

## Application for a Research Permit for The BNP

Name (Last, First, MI): **Mitchell, Randall J**      Date: **April 29 2004**

Affiliation: **University of Akron**

Email address: **rjm2@uakron.edu**

MailingAddress: **Dept Biology, University of Akron, Akron OH 44325-3908**

Title of Research: **Plant-pollinator interactions at the Bath Nature Preserve**

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).

Plant-pollinator interactions are important aspects of ecology, yet little is known about this topic for plants in Northeastern Ohio. By recording pollinator species composition, visitation rates, plant and flower size, and seed production for several plant species I plan to improve our understanding of this topic, and lay the groundwork for future research.

Briefly describe the goals of the proposed research.

- Observe and record visitation rates to flowering plants at BNP. Most work will focus on Beardtongue (*Penstemon digitalis*), and Allegheny Monkeyflower (*Mimulus ringens*), but as possible I will also record visitors to other species, including spring beauty (*Claytonia virginica*), cut-leaf toothwort (*Dentaria laciniata*), swamp loosestrife (*Decodon verticillatus*) and others. I will collect a small fraction of fruits from some plants.

- Collect insects visiting flowers plants at BNP to allow identification to species and determine which insects visit which plants.
- Measure flower size and nectar for some species.

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

Various. Whenever possible I will conduct studies in the designated research areas (especially grandview alley, south woods, beefy woods, forgotten field, the south edge of the preserve, and Steiner woods. I will carefully coordinate my plans with ongoing research in those areas. In particular I will ensure that my study does not interfere with work in Grandview alley. I will do all fruit collection in these research areas. Because my studies are short term and do not involve manipulations, there should be minimal conflict.

I also request permission to search the rest of the preserve (including the sensitive areas) to locate and map flowering plants, and to observe pollination and collect voucher specimens of insects from these sites.

What is the expected duration of your proposed research? Spring 2004-Spring 2006

What is the Web address of your research outline?  
<http://www.uakron.edu/biology/mitchell/>

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

See above - I will mostly just observe and record visitors, occasionally collecting voucher specimens. In some cases I will

use pin flags to denote study plants for a week or so, and in a few cases I will keep flags up for a month or more to allow me to return to collect fruits tagged with small jeweler's tags (paper and string).

I do not plan any manipulative experiments - only observations, collections, and occasional fruit collection.

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.

see above - occasional use of pin flags

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

very slight - some insects collected (but added to the voucher collection), and a few fruits taken. Some visitors will see flagged plants.

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 \_\_\_XXXXX\_ No \_\_\_

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

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: *Randy Mitchell* Date: April 28, 2004

Print Name: Dr. Randall J. Mitchell

Approval:

Approved by Bath Township 25 May 2004

Approved by University of Akron 18 May 2004