

**Soil and Water Sciences Department
Graduate Student Exit Seminar**

- Speaker:** Anne Sexton
Ph.D. Degree Candidate
- Advisor:** Dr. Samira Daroub and Dr. Jehangir Bhadha
- Title:** Aquatic Vegetation Impacts on Sediment Composition,
Phosphorus Pools, and Water Quality in South Florida Farm
Canals
- Date:** Monday, July 17, 2017
- Time:** 3:00 pm – 4:00 pm
- Location:** McCarty Hall A, Room G186

The Everglades Agricultural Area (EAA) is an extremely productive farming region south of Lake Okeechobee in southern Florida, within the extensive Everglades system. It has been the subject of much debate due to the impacts of nutrient enrichment in the Everglades National Park, resulting in the Everglades Forever Act of 1994 and the EAA Best Management Practices Regulatory Program for reduction of agricultural phosphorus (P) sources. A significant portion of P discharged from the EAA is in the form of particulates from biological sources during farm drainage events. This study was conducted on four treatment-control farm pairs over a five year period to investigate the role of suppressing floating aquatic vegetation (FAV), such as water lettuce (*Pistia stratiotes*), on the formation of more recalcitrant inorganic P forms in farm canal sediments and reduction of P concentration in canal water. Treatment canals implemented FAV suppression, while control canals operated under normal management practices. The results of this study found that suppressing FAV cover to less than 5% reduced total P and particulate P concentrations in water discharged from canals. There were no significant changes related to FAV suppression in canal sediments. Regression and sensitivity analyses showed that discharge water P concentration was most significantly positively affected by FAV ($R^2 = 0.87$). This reduction in discharged P concentration and relationship with FAV may incentivize farmers to adopt the practice of year-round FAV suppression.

For our off-campus students, off-campus faculty, and on-campus students who cannot attend, this seminar can be viewed live or watched at a later date via this link: [Anne Sexton](#). In addition, all seminars are archived for viewing on our [SWSD Seminar Page](#).