

## TECHNICAL PROGRESS REPORT

Reporting Period: before and including December 9, 2007

EPA Agreement: EM-83329801-0 US EPA

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Project Title: Wilma H. Schiermeier Olentangy River Wetland Research Park: Teaching, research, and outreach initiative 2006

### Project Objective:

This project has 3 objectives:

1. Conduct a two-year hydrologic pulsing wetland experiment related to wetland biogeochemical and water quality functions;
2. Estimate carbon sequestration of created wetlands and compare these accumulation rates with natural wetlands; and
3. Extrapolate findings at the Olentangy River hydrologic experiment on nitrogen, carbon, and other nutrients to rivers of different hydrologic pulsing and water quality in Ohio with an Ohio-wide water quality network.

### SUMMARY OF ACTIVITIES:

#### GENERAL

Began QAPP for USEPA

#### PULSING STUDY

##### Water Quality/Hydrology

Established basics of hydrology for pulsing wetland experiment including a bathymetric survey of the experimental wetlands.

Began weekly water sampling at experimental wetlands

*Problem Encountered:* Hired lab tech who only lasted a couple weeks until 12/9/06. Initiated immediate search for replacement.

Methane

Methane chamber installation began in July 2006, and 12 chambers were successfully installed in each of the two Olentangy River Wetland Research Park (ORW) experimental wetlands and the wetland on site of Old Woman Creek. Methane gas was sampled from the ORW wetlands and Old Woman Creek in August 2006.

*Problems Encountered:* Due to the difficulty of site selection and the inherent dangers associated with heavily hunted grounds, we were unable to install methane chambers at reference wetland Killbuck Swamp

#### CARBON SEQUESTRATION

Purchased high efficiency Germanium Detector (Canberra Industries GL 2820R) and Multi-Gamma Ray Standard (Canberra Industries 1088). Soil samples taken in reference wetland at Old Woman Creek wetland, Ohio..

#### **ANTICIPATED ACTIVITIES:**

Equipment calibration and set up for Germanium Detector  
Collect weekly water samples at ORW

Gas sampling will continue seasonally at wetlands with installed chambers.

Hire new lab technician.