

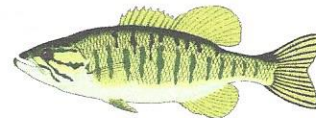


***Eco-Systems, Inc.***  
***Lake and Watershed Management, Erosion Control,***  
***Ecological Restoration, Marine Construction***

*The Natural Resource for Cost Effective Land and Water Stewardship*

September 20, 2017

To: Winslow Farms Community Association, Inc.  
Attention: Ted Boardman  
323 East Winslow Road Suite 100  
Bloomington, IN 47401  
(812)  
Email:



Re: Pond System Management Feasibility Study

Dear WFCA:

Eco-Systems, Inc is pleased to submit this contract to provide lake management analysis services to the Winslow Farms CA. We have specialized in providing cost effective solutions for comprehensive lake and pond management since 1989. Steve Chafin, the senior environmental scientist/engineer leads all of our science and engineering studies, as well as our restoration and enhancement projects. Our services include:

- Aquatic plant selection and control of nuisance non native, invasive weeds;
- Watershed analysis/storm water improvement;
- Identification/control of sources of pollutants;
- Water quality improvement, aeration system selection, installation, maintenance;
- Erosion and sediment control, terrestrial vegetation selection, and embankment stability;
- Fisheries and habitat enhancement/management;
- Algae control, specializing in and pioneering biological treatments;
- Sediment surveys and removal;
- Water loss/leakage control;
- Excavation, grading, construction services.
- Nuisance muskrat and goose control.

Our objective is to look at the entire lake and watershed system to perform surveys and

analyses to provide guidance/planning/budgeting for cost effective pond restoration and enhancement activities and to prioritize those activities for future budgeting and scheduling of restoration efforts. These tasks will help to identify and/or quantify the threats to lake volume, water quality, leakage control, vegetation/algae management, and property values. In addition, optimize the cost effectiveness of annual maintenance practices, as well as proposed capital improvements, to optimize the aesthetic value of the lake, and property values for the WFCA.

**I. Special Studies for the WFCA - Assessment of Existing Hydraulic Structures and Appertunances, Sediment Control**

1. Storm Drain System
2. Pond Basins and Liners
3. Pond Embankment Stability, and Shoreline Erosion Control
4. Outlet Structures
5. Sediment depths and volumes to be removed
6. Sediment Control - identify feasible locations to construct traps to control new sediment entering the lake.

**II. Nuisance Weed, Algae Control, Sediment Removal**

1. Aquatic Vegetation Management Tasks
  - A. Aquatic Vegetation Surveys to identify species and develop a strategy to treat each nuisance species.
    - Develop a vegetation treatment plan for subsequent years designed to control aggressive exotic invasives and to manage beneficial native plants.
    - Calculate the pond volumes, for dosing and treatment purposes.
2. Sediment Removal/Feasible Dredging Techniques for each pond
  - Planning Level Dredging Cost Estimates per pond (Note: finding a sediment disposal site is a separate study item outside the scope of this project).
  - Permitting Cost Estimates for Dredging Project(s)
  - Treatment strategy/costs to reduce organic muck biologically
3. Algae Control
  - a. Dosing rates and costs for biological algae treatments.
4. Fish habitat enhancement recommendations

**III. Costs**

There will be no outsourcing for any of this planning level work, or anticipated for any physical improvements or maintenance tasks.

Field work, analyses, and data collection 34 hours @ \$100/hour = \$3400  
Report writing 16 hours @\$100/hour = \$1600  
**\$5000**

**IV. Contract Terms**

This is a Time and Materials contract, with a Not To Exceed cost in 2017 of \$5,000.



