**Detrital subsidies in the diet of *Mytilus edulis*; macroalgal detritus likely supplements essential fatty acids**

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**DOI:**

**Supplemental material**

This supplemental material contains the proportion (%) and concentration (µg g-1 wet weight) of fatty acids for all endmembers used in this study. Additionally, these supplemental materials contain a comparison between the estimated contributions of all endmembers to the diet of *Mytilus edulis* from two Bayesian stable isotope mixing models. The first Bayesian mixing model is the one used in this study, the second is a revised model used to test the assumptions of the first model; no effect of *M. edulis* lipid content on δ13C values and only one trophic level of fractionation (3.4 ‰) between the δ15N of zooplankton and phytoplankton.

Supplemental Table 1. The number of <100 µm particulate organic matter (POM) samples analyzed for each analysis (dry weights, stable isotopes, and lipid) for each location and sampling date throughout the study. For sample site location see Figure 1.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 6/2/2016 | 6/16/2016 | 6/30/2016 | 7/7/2016 | 7/19/2016 | 8/18/2016 |  | 8/25/2016 | 8/30/2016 | 9/12/2016 | 9/20/2016 | 9/27/2016 | 10/10/2016 | 10/30/2016 | 5/3/2017 | 5/11/2017 | 5/23/2017 | 6/20/2017 | 7/19/2017 | 8/21/2017 | 9/18/2017 |
| **Dry weights** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Scarborough | - | 1 | 1 | - | 1 | 1 |  | - | 2 | - | - | 2 | - | 4 | 3 | - | - | 3 | 2 | - | 4 |
| Mid-bay | - | - | - | - | - | 1 |  | - | - | - | 2 | - | - | - | - | - | - | 2 | 1 | - | 2 |
| Wood Isle. | - | 1 | 1 | 1 | 1 | 1 |  | 3 | - | - | 4 | - | 3 | - | - | 3 | 3 | 3 | - | - | 3 |
| Ram Isle. | - | 1 | 1 | 1 | 1 | 1 |  | 2 | 1 | - | 2 | - | 3 | - | - | - | - | - | - | - | - |
| Saco | - | 2 | 1 | 1 | - | - |  | - | 1 | - | 2 | - | 2 | - | - | - | - | - | - | - | - |
| East coast | - | - | - | - | 1 | - |  | - | - | - | 1 | - | - | - | - | - | - | - | - | - | - |
| **Total** | **-** | **5** | **4** | **3** | **4** | **4** |  | **5** | **4** | **-** | **11** | **2** | **8** | **4** | **3** | **3** | **3** | **8** | **3** | **-** | **9** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Stable isotopes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Scarborough | 2 | 3 | 2 | - | 1 | 2 |  | - | 4 | 2 | - | 1 | - | 4 | 3 | - | - | 3 | 2 | 2 | 4 |
| Mid-bay | - | 4 | 1 | - | 1 | 1 |  | - | - | 2 | 3 | 2 | - | 3 | - | - | - | 2 | 1 | 1 | 2 |
| Wood Island | - | 1 | 1 | 2 | 1 | - |  | 4 | 2 | - | 4 | 1 | 3 | - | - | 3 | 4 | 3 | - | - | 3 |
| Ram Island | - | 2 | 1 | 2 | 1 | 1 |  | 2 | 2 | - | 1 | - | 3 | - | - | - | - | - | - | - | - |
| Saco | 1 | 2 | 2 | 1 | 1 | 1 |  | 1 | 2 | - | 2 | - | 3 | - | - | - | - | - | - | - | - |
| East coast | 1 | 1 | - | - | 2 | 1 |  | - | - | 1 | 3 | - | - | 3 | - | - | - | - | - | - | - |
| **Total** | **4** | **13** | **7** | **5** | **7** | **6** |  | **7** | **10** | **5** | **15** | **4** | **9** | **10** | **3** | **3** | **4** | **8** | **3** | **3** | **9** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Fatty acid** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Scarborough | 2 | 2 | 1 | - | - | 2 |  | - | 3 | - | - | 2 | - | 4 | 3 | - | - | 3 | 2 | 2 | 4 |
| Mid-bay | - | 3 | 1 | - | - | 2 |  | - | - | 1 | 3 | 2 | - | 3 | - | - | - | 2 | 1 | 1 | 2 |
| Wood Isle. | - | 3 | 1 | 1 | - | 1 |  | 3 | 1 | - | 3 | 1 | 1 | - | - | 3 | 3 | 3 | - | 1 | 3 |
| Ram Isle. | - | 1 | 1 | 1 | - | 1 |  | 3 | 1 | - | 3 | - | 3 | - | - | - | - | - | - | - | - |
| Saco | 1 | 3 | 1 | 1 | - | 1 |  | 3 | 4 | - | 2 | - | 3 | - | - | - | - | - | - | - | - |
| East coast | 1 | 2 | - | - | - | 1 |  | - | - | 1 | 3 | - | - | 3 | - | - | - | - | - | - | - |
| **Total** | **4** | **15** | **5** | **3** | **-** | **8** |  | **9** | **9** | **2** | **14** | **5** | **7** | **10** | **3** | **3** | **3** | **8** | **3** | **4** | **9** |

Supplementary Table 2. The number of individual mussels analyzed for each analysis (stable isotopes and lipid) for each sample site and date throughout the study. For sample site location see Figure 1.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 5/5/2016 | 5/20/2016 | 6/9/2016 | 6/23/2016 | 7/10/2016 | 7/28/2016 | 8/22/2016 | 9/6/2016 | 10/3/2016 | 11/21/2016 | 12/19/2016 | 5/1/2017 | 6/26/2017 | 7/25/2017 | 8/28/2017 | 9/25/2017 |
| **Stable isotopes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Scarborough | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | - | 3 | - |
| Hills beach | - | - | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| Wood Island | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| East coast | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| **Total** | **13** | **12** | **18** | **18** | **18** | **18** | **17** | **18** | **18** | **15** | **18** | **18** | **18** | **15** | **18** | **15** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Fatty acid** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Scarborough | - | 3 | - | 1 | - | - | - | 2 | 2 | - | - | 4 | - | - | - | - |
| Hills beach | - | - | - | 5 | - | - | - | 5 | 5 | - | 4 | 5 | 5 | - | - | 4 |
| Wood Island | - | 5 | - | 4 | - | - | - | 4 | 5 | - | - | 4 | - | - | - | 5 |
| East coast | - | 5 | - | 5 | 1 | - | - | 5 | 5 | - | - | 5 | 1 | - | - | 5 |
| **Total** | **-** | **13** | **-** | **15** | **1** | **-** | **-** | **16** | **17** | **-** | **4** | **18** | **6** | **-** | **-** | **14** |

**Supplementary Table 3.** The number of samples collected for each endmember (*Ascophyllum nodosum, Saccharina latissima, Chondrus crispus, Spartina alterniflora, and oak leaf litter*) for each sampling date throughout the study.For sample site location see Figure 1.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **5/5/2016** | **5/20/2016** | **6/6/2016** | **6/9/2016** | **6/15/2016** | **6/23/2016** | **6/29/2016** | **7/10/2016** | **8/9/2016** | **8/22/2016** | **9/6/2016** | **10/3/2016** | **11/21/2016** | **12/6/2016** | **12/16/2016** | **5/1/2017** | **6/26/2016** | **7/26/2017** | **8/28/2017** | **9/25/2017** |
| **Stable isotopes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Ascophyllum nodosum* | - | 5 | - | - | - | - | - | 6 | 18 | - |  | 25 | - | - | 23 | 5 | 5 | 5 | 5 | 5 |
| *Saccharina latissima* | 5 | 4 | 1 | - | 2 | - | 4 | 12 | - | - |  | - | 1 | 19 | - | 5 | - | 5 | - | 4 |
| *Chondrus crispus* | - | - | - | - | - | - | - | - | - | - |  | - | - | - | - | 5 | 5 | 5 | - | 5 |
| *Spartina alterniflora* | - | 5 | - | 5 | - | 5 | - | 5 | - | 5 | 5 | 5 | 4 | - | - | 5 | 5 | - | 5 | - |
| Leaf litter | - | - | - | - | - | - | - | - | - | - |  | - | 5 | - | - | - | - | - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Fatty acid** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Ascophyllum nodosum* | - | 5 | - | - | - | - | - | - | - | - | 5 | - | - | - | - | - | - | - | 5 | - |
| *Saccharina latissima* | 4 | - | - | - | - | - | - | - | - | - | 5 | - | - | - | - | - | - | - | - | - |
| *Chondrus crispus* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | - |
| *Spartina alterniflora* | - | 5 | - | 5 | - | - | - | 5 | - | - | 5 | - | - | - | - | - | - | - | 5 | - |
| Oak | - | - | - | - | - | - | - | - | - | - | - | - | 2 | - | - | - | - | - | - | - |

**Supplementary Table 4.** The number of zooplankton samples collected for each analysis (stable isotopes and lipid) for each sampling date throughout the study.For sample site location see Figure 1.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **6/2/2016** | **6/16/2016** | **6/30/2016** | **7/7/2016** | **7/19/2016** | **8/18/2016** | **8/30/2016** | **9/12/2016** | **9/20/2016** | **10/10/2016** | **10/30/2016** |
| **Stable isotopes** |  |  |  |  |  |  |  |  |  |  |  |
| Scarborough | **1** | **1** | **1** | **-** | **-** | **1** | **1** | **1** | **-** | **-** | **2** |
| Mid-bay | **-** | **1** | **1** | **-** | **2** | **-** | **-** | **-** | **-** | **-** | **2** |
| Wood Island | **-** | **1** | **-** | **-** | **1** | **1** | **-** | **-** | **3** | **3** | **-** |
| Ram Island | **-** | **-** | **-** | **1** | **1** | **1** | **1** | **-** | **2** | **3** | **-** |
| Saco | **1** | **1** | **-** | **-** | **-** | **-** | **-** | **-** | **2** | **-** | **-** |
| East coast | **-** | **1** | **-** | **-** | **-** | **1** | **-** | **1** | **-** | **-** | **2** |
| **Total** | **2** | **5** | **2** | **1** | **4** | **4** | **2** | **2** | **7** | **6** | **6** |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **Fatty acid** |  |  |  |  |  |  |  |  |  |  |  |
| Scarborough | **-** | **-** | **-** | **-** | **-** | **1** | **1** | **-** | **-** | **-** | **2** |
| Mid-bay | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **2** |
| Wood Island | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| Ram Island | **-** | **-** | **-** | **-** | **-** | **-** | **1** | **-** | **-** | **-** | **-** |
| Saco | **-** | **-** | **-** | **-** | **-** | **-** | **2** | **-** | **-** | **-** | **-** |
| East coast | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **2** |
| **Total** | **-** | **-** | **-** | **-** | **-** | **1** | **4** | **-** | **-** | **-** | **6** |

**Supplemental Table 5.** Endmember fatty acids. Proportion (%) and concentration (µg g-1 wet weight) of fatty acids for all endmembers: *Saccharina latissima*, *Ascophyllum nodosum*, *Chondrus crispus*, *Spartina alterniflora*, oak leaves, zooplankton and *Mytilus edulis* from Saco Bay throughout 2016 and 2017. Values shown are average ± standard error, sample size denoted by n.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Saccharina latissima* (n = 11) | | *Ascophyllum nodosum* (n = 13) | | *Chondrus crispus* (n = 5) | | *Spartina alterniflora* (n = 23) | |
| Fatty acid | % | µg g-1 WW | % | mg g-1 WW | % | µg g-1 WW | % | mg g-1 WW |
| 14:0 | 6.6 ± 0.2 | 72.0 ± 4.4 | 9.9 ± 0.1 | 1.4 ± 0.08 | 4.8 ± 0.1 | 49.3 ± 3.8 | 1.0 ± 0.1 | 0.1 ± 0.1 |
| 16:0 | 12.5 ± 0.2 | 130.9 ± 8.2 | 10.7 ± 0.1 | 1.6 ± 0.1 | 23.3 ± 0.3 | 235.0 ± 15.7 | 17.2 ± 0.1 | 3.5 ± 0.5 |
| 16:1ω7 | 3.8 ± 0.1 | 40.5 ± 3.0 | 1.8 ± 0.1 | 0.3 ± 0.02 | 9.0 ± 0.3 | 91.0 ± 7.2 | 0.7 ± 0.1 | 0.1 ± 0.02 |
| 16:4ω1 | 0.2 ± 0.1 | 1.8 ± 0.1 | Trace | Trace | 0.8 ± 0.1 | 8.0 ± 0.8 | Trace | Trace |
| 18:0 | 0.6 ± 0.2 | 6.9 ± 0.6 | 0.6 ± 0.1 | 0.08 ± 0.01 | 0.9 ± 0.1 | 9.0 ± 0.5 | 2.4 ± 0.1 | 0.3 ± 0.03 |
| 18:1ω9 | 9.0 ± 0.3 | 109.8 ± 8.2 | 33.6 ± 0.3 | 4.7 ± 0.3 | 5.7 ± 0.3 | 57.8 ± 5.3 | 4.8 ± 0.1 | 0.9 ± 0.1 |
| 18:2ω6 | 7.2 ± 0.2 | 88.1 ± 6.6 | 7.5 ± 0.1 | 1.1 ± 0.07 | 1.4 ± 0.1 | 14.5 ± 1.0 | 19.0 ± 0.2 | 3.5 ± 0.5 |
| 18:3ω3 | 4.9 ± 0.2 | 42.3 ± 2.4 | 3.2 ± 0.1 | 0.5 ± 0.03 | 0.9 ± 0.1 | 8.7 ± 0.9 | 37.7 ± 0.4 | 8.0 ± 1.2 |
| 18:3ω6 | 1.7 ± 0.1 | 22.1 ± 1.9 | 0.4 ± 0.1 | 0.06 ± 0.01 | 0.8 ± 0.1 | 8.5 ± 0.9 | Trace | Trace |
| 18:4ω3 | 11.0 ± 0.5 | 98.5 ± 6.1 | 2.5 ± 0.1 | 0.4 ± 0.03 | 1.3 ± 0.1 | 13.4 ± 1.5 | 0.1 ± 0.1 | Trace |
| 20:1 | Trace | 0.8 ± 0.05 | 0.4 ± 0.1 | 0.05 ± 0.01 | 0.4 ± 0.1 | 3.6 ± 0.2 | 0.4 ± 0.1 | 0.09 ± 0.01 |
| 20:2 NMID | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. |
| 20:2ω6 | 0.2 ± 0.1 | 2.0 ± 0.1 | 1.9 ± 0.1 | 0.3 ± 0.02 | 0.1 ± 0.1 | 1.4 ± 0.2 | 0.2 ± 0.1 | 0.04 ± 0.01 |
| 20:4ω3 | 0.8 ± 0.2 | 6.8 ± 0.4 | 0.6 ± 0.1 | 0.1 ± 0.02 | 0.7 ± 0.3 | 7.4 ± 2.7 | 0.2 ± 0.1 | 0.01 ± 0.01 |
| 20:4ω6 | 17.7 ± 0.3 | 195.8 ± 12.0 | 11.5 ± 0.1 | 1.7 ± 0.1 | 7.1 ± 0.3 | 72.7 ± 6.4 | 0.3 ± 0.1 | 0.9 ± 0.2 |
| 20:5ω3 | 12.9 ± 0.2 | 133.5 ± 8.4 | 7.7 ± 0.1 | 1.1 ± 0.08 | 25.9 ± 0.9 | 265.6 ± 19.8 | 0.1 ± 0.1 | 0.02 ± 0.01 |
| 22:1 | 0.1 ± 0.03 | 0.3 ± 0.04 | 0.3 ± 0.1 | 0.04 ± 0.01 | 0.3 ± 0.1 | 3.5 ± 0.3 | 0.3 ± 0.1 | 0.12 ± 0.02 |
| 22:2 NMID | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. |
| 22:6ω3 | Trace | 0.3 ± 0.04 | 1.0 ± 0.1 | 0.1 ± 0.01 | 0.9 ± 0.1 | 9.3 ± 0.7 | 0.8 ± 0.1 | 1.5 ± 0.3 |
| 24:0 | 0.1 ± 0.1 | 0.6 ± 0.05 | 0.2 ± 0.1 | 0.03 ± 0.01 | 0.1 ± 0.1 | 0.9 ± 0.1 | 0.9 ± 0.1 | 0.07 ± 0.01 |
| Bacterial | 3.7 ± 0.1 | 33.3 ± 2.1 | 1.4 ± 0.1 | 0.2 ± 0.02 | 3.6 ± 0.1 | 36.4 ± 2.6 | 3.6 ± 0.1 | 0.6 ± 0.08 |
| Σ Saturated | 21.2 ± 0.3 | 225.6 ± 14.1 | 22.3 ± 0.1 | 3.2 ± 0.2 | 30.7 ± 0.2 | 310.6 ± 20.9 | 25.3 ± 0.2 | 4.4 ± 0.6 |
| Σ MUFA | 17.4 ± 0.2 | 192.0 ± 13.0 | 38.3 ± 0.2 | 5.4 ± 0.3 | 24.0 ± 0.7 | 240.7 ± 18.3 | 10.6 ± 0.2 | 2.0 ± 0.3 |
| Σ PUFA | 59.0 ± 0.4 | 621.0 ± 36.9 | 38.9 ± 0.2 | 5.8 ± 0.4 | 42.7 ± 0.7 | 435.8 ± 30.3 | 61.7 ± 0.4 | 15.9 ± 2.5 |
| Σ ω3 | 30.0 ± 0.9 | 286.2 ± 16.4 | 16.0 ± 0.2 | 2.4 ± 0.2 | 30.3 ± 0.9 | 309.5 ± 21.9 | 40.0 ± 0.4 | 11.2 ± 1.8 |
| Total |  | 1060 ± 64 |  | 14.5 ± 0.9 |  | 1014 ± 69 |  | 22.6 ± 3.4 |

**Supplemental Table 5. cont.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Leaf litter (n = 2) | | *Mytilus edulis* (n = 94) | | Zooplankton (n = 11) | |  | |
| Fatty acid | % | mg g-1 WW | % | mg g-1 WW | % | mg g-1 WW |  |  |
| 14:0 | 1.2 ± 0.3 | 0.3 ± 0.09 | 3.0 ± 0.1 | 1.0 ± 0.02 | 7.2 ± 0.2 | 1.5 ± 0.2 |  |  |
| 16:0 | 12.2 ± 0.6 | 2.6 ± 0.4 | 13.7 ± 0.1 | 4.2 ± 0.09 | 16.5 ± 0.2 | 3.2 ± 0.4 |  |  |
| 16:1ω7 | 0.1 ± 0.1 | 0.03 ± 0.01 | 4.7 ± 0.1 | 1.8 ± 0.06 | 8.7 ± 0.3 | 1.7 ± 0.2 |  |  |
| 16:4ω1 | 0.1 ± 0.1 | 0.03 ± 0.01 | 0.2 ± 0.1 | 0.06 ± 0.01 | 1.0 ± 0.1 | 0.2 ± 0.03 |  |  |
| 18:0 | 1.5 ± 0.1 | 0.3 ± 0.04 | 2.7 ± 0.1 | 0.7 ± 0.01 | 3.2 ± 0.1 | 0.7 ± 0.08 |  |  |
| 18:1ω9 | 2.2 ± 0.7 | 0.4 ± 0.1 | 2.2 ± 0.1 | 0.7 ± 0.01 | 2.5 ± 0.1 | 0.4 ± 0.03 |  |  |
| 18:2ω6 | 6.0 ± 0.1 | 1.3 ± 0.1 | 2.0 ± 0.1 | 0.6 ± 0.01 | 1.4 ± 0.1 | 0.2 ± 0.02 |  |  |
| 18:3ω3 | 18.6 ± 2.5 | 4.1 ± 0.9 | 1.3 ± 0.1 | 0.4 ± 0.01 | 1.0 ± 0.1 | 0.2 ± 0.02 |  |  |
| 18:3ω6 | 0.1 ± 0.1 | 0.02 ± 0.01 | 0.1 ± 0.1 | 0.04 ± 0.01 | 0.3 ± 0.1 | 0.06 ± 0.01 |  |  |
| 18:4ω3 | 0.1 ± 0.1 | 0.03 ± 0.01 | 2.4 ± 0.1 | 0.8 ± 0.02 | 2.7 ± 0.2 | 0.7 ± 0.1 |  |  |
| 20:1 | 0.3 ± 0.1 | 0.07 ± 0.01 | 6.0 ± 0.1 | 1.6 ± 0.02 | 1.6 ± 0.1 | 0.3 ± 0.04 |  |  |
| 20:2 NMID | n.d. | n.d. | 3.4 ± 0.1 | 0.9 ± 0.02 | n.d. | n.d. |  |  |
| 20:2ω6 | 3.9 ± 0.5 | 0.8 ± 0.04 | 0.6 ± 0.1 | 0.2 ± 0.01 | 0.5 ± 0.1 | 0.1 ± 0.01 |  |  |
| 20:4ω3 | 0.9 ± 0.1 | 0.2 ± 0.05 | 0.2 ± 0.1 | 0.07 ± 0.01 | 0.7 ± 0.1 | 0.1 ± 0.01 |  |  |
| 20:4ω6 | Trace | 0.01 ± 0.01 | 4.7 ± 0.1 | 1.2 ± 0.02 | 0.5 ± 0.1 | 0.1 ± 0.01 |  |  |
| 20:5ω3 | 0.6 ± 0.1 | 0.1 ± 0.01 | 12.3 ± 0.1 | 3.5 ± 0.07 | 15.3 ± 0.4 | 4.3 ± 0.7 |  |  |
| 22:1 | 0.6 ± 0.1 | 0.13 ± 0.01 | 0.1 ± 0.1 | 0.05 ± 0.01 | 0.5 ± 0.02 | 0.1 ± 0.02 |  |  |
| 22:2 NMID | n.d. | n.d. | 2.8 ± 0.1 | 0.8 ± 0.01 | n.d. | n.d. |  |  |
| 22:6ω3 | 0.1 ± 0.1 | 0.03 ± 0.01 | 14.4 ± 0.1 | 4.0 ± 0.06 | 18.6 ± 0.5 | 4.9 ± 0.7 |  |  |
| 24:0 | 4.1 ± 0.1 | 0.9 ± 0.08 | 0.2 ± 0.1 | 0.02 ± 0.01 | 0.1 ± 0.1 | 0.02 ± 0.01 |  |  |
| Bacterial | 2.7 ± 0.1 | 0.6 ± 0.04 | 4.8 ± 0.1 | 1.3 ± 0.02 | 4.5 ± 0.1 | 0.8 ± 0.1 |  |  |
| Σ Saturated | 26.2 ± 1.1 | 5.6 ± 0.7 | 22.2 ± 0.1 | 6.6 ± 0.1 | 29.2 ± 0.4 | 5.8 ± 0.7 |  |  |
| Σ MUFA | 7.2 ± 0.8 | 1.5 ± 0.04 | 21.1 ± 0.1 | 6.2 ± 0.1 | 20.1 ± 0.4 | 3.7 ± 0.5 |  |  |
| Σ PUFA | 64.5 ± 0.4 | 13.8 ± 1.1 | 54.5 ± 0.1 | 15.1 ± 0.3 | 48.6 ± 0.8 | 12.1 ± 1.7 |  |  |
| Σ ω3 | 24.6 ± 2.0 | 5.3 ± 0.9 | 37.1 ± 0.1 | 10.4 ± 0.2 | 41.0 ± 1.0 | 10.9 ± 1.5 |  |  |
| Total |  | 21.3 ± 1.8 |  | 28.6 ± 0.5 |  | 22.0 ± 3.0 |  |  |

**Supplemental Table 6.** Comparison between the original and revised model estimates.Comparison of modeled 95% mean credibility estimate of endmember contribution (%) to the diet of *Mytilus edulis* from our original Bayesian mixing model (assuming 1 trophic level between zooplankton and phytoplankton and no lipid correction for δ13C values), an updated model with lipid corrections of δ13C values and higher fractionation to account for heterotrophic feeding by zooplankton (1.75 trophic level difference and δ13C values corrected for lipid), and a model incorporating lipid corrections of δ13C values and a lower fractionation value (2.3‰). Values are averaged across all samplings in 2016 and 2017 and values shown are average ± 1 standard deviation.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Original model estimate** | | **Corrected model estimate** | | **2.3 ‰ fractionation** | |
| **Contribution to *M. edulis*** | **Average (%)** | **Range** | **Average (%)** | **Range** | **Average (%)** | **Range** |
| Dinoflagellate | 18.6 ± 0.1 | 13.1 to 22. | 20.8 ± 1.2 | 17.5 to 22.5 | 20.0 ± 2.5 | 14.3 to 23.8 |
| Diatom | 16.7 ± 2.6 | 12.8 to 21.0 | 17.7 ± 2.9 | 13.8 to 22.8 | 17.2 ± 2.7 | 13.3 to 21.5 |
| Macroalgae | 8.3 ± 2.1 | 5.3 to 11.3 | 8.8 ± 2.3 | 5.7 to 12.3 | 8.5 ± 2.2 | 5.7 to 11.6 |
| Vascular plants | 40.1 ± 5.6 | 32.7 to 56.7 | 31.5 ± 5.8 | 24.1 to 49.0 | 33.2 ± 5.4 | 26.0 to 49.2 |
| Zooplankton | 17.2 ± 3.0 | 10.1 to 21.8 | 22.1 ± 4.2 | 11.1 to 28.3 | 21.6 ± 2.8 | 13.6 to 25.8 |