# **Supplemental Information 6. Descriptions and examples of response variables measured in full text articles studying seagrasses.**

**SI 6.1 Plant Response Variables**

* Shoot Density
  + A single measurement in time of plant length, biomass, leaf size (Lee et al., 2007).
* Growth
  + A measured change over time in plant length, biomass, or new leaves (Hughes et al., 2013).
* Physiological Measures
  + Measured plant contents of Chlorophyll A, Carbohydrates, Nutrients (Rodrigues & Pardal, 2015).
* Reproductive Output
  + A measurement of a plant’s seeds, flowering, or clonal growth (Carroll et al., 2019).
* Photosynthetic Output
  + A measurement of a plant’s photosynthetic performance, pigments, or photosynthesis process (Kumar et al., 2017).

**SI 6.2 Community Response Variables**

* Invertebrates
  + Measurements of invertebrate responses, diversity, or functionality within seagrass meadows or in relation to seagrass meadows (Niquil et al., 2014).
* Microbial Diversity
  + Measurements of the microbial community within or directly surrounding seagrass plants (Twigg et al., 2020).
* Distribution
  + Measurements of meadow surface area cover, models of current and past ranges, measurements of meadow gradients (Yang, HilleRisLambers, & Ruesink, 2016).
* Epiphytes
  + Measurements of epiphyte density, diversity, presence within seagrass meadows and plants (Prado, 2018).
* Organismal Diversity
  + Measurements of variation and abundance of species within or related to seagrass communities (Do et al., 2011 and Kennish, Haag, & Sakowicz, 2008).
* Macroalgae
  + Measurements of macroalgae presence or influence on seagrass communities. Measurement types included cover, presence/absence, density. Examples of macroalgae types included *Spyridia filamentosa*, *Gracilaria tikvahiae*, *Champia parvula*, and *Ulva lactuca* (Kennish, Haag, & Sakowicz, 2008).
* Seagrass competition
  + Seagrass competition within the same species/genus or between species of seagrass. Examples include *Zostera marina*’s competition with the invasive *Zostera japonica* (Bando, 2006).
* Chlorophyll A
  + Proxy measurement of phytoplankton presence, productivity in a seagrass community (Best & Stachowicz, 2012).

**SI 6.3 Environmental Response Variables**

* Sediment Characteristics
  + Measurements of CaCO3, Grain Size, Carbon Redox Potential, and Carbon Storage as related to sediment (Spivak, et al., 2007, Suykerbuyk et al., 2016 and Serrano et al., 2020).
* Water Column Nutrients
  + Measurements of nutrients (dissolved organic nitrogen, total nitrogen, chlorophyll a) within the water column (Moksnes et al., 2018 and Tomasko & Lapointe, 1991).
* Sediment Nutrients
  + Measurements of nutrient parameters (sulfide, carbon storage, total nitrogen, phosphorus) within the sediment (McGlathery, 2001 and Sfriso & Marcomini, 1999).
* Water Column Salinity
  + Measurements of the amount of dissolved salts in the water column, typically used as a water quality parameter, or measurement of water flow (Lillebø et al., 2005 and Howarth et al., 2014).
* Water Column Temperature
  + Measurement of water column temperature, viewed as a parameter of water quality. Often measured with irradiance (Nakayama et al., 2020 and Jarvis, Brush, & Moore, 2014).
* Water Column Dissolved Oxygen
  + Measurements of variation in dissolved oxygen. Often used as a water quality indicator, measurement of metabolism or a proxy for carbon cycling within an ecosystem (Rheuban, Berg, & McGlathery, 2014 and Gustafsson & Norkko, 2016).
* Water Column pH
  + Measurements of acidity or alkalinity in the water column, a common water quality parameter. Water column pH can also be used as a proxy for metabolism or photosynthetic activity (Qu et al., 2006 and Burkholder, Mason, & Glasgow, 1992).
* Water Column Turbidity
  + Measurements of visibility or light penetration in the water column. Typically used to look at hydrodynamics, sediment in the water column, or alterations of light due to macroalgae presence (Gustafsson & Boström, 2014 and Lillebø et al., 2007).

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