Quarrybrook
EXPERIENTIAL EDUCATION CENTER

Program Title: **Wetland Ecology Investigation**

Audience: 6th-12th grade students

Program Theme: Aquatic ecosystems are valuable in many ways. The biodiversity in these systems supports many forms of life in the water and on land. Through investigation, students will draw their own conclusions about their findings and the importance of wetland conservation.

Program Goals: Students will gain awareness of the importance of biodiversity by observing, collecting, and identifying the invertebrates found in our complex wetland ecosystem.

Next Generation/Common Core Connections:

Topic: MS-LS2 Ecosystems: Interactions, Energy, and Dynamics

Dimensions: LS2.A Interdependent Relationships in Ecosystems

Crosscutting Concepts: Patterns, Stability and Change

Program Outline:

Activity 1: AQUATIC INVERTEBRATE COLLECTION (60-90 min.) – After hiking to the study area, students will learn how to properly use the aquatic equipment and how to carefully collect invertebrates in a sensitive wetland setting. Student teams will identify their specimens using a macroinvertebrate key and field guides.

Teachers can be very helpful in assisting students with following directions and focusing on the activity.

Objectives: Students will experience a field investigation of a wetland area and record data. Students will learn how to use aquatic collection equipment and practice appropriate sampling techniques.

Intended Outcomes: Students will successfully use field equipment to collect aquatic study samples. Using a dichotomous key and field guide, students will record the species found and keep a tally of total organisms collected.

Conclusion/Wrap-up: (20-30 min.) Students will share their findings through discussion and draw conclusions about the wetland area they investigated. Is the ecosystem healthy? How do you know? Did you find more or less evidence of life than you expected? Students will be asked to comment on the condition of the wetland area investigated and how that might influence the trophic pyramid in the water and on land.

Successful completion of this program will help support your students' proficiency in NGSS Performance Expectations:

MS-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.