

My data collection/field work to assess the effect of open marsh water management practices (OMWM) on the carbon balance of tidal marshes in Barnegat Bay began in May and is still an ongoing effort. We selected three (3) field sites along Barnegat Bay, New Jersey to collect greenhouse gas exchange data from the ponds, intact marsh, and dead marsh areas associated with the OMWM practices. Our field sites were arranged north to south within Barnegat Bay with the most northern site near the City of Toms River, a central site located near the city of Waretown, and the southern site near the city of Tuckerton.

So far, we have been out every month, measuring the gas fluxes using a static and floating flux chambers connected to a Los Gatos Research Ultraportable Greenhouse Gas Analyzer and a LiCOR 670 Analyzer. The use of two analyzers allows us to go to more ponds in a day therefore, we have been able to test about eight (8) habitat areas at each study site every month in order to have adequate replicates. At each of the habitat areas (ponds, intact marsh, dead areas), net primary productivity is being measured. Net primary productivity carried out by measuring the uptake of carbon dioxide via photosynthesis (chambers exposed to light) and respiration (chambers under dark conditions via dark cloth). These fluxes are subtracted to get the net primary production. Additionally, we plan to do diurnal measurements in the next month to determine real nighttime respiration rates and compare to measurements with the dark cloth. I am planning to present these preliminary data at the Coastal & Estuarine Research Federation (CERF) Annual Meeting in November and will be sure to acknowledge GCA for the support.

Summary of expenses as of September 1<sup>st</sup>, 2017. The GCA scholarship funds the majority of the travel associated with the fieldwork. We plan to do field work until October 2017.

<b>Item</b>	<b>Charge Per Day</b>	<b>Number of Days</b>	<b>Total Cost</b>
Small Boat Rental	\$225	12	\$2,700.00
Tow-capable vehicle rental (\$0.85/mile x average of 115 miles)	\$100	12	\$1,200.00