.201 | 255 | -2.951 | 0.0035 |
|  | Collection.monthSep | -0.576 | 0.197 | 255 | -2.926 | 0.0037 |
|  | SiteEel Pond | 1.737 | 0.186 | 255 | 9.341 | <0.0001 |
|  | SiteDennis | 0.553 | 0.181 | 255 | 3.046 | 0.0026 |
| Random effects | | | | | | |
| Location\_code | sd\_(Intercept) | 0.543 |  |  |  |  |
| Residual | sd\_Observation | 1.101 |  |  |  |  |
| square root of the estimated residual variance: 1.1 | | | | | | |

## Fig S2

| Fall Growth (mm/day) | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| group |  | Estimate | Standard Error | df | statistic | p-value |
| Fixed effects | | | | | | |
|  | (Intercept) | 4.550 | 0.101 | 215 | 44.977 | <0.0001 |
|  | TreatmentShell | -0.110 | 0.082 | 215 | -1.346 | 0.1798 |
|  | Collection.monthApr | -0.540 | 0.105 | 215 | -5.136 | <0.0001 |
|  | Collection.monthJun | -0.429 | 0.121 | 215 | -3.537 | 0.0005 |
|  | SiteEel Pond | -1.673 | 0.079 | 215 | -21.10 | <0.0001 |
| Random effects | | | | | | |
| Location\_code | sd\_(Intercept) | 0.216 |  |  |  |  |
| Residual | sd\_Observation | 0.454 |  |  |  |  |
| square root of the estimated residual variance: 0.5 | | | | | | |

## Fig S3

| Summer CI (cm/mm^3) | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| group |  | Estimate | Standard Error | df | statistic | p-value |
| Fixed effects | | | | | | |
|  | (Intercept) | 5.485 | 0.107 | 255 | 51.441 | <0.0001 |
|  | TreatmentShell | -0.091 | 0.108 | 255 | -0.838 | 0.4030 |
|  | Collection.monthAug | -0.301 | 0.126 | 255 | -2.395 | 0.0173 |
|  | Collection.monthSep | -0.305 | 0.121 | 255 | -2.513 | 0.0126 |
|  | SiteEel Pond | 0.997 | 0.116 | 255 | 8.583 | <0.0001 |
|  | SiteDennis | 2.199 | 0.116 | 255 | 18.894 | <0.0001 |
| Random effects | | | | | | |
| Location\_code | sd\_(Intercept) | 0.219 |  |  |  |  |
| Residual | sd\_Observation | 0.724 |  |  |  |  |
| square root of the estimated residual variance: 0.7 | | | | | | |

## Fig S4

| Fall CI (cm/mm^3) | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| group |  | Estimate | Standard Error | df | statistic | p-value |
| Fixed effects | | | | | | |
|  | (Intercept) | 8.846 | 0.182 | 215 | 48.558 | <0.0001 |
|  | TreatmentShell | -0.155 | 0.151 | 215 | -1.028 | 0.3053 |
|  | Collection.monthApr | 3.808 | 0.186 | 215 | 20.480 | <0.0001 |
|  | Collection.monthJun | 2.727 | 0.210 | 215 | 12.992 | <0.0001 |
|  | SiteEel Pond | -2.735 | 0.169 | 215 | -16.23 | <0.0001 |
| Random effects | | | | | | |
| Location\_code | sd\_(Intercept) | 0.226 |  |  |  |  |
| Residual | sd\_Observation | 1.037 |  |  |  |  |
| square root of the estimated residual variance: 1.0 | | | | | | |

## Fig S5

| Summer length (mm) | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| group |  | Estimate | Standard Error | df | statistic | p-value |
| Fixed effects | | | | | | |
|  | (Intercept) | 22.849 | 0.525 | 255 | 43.522 | <0.0001 |
|  | TreatmentShell | 0.011 | 0.529 | 255 | 0.022 | 0.9828 |
|  | Collection.monthAug | 6.676 | 0.590 | 255 | 11.323 | <0.0001 |
|  | Collection.monthSep | 13.281 | 0.573 | 255 | 23.174 | <0.0001 |
|  | SiteEel Pond | -1.276 | 0.546 | 255 | -2.337 | 0.0202 |
|  | SiteDennis | 2.390 | 0.540 | 255 | 4.424 | <0.0001 |
| Random effects | | | | | | |
| Location\_code | sd\_(Intercept) | 1.244 |  |  |  |  |
| Residual | sd\_Observation | 3.326 |  |  |  |  |
| square root of the estimated residual variance: 3.3 | | | | | | |

## Fig S6

| Fall length (mm) | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| group |  | Estimate | Standard Error | df | statistic | p-value |
| Fixed effects | | | | | | |
|  | (Intercept) | 23.079 | 0.558 | 215 | 41.394 | <0.0001 |
|  | TreatmentShell | -0.434 | 0.456 | 215 | -0.953 | 0.3414 |
|  | Collection.monthApr | 13.385 | 0.576 | 215 | 23.239 | <0.0001 |
|  | Collection.monthJun | 23.005 | 0.659 | 215 | 34.914 | <0.0001 |
|  | SiteEel Pond | -5.956 | 0.463 | 215 | -12.86 | <0.0001 |
| Random effects | | | | | | |
| Location\_code | sd\_(Intercept) | 1.037 |  |  |  |  |
| Residual | sd\_Observation | 2.715 |  |  |  |  |
| square root of the estimated residual variance: 2.7 | | | | | | |

## Fig S7

| Summer AFDW (g) | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| group |  | Estimate | Standard Error | df | statistic | p-value |
| Fixed effects | | | | | | |
|  | (Intercept) | 1.293 | 0.388 | 255 | 3.329 | 0.0010 |
|  | TreatmentShell | -0.005 | 0.391 | 255 | -0.014 | 0.9892 |
|  | Collection.monthAug | 2.768 | 0.435 | 255 | 6.357 | <0.0001 |
|  | Collection.monthSep | 7.167 | 0.423 | 255 | 16.929 | <0.0001 |
|  | SiteEel Pond | 0.440 | 0.403 | 255 | 1.091 | 0.2764 |
|  | SiteDennis | 4.033 | 0.399 | 255 | 10.107 | <0.0001 |
| Random effects | | | | | | |
| Location\_code | sd\_(Intercept) | 0.923 |  |  |  |  |
| Residual | sd\_Observation | 2.456 |  |  |  |  |
| square root of the estimated residual variance: 2.5 | | | | | | |

## Fig S8

| Fall AFDW (g) | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| group |  | Estimate | Standard Error | df | statistic | p-value |
| Fixed effects | | | | | | |
|  | (Intercept) | 0.190 | 0.038 | 215 | 5.010 | <0.0001 |
|  | TreatmentShell | 0.002 | 0.031 | 215 | 0.049 | 0.9607 |
|  | Collection.monthApr | 0.413 | 0.039 | 215 | 10.498 | <0.0001 |
|  | Collection.monthJun | 0.920 | 0.045 | 215 | 20.364 | <0.0001 |
|  | SiteEel Pond | -0.275 | 0.031 | 215 | -8.913 | <0.0001 |
| Random effects | | | | | | |
| Location\_code | sd\_(Intercept) | 0.075 |  |  |  |  |
| Residual | sd\_Observation | 0.179 |  |  |  |  |
| square root of the estimated residual variance: 0.2 | | | | | | |