**Table 1.** Results of components of temporal beta diversity of seagrass-associated amphipod assemblages, for each seagrass meadow at each region, including turnover (replacement), and nestedness-resultant components, Sorensen (i.e., the sum of both components), for species composition, and the Bray-Curtis index for species abundances.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Region** | **Meadow** | **Sorensen** | **Turnover** | **Nestedness** | **Bray Curtis** |
| ML | FOR | 0.71 | 0.59 | 0.12 | 0.86 |
| ML | EB | 0.82 | 0.68 | 0.14 | 0.93 |
| ML | AU | 0.80 | 0.63 | 0.16 | 0.92 |
| AL | SJ | 0.74 | 0.60 | 0.14 | 0.91 |
| AL | ALB | 0.74 | 0.59 | 0.15 | 0.85 |
| AL | TAB | 0.87 | 0.50 | 0.37 | 0.89 |
| GC | GA | 0.84 | 0.77 | 0.07 | 0.86 |
| GC | AR | 0.82 | 0.73 | 0.09 | 0.85 |
| GC | CAS | 0.79 | 0.71 | 0.08 | 0.78 |

**Table 2.** Predictor variables determining patterns of temporal variation in beta diversity for the composition (turnover and nestedness) and structure (composition and abundances, Bray Curtis dissimilarities) of seagrass-associated amphipods, according to results of model selection from stepwise model selection.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Estimate** | **SE** | **z value** | ***P*** |
| **Sørensen** |  |  |  |  |
| Intercept | 0.82 | 0.02 | 38.50 | **2.08 e-09** |
| Seagrass cover | -0.003 | 0.001 | -1.93 | **0.03** |
| **Turnover** |  |  |  |  |
| Intercept | 0.75 | 0.03 | 24.70 | **4.54 e-08** |
| Seagrass leaf biomass | -0.001 | 0.0004 | -3.89 | **0.0005** |
| Seagrass cover | 0.0002 | 0.003 | 0.07 | **0.04** |
| **Nestedness** |  |  |  |  |
| Intercept | 0.004 | 0.02 | 0.19 | 0.85 |
| Seagrass leaf biomass | 0.002 | 0.0003 | 6.74 | **0.0001** |
| **Bray Curtis** |  |  |  |  |
| Intercept | 0.81 | 0.02 | 39.06 | **1.88 e-09** |
| Epiphytic load | 0.0004 | 0.0001 | 3.29 | **0.008** |

**Table 3.** Model selection of predictor variables explaining patterns of temporal variation in beta diversity for the composition (turnover and nestedness) and assemblage structure (composition and abundances, Bray Curtis dissimilarities) of amphipod assemblages. Models are ranked according to the AICc; Adjusted R2, associated p-values. Results of the Breusch-Pagan heteroskedasticity tests are included.

| **Variable** | **Model predictors** | **df** | **logLik** | **AICc** | **delta AICc** | **weight (wi)** | **Adjusted R2** | **F** | ***P*** | **Breusch-Pagan test** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sorensen** | Seagrass cover | 3 | 18.51 | -26.2 | 0.00 | 0.498 | 0.25 | 3.73 | 0.03 | BP = 1.43, df =1, *p-*value = 0.23 |
|  | Seagrass leaf biomass | 3 | 17.44 | -24.1 | 2.15 | 0.170 | 0.05 | 1.45 | 0.27 |  |
| **Turnover** | Seagrass leaf biomass | 3 | 16.46 | -22.1 | 0 | 0.50 | 0.64 | 15.16 | 0.005 | BP = 0.30, df = 1, *p-*value = 0.58 |
|  | Seagrass leaf biomass, seagrass cover | 4 | 19.91 | -21.8 | 0.30 | 0.429 | 0.80 | 17.45 | 0.003 |  |
| **Nestedness** | Seagrass leaf biomass | 3 | 19.20 | -27.6 | 0 | 0.861 | 0.85 | 45.52 | 0.0002 | BP = 1.45, df =1, *p*-value = 0.23) |
| **Bray Curtis** | Epiphytic load | 3 | 20.81 | -30.8 | 0 | 0.64 | 0.55 | 10.87 | 0.001 | BP = 2.47, df = 1, *p*-value = 0.11 |