Permit 2026-007

Response Summary:

Name:
Michael Belovitch

Department or Organization:
LICOR ENV

Email Address:
michael.belovitch@licor.com

Are you requesting renewal of a previously approved permit applicaton?
No

Type of activities at The University of Akron Field Station and Bath Nature Preserve
Research

Title of project or class name and course number:
Plant mediated methane flux protocol

Date/Dates requested:
8/17/2026 - 8/28/2026

Number of people in group:
1

I am requesting permission to use a Research Area.
Yes

I am requesting permission to use a Sensitive Area.
No

I am requesting permission to use areas outside of the designated Research or Sensitive Areas.
No

I would like to use the Martin Center for Field Studies and Environmental Education for this prop...

No

Will the activity involve destructive sampling/collecting?

No

Which Research Areas?

18 Acres

Garden Pond

Grandview Alley

Provide a brief description of (1) your proposed activities, (2) goals, and (3) impacts of your u...

Hello, I am Michael Belovitch, a scientist with LI-COR Environmental, a company that develops scientific instruments used to study plants and the environment. I recently moved to the area with my partner, who will be joining the University of Akron as a professor this fall.

As part of my work at LI-COR, I am developing a new method for measuring methane emissions directly from plant leaves. Some wetland plants can transport methane, a powerful greenhouse gas, produced in waterlogged soils through their tissues and release it to the atmosphere, a process known as plant-mediated methane flux. This methane is rarely accounted for in tradition soil gas flux measurements and may account for a substantial portion of total greenhouse gas emissions. Collecting measurements from plants growing naturally in wetlands would provide valuable pilot data for developing and testing this method.

I would like to conduct several days of pilot measurements over the next few weeks in wetland areas within Bath Nature Preserve. The work would be observational and non-destructive, with minimal impact on the plants or surrounding habitat. For each measurement, a small section of a plant's leaves would be temporarily enclosed in a chamber for approximately 20 minutes while instruments measure the exchange of methane and other gases. The chamber is then removed, leaving the plant intact.

During sampling days, I would likely be in the field for much of the day in order to collect as many measurements as possible. I would carry two portable scientific instruments (the LI-6800 Photosynthesis System and LI-7810 Trace Gas Analyzer) which together weigh

approximately 50 pounds. No permanent equipment or infrastructure would be installed or left at the preserve.

The primary purpose of this initial work is to determine whether the measurement approach is practical under real-world wetland conditions and to collect a pilot dataset of plant-mediated methane fluxes. I would also be happy to make the resulting data freely available to Bath Nature Preserve and others who may be interested in the measurements.

By checking this box, I agree to the above terms and state that all of the above information is c...

I agree