

**Permit 2024-004:**

Name:

Brandon Hoenig

Department or Organization:

University of Pittsburgh, Department of Biological Sciences

Email Address:

[bdh64@pitt.edu](mailto:bdh64@pitt.edu)

Web Address where the public can learn more about this proposed activity (optional):

ribbitr.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:

Using Sedimentary DNA to uncover the history of Amphibian-Bd dynamics in Northwestern Pennsylvania

Date/Dates requested:

18 April - August

Number of people in group:

5-8

I am requesting permission to use a Research Area.

No

I am requesting permission to use a Sensitive Area.

Yes

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?

Yes

Which Sensitive Areas?

Bath Pond

Please explain how the material will be collected (including equipment), and an estimate of how m...

We will be using up to three, 9cm diameter by 1m long plastic cylinders to collect sediment cores from the center and edge of Bath Pond. We will be using canoes/row boats to access the deepest part of the lake for coring and will access the shore line on foot.

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

Our proposed research aims to understand the historical interactions between amphibians and a fungal pathogen, *Batrachochytrium dendrobatidis* (Bd), by analyzing ancient DNA found in lake sediment cores from NE Pennsylvania / NW Ohio. Specifically, we wish to pinpoint when Bd first arrived in this area (as it is native to Asia) and understand how amphibian populations may have responded when it first arrived and how they've persisted overtime. Unlike other regions of the Americas, it is unclear when Bd was first introduced to eastern North America; studies show that it likely arrived in the West Coast in the 1970s and in Mesoamerica in the early 2000s, but our earliest museum records indicate that it has been in the NW PA / NE OH region since at least the 1890s. Further, amphibians in the NW PA / NE OH region appear to be resilient to this fungus, even as populations in the other aforementioned regions have experienced unprecedented declines or even extinctions in response to Bd. By having access to the Field Station and Bath Nature Preserve for this research, it may allow us to uncover the mechanisms by which amphibians in this region became resilient to Bd and provide insights for how other global populations may or may not achieve resilience in the future.

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

I agree