



Wild Mushroom Conservation and Education Area

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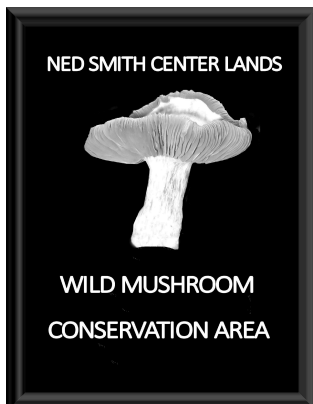
Roughly half of the Ned Smith Center Lands and the most popular trails are on the Millersburg watershed. Clean, filtered water is a byproduct of a healthy forest and so are a variety of mushrooms. The diversity of visible and forest-valuable mushrooms (see [Fungi](#)) is linked to the following attributes: 1) soil type, 2) a diversity of native plants, 3) the juxtaposition of different aged trees, some evergreen and some deciduous, 4) logs and limbs (dead wood) on the forest floor, 5) a combination of wet and dry sites, and 6) wet weather and time of year (September is good). Because the Ned Smith Lands between the Rail Trail and the Wiconisco Creek features all of these attributes at one time or another, this site has been designated by the Ned Smith Center as a Wild Mushroom Conservation and Education Area (WMCEA).

The objectives of such designation are to:

- contribute to an ongoing inventory of the flora, fauna, and funga found on Ned Smith Center Lands
- support and continue the past management strategies that have resulted in clean water and a diversity of visible and forest-valuable fungi
- provide focus for citizen scientists interested in photographing and inventorying fungi and to encourage the use of the “*Fungi of the Ned Smith Center*” and “*NSCNA Wild Mushroom Conservation and Education Areas*” project on the *iNaturalist* app (see Appendix 1)
- highlight a frequently overlooked recreational resource
- **support the Ned Smith Center’s educational efforts to help foster a deeper connection with nature, inclusive of an appreciation of the importance and value of forest friendly fungi (see Appendix 1 & 2)**
- provide a prototype for the development of similar areas throughout PA and beyond, and
- provide another dimension to help reinforce the unique nature of the Ned Smith Center for Nature and Art

Policies and Regulations Specific to the WMCEA

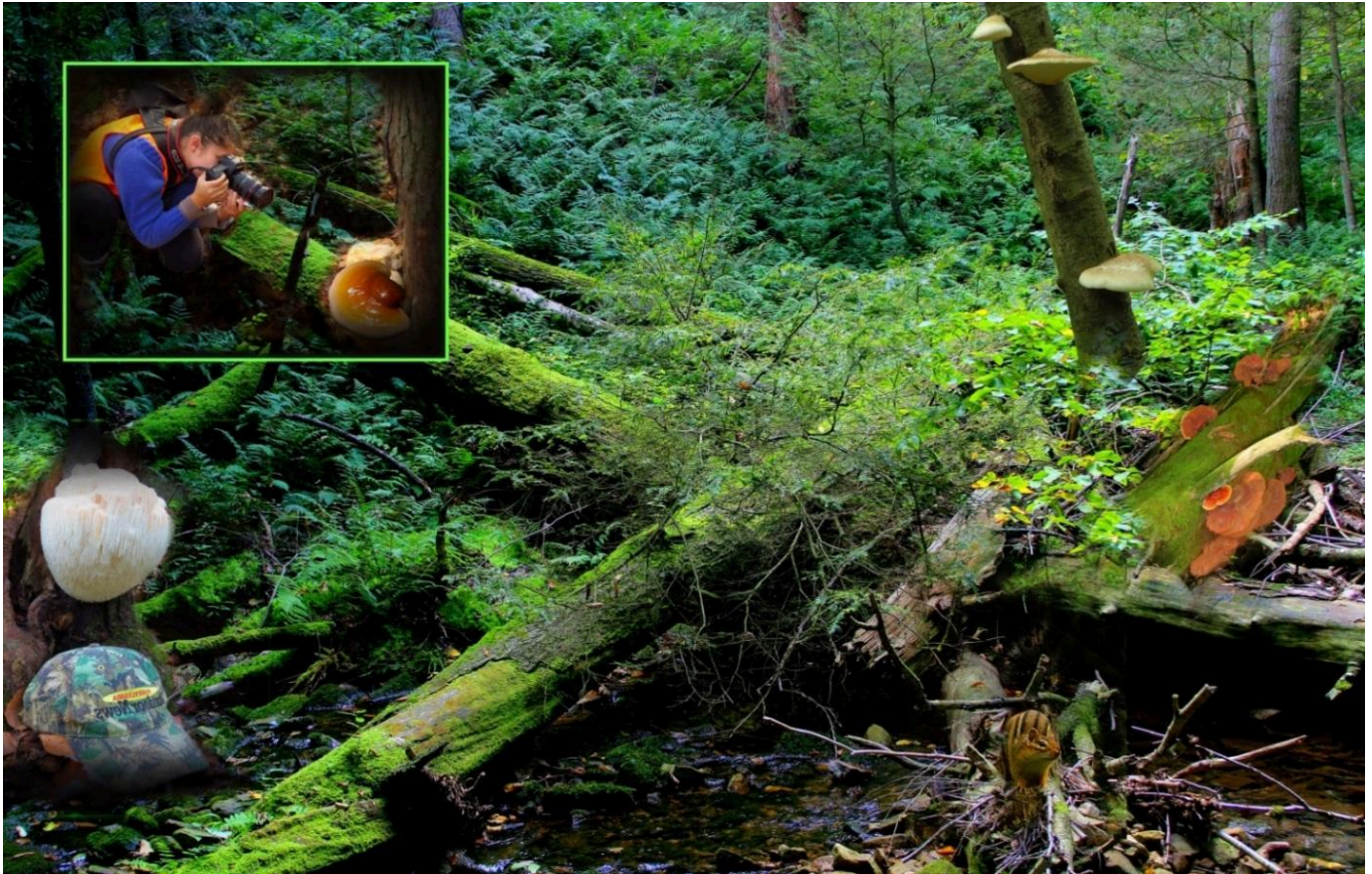
- Current forest management guidelines apply. Tree cutting in this area is limited to the felling of unsafe trees threatening trail users. **When trees fall or need to be cut, the lumber is left on the forest floor, but moved off the trail as needed.** Older growth, large tree management is encouraged.
- Any disturbance around water-delivery springs, digging, and littering are prohibited.
- **September is NSCNA mushroom education month.**
- The photographing and identification of fungi are encouraged as is the recording of each observation on the Ned Smith Center iNaturalist Project: [Fungi](#)
- **Off trail use of this area should be limited to times of guided programming, collection or maintenance by volunteers, and to designated areas.** ~~Off trail use of this area is OK if dispersed. Soil compaction reduces the fruiting of macro-fungi and interferes with the natural forest ecology.~~



Wild Mushroom Conservation Area and Education signs will be placed at entrances to the area. ~~These signs will be removed during droughts and the months spanning December to March when macro fungi are absent or scarce.~~ There will be liberal use of mushroom education signs designed and managed (placed and replaced) by the NSCNA’s educational staff.

NSCNA Wild Mushroom Conservation and Education Area

Dead trees and logs on the forest floor are important components of a healthy forest and the wild mushroom conservation area. Dead wood supports numerous species of fungi, three of which are illustrated below. These and other saprophores break down the dead wood and in the process nutrients (nature's fertilizer) are released that benefit the growth of new trees and other vegetation.



Appendix 1: [Fungi of the Ned Smith Center · iNaturalist](#)

As of April 15, 2024, there were a cumulative (20 years) 683 photographs (=observations) of fungi found on Ned Smith Center Lands. Over the years, 17 “observers” found and photographed **254 fungi species**, which were reviewed and possibly verified by 103 identifiers. These data are available to everyone on iNaturalist --- [Fungi](#)

SIX EXAMPLES OF THE 254 FUNGI SPECIES FOUND SO FAR ON NED SMITH CENTER LANDS

SHARP SCALY PHOLIOTA



BLEEDING TOOTH



COLLARED EARTH STAR



HEMLOCK VARNISH SHELF



BLUE GREEN STAIN CUPS



SWAMP BEACONS



Noticing things: Ned smith in **“Gone for the Day,”** January

To the outdoorsman, “seeing” is more than merely looking. It is a multi-faceted art, refined and developed through constant use. It is not enough to have 20/20 vision (nor is it necessary). Many a person with perfect vision sees nothing, in a manner of speaking, in the woods, and many an all-seeing woodsman has poor eyesight. No seeing involves “noticing” things. Several of my friends who became interested in hunting wild mushrooms have repeatedly remarked about the variety and abundance of wild mushrooms --- now that they are looking for them. The same holds true of birds or wildflowers, ferns or fossils.”

Appendix 2: Education

UNEARTHING THE HIDDEN KINGDOM: A QUEST FOR FUNGI EDUCATION IN OUR SCHOOLS

Diana Richards

By recognizing fungi's ecological role, medical potential, and agricultural benefits, we empower students to be environmentally conscious and innovative contributors for a sustainable future.

In my role as an educator, I have always believed that fostering a deeper connection with nature is crucial for our students' growth. Nature's wonders are abundant, and one of its most underrated kingdoms is fungi. As I witness the flourishing of these often-overlooked organisms and recognize their vital role in maintaining ecological balance, I am deeply concerned about the lack of fungi education in the United States' school system. It's disheartening to realize that while animals and plants are widely covered in our curriculums, fungi are relegated to the shadows with minimal mention in the Next Generation Science Standards (NGSS) - a mere one occurrence compared to 81 times for animals and 86 times for plants.

Understanding the significance of fungi is not just a matter of academic completeness; it is integral to grasping the intricate tapestry of nature as a whole. By incorporating fungi education into our school curriculums, we can nurture the curious minds of our students and enlighten them about the wonders of the natural world they are part of.

Fungi, encompassing a diverse array of organisms like mushrooms, yeasts, molds, and microscopic wonders, serve as nature's recyclers. They quietly break down organic matter and return essential nutrients to the soil, thus enabling plants to thrive. Moreover, fungi form crucial symbiotic relationships with plants known as mycorrhizal associations, boosting their ability to absorb water and nutrients. Such intricate interconnectedness underscores the importance of including fungi education in the context of biology and ecology studies.

Beyond their ecological significance, fungi hold tremendous potential for medical and industrial applications. Remarkably, many life-saving medicines, including antibiotics like penicillin, are derived from fungi. By exposing students to the world of fungi, we can ignite their curiosity about the field of biotechnology and demonstrate how these marvelous organisms can be harnessed for the benefit of human health and various industries.

Our planet faces a myriad of environmental challenges that demand urgent attention. Incorporating fungi education into our curriculum can deepen students' understanding of how these organisms play a vital role in maintaining ecological balance. Armed with this knowledge, students will be better equipped to appreciate and contribute to conservation efforts, thereby nurturing a generation of responsible stewards of our planet's fragile ecosystems.

Furthermore, the agricultural sector stands to gain immensely from a more profound understanding of fungi. Mycorrhizal fungi, for instance, play a critical role in enhancing plant growth and nutrient uptake. By educating our students about this symbiotic relationship, we can instill an appreciation for sustainable agricultural practices that improve crop yields while reducing reliance on chemical fertilizers.

Embracing fungi education also has the power to ignite scientific curiosity among our students. As educators, we have the privilege to introduce them to the fascinating world of fungi, nurturing a sense of wonder about the natural world. This, in turn, can inspire many young minds to pursue further studies in science, technology, engineering, and mathematics (STEM) fields, contributing to the advancement of knowledge and innovation.

In conclusion, as an educator, I firmly believe that integrating fungi education into our school curriculums is not just a noble cause but a necessity. It represents a vital step towards bridging the gap in our understanding of the natural world and opening up a world of ecological, medical, and industrial possibilities. Empowering our students with fungi knowledge will enable them to become environmentally conscious individuals, explorers of scientific advancements, and contributors to sustainable solutions. Together, let us unearth the hidden kingdom of fungi, embracing its importance, and encouraging its study for a brighter and more sustainable future for us all.