

## Application for a Research Permit for The BNP

Name (Last, First, MI): Edmonds, Sarah, L.

Date: 5-1-04

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Title of Research: The effects of parasitism on protein expression in bluegill sunfish

Briefly describe the research to be conducted at the BNP in non-technical language (this paragraph will be used in describing your research to the public).

I will be comparing parasitized bluegill to non-parasitized bluegill to evaluate whether there is an effect on protein expression (how many and how much is being made in various tissues). I will collect snails, *Physa sp.*, from Garden Pond. Snails are the intermediate host for the parasite, *Posthodiplostomum minimum*, which infects the bluegill in Garden Pond. I will be removing *P. minimum* cercariae from the snails and experimentally infecting hatchery fish with cercariae.

Briefly describe the goals of the proposed research.

-M.S. thesis research

-Develop lessons for K-12 science classes (GK-12 program)

-To better understand the impact of these parasites on protein expression in bluegill.

What are the GPS coordinates or locations of your proposed research? Garden Pond

What is the expected duration of your proposed research? Three years

What is the Web address of your research outline? Not applicable

Briefly outline of methods to be used. Be sure to include outlines of the equipment to be used (if any) in the research.

Snails, *Physa sp.*, will be collected from Garden Pond. They will be placed in containers until they shed *P. minimum* cercariae. The cercariae will be collected and placed in a container with a bluegill, *Lepomis macrochirus*, obtained from a hatchery. The infected bluegill will remain in the laboratory for a period of about 30 days. Bluegill serum and liver will be harvested from the infected and non-infected bluegill. Proteomics will be used to determine if there is a change in protein expression pattern with parasite load.

Outline the use of markers/cages/fences/etc. for your research. Note: in receiving a research permit, you must agree to remove all such research tools at the completion of your study.

Not applicable

What is the potential impact of your research on nature preserve?

-This research will provide information on the impact of parasites on protein expression in the bluegill population in Garden Pond. More generally, it will estimate the health of fish populations in Garden Pond.

-Snails will be removed from the pond, but the impact will be minimal.

Have you looked at the listings and web sites of the research being conducted at BNP?

<http://www3.uakron.edu/biology/bath/active.html> Yes  No

Are there any potential conflicts of your research with others at BNP? Yes  No

Explain:

**To be granted a research permit for work at the BNP, you must agree to the following terms:**

- Researchers are responsible for obtaining the appropriate state or federal permits for the conduct of their research on the BNP (e.g., when working with regulated species).
- Researchers are responsible for removing all markers, etc. from their research plots when the research is completed.
- Researchers must build a web site (immediately after being granted a permit) outlining their research at the BNP so that other researchers can avoid the proposed research site(s). Therefore, the web site must clearly outline, using one or more maps, the exact location(s) of the proposed research.
- Researchers will file an annual (due in yearly increments based on the date of the permit) and final report. Such reports will include: user days on the BNP, a summary of results of the project(s), a list of data generated and contact information for those interested in the data, and a list of publications resulting from the project(s).
- Any publications resulting from research conducted at the BNP must acknowledge the use of the preserve by referencing the BNP permit number. A copy of any such publication should be filed with the BNP committee.
- To abide by the rules and regulations of the BNP in any and all conduct of research at the BNP.

By signing the request for a BNP research permit below, I agree to the above terms and state that all of the above information is correct to the best of my knowledge. I also agree to amend my above permit request if my research plans change such that they are no longer well represented in the information supplied in this permit request. If I fail to notify the BNP oversight committee of significant changes in my research, or if I do not follow the rules of the BNP, I realize that the BNP oversight committee can revoke my research permit, and disallow any further work by me, research or otherwise, at the BNP.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: Sarah L. Edmonds

Approval:

Bath Township: \_\_\_\_\_ Date: \_\_\_\_\_

University of Akron: \_\_\_\_\_ Date: \_\_\_\_\_

