# FCE LTER Sawgrass Protocols

Sawgrass biomass is measured in three 1 m$^2$ plots at each marsh site. The sites are visited every two months. The number of sawgrass plants is counted for each 1 m$^2$ plot and one third or a minimum of fifteen plants is measured. For each measured plant, measurements of the total number of live leaves, length of the live leaves, and culm diameter at the base are taken. From these measurements we calculate the average leaf length, and the sum of the length of the leaves. We created a model for biomass using a stepwise regression to see which of the variables measured and calculated are more correlated to explain plant biomass. Obtaining the mean biomass for the plants within the plot and multiplying it by the number of plants counted in the plot calculates biomass for each plot. The total biomass for each plot is summed with the other two plots in the same site, and they are averaged to obtain one biomass number per site. To validate our model, plant clippings are obtained in which four plants are clipped (small, medium, large, inflorescence) from each site. The same measurements are applied to the clipped plants as those applied to the measured plants in the plots. The plant clippings are oven dried at 70 degrees C and weighed and analyzed in the Carlo Erba elemental analyzer to obtain soil TN and TC. Another 17 to 21 mg of soil is weighed into empty 25 mL vials and analyzed for TP following Sharp and Solorzano (1980).  Sawgrass aboveground annual net primary productin is measured by bi-monthly differences in live to dead biomass integrated over 12 months (Daoust & Childers, 1998).

Daoust, R. J. and D. L. Childers. 1998.  Quantifying aboveground biomass and estimating net aboveground primary production for wetland macrophytes using a non-destructive phenometric technique.  Aquatic Botany 62: 115-133.

Sharp L., and Solorzano J.H., 1980, Determination of total dissolved phosphorus and particulate phosphorus in natural waters, Limnol. Oceanogr., 25, pg. 754-758.