



**Appendix V: Public Engagement**  
**Subappendix D**  
**Oregon Ridge Park Master Plan**

*June 2023*

**Oregon Ridge Park Master Plan**  
**Appendix V: Public Engagement**  
**Subappendix D: List of Users**  
June 2023

**Educational Activities, Research, and  
Other Information,  
about Oregon Ridge Park  
compiled by Linda Davis ([lm.davis@verizon.net](mailto:lm.davis@verizon.net))  
4/13/22**

**Educational Activities in Oregon Ridge Park**

**Baltimore County Public Schools**

[https://dci.bcps.org/department/academics/science\\_health\\_physical\\_education/science\\_pre\\_k-12/outdoor\\_education](https://dci.bcps.org/department/academics/science_health_physical_education/science_pre_k-12/outdoor_education)

Joe Davis, Secondary School Resource Teacher, Department of Outdoor Science, Division of Curriculum and Instruction, Baltimore County Public Schools ([jdavis3@bcps.org](mailto:jdavis3@bcps.org)), wrote on 3/24/22: “At Oregon Ridge Park students from the central part of the County do a stream health assessment that was developed with Maryland DNR. It’s different each year depending on who signs up for the program. We work in Oregon Branch or in the small unnamed stream that follows the red trail to the west of the nature center, using the pavilion by the wetland as home base. We never use Baisman Run because it is a sentinel stream with pristine conditions. No groups should be in there. We always coordinate our programs with the nature center staff so they know we will be on site, count our numbers, and keep track of how many groups are exploring the stream. Sadly, many groups come and don’t communicate, and the stream has really taken a beating over the years. We have seen declines in the macro invertebrates because of the traffic. We avoid using kick seines and are very ‘gentle’ as we explore. We tell students to limit walking in the stream and to be aware of the sensitive habitat. We have always had a solid partnership with the Oregon Ridge Nature Center staff. I would strongly recommend limiting and tracking the number of groups that conduct stream assessments in Oregon Branch. A set of ‘best practices’ such as not using kick seines to limit impact, should be developed.”

**Training professional teachers and staff in Environmental Education**

The Oregon Ridge Nature Center is a Green Center for MAEOE (Maryland Association of Environmental and Outdoor Educators). “The Maryland Green Center Award is a way to recognize and honor a facility’s efforts in implementation of environmental education, best management practices and community engagement.” . <https://maeoe.org/> and <https://maeoe.org/green-schools-and-green-centers/green-centers-program>

## **Maryland Master Naturalist Program**

The Nature Center and Park are training sites for the Maryland Master Naturalist Program.

<https://extension.umd.edu/programs/environment-natural-resources/program-areas/master-naturalist-program>

<https://extension.umd.edu/programs/environment-natural-resources/program-areas/master-naturalist-program/become-master-naturalist>

## **Towson University, Towson, MD**

- Dr. Joel Moore, Professor in Geosciences at Towson University ([moore@towson.edu](mailto:moore@towson.edu)), takes students from his Hydrogeology (GEOL 415) and Environmental Science (ENVS 601) classes to the Park. “For each class, we walk along Baisman Run, including looking at the USGS gage on Ivy Hill Road, on the S. James Campbell Trail. I make sure that we stay on or near the trail and avoid any off-trail locations where we would cause erosion or any damage.”
- Dr. Brian Fath, Professor, Biological Sciences at Towson University ([bfath@towson.edu](mailto:bfath@towson.edu)), takes his graduate course in ecosystem ecology out to Oregon Ridge Park every fall. They spend three evening classes there as they take notes and measurements on the six main subsystems: forest ridgetop, forest slope, field, lake, stream, and wetland.
- Dr. Christopher Oufiero, Associate Professor, Biological Sciences at Towson University ([coufiero@towson.edu](mailto:coufiero@towson.edu)), uses Oregon Ridge as a field site for his Animal Form and Function lab class and has collected praying mantises there for research.
- Dr. Susan Gresens, Professor, Biological Sciences at Towson University ([sgresens@towson.edu](mailto:sgresens@towson.edu)), uses the Park for field trips for General Ecology and Limnology classes. Her classes sample Baisman’s Run and Oregon Branch for research on chironomids (non-biting midges).
- Dr. Christopher Salice, Associate Professor and Director Environmental Science and Studies Program ([csalice@towson.edu](mailto:csalice@towson.edu)), uses the site for his Conservation Biology course.

## **Loyola University, Baltimore, MD**

- Dr. Lauren A. Spearman ([laspearman@loyola.edu](mailto:laspearman@loyola.edu)), Full-time Lecturer, takes her Ecology, Evolution and Biodiversity course (BL202) students to the Park. “...We did leaf litter sample exercises and sweep-netting in the patches of milkweed to show students to practice collecting actual research data. Also, we hiked and talked through examples different ecological concepts. It was a great trip just as an experience in letting the students get some fresh air in their lungs and experience nature and what they could find!”
- Loyola’s Women’s and Men’s Cross Country Teams hosted Loyola Invitational Races at Oregon Ridge Park- February 2021  
<https://loyolagreyhounds.com/news/2021/2/20/cross-country-hosts-loyola-invitational-at-oregon-ridge-park.aspx>

### **Notre Dame University, MD**

Claire Cambardella ([ccambardella@cbf.org](mailto:ccambardella@cbf.org)), Instructor and Environmental Educator, takes introductory biology course students to the Park (<https://www.ndm.edu/news-and-events/news/chesapeake-bay-course-gives-students-hands-education-1>).

### **University of Maryland at Baltimore County (UMBC)**

Dr. Matthew Baker, Professor, Geography and Environmental Systems at UMBC ([mbaker@umbc.edu](mailto:mbaker@umbc.edu)), takes his class to Oregon Ridge Park

**Johns Hopkins University, MD** students visit the park regularly to learn about the forest ecosystem there. The university offers naturalist internships at the Park's Nature Center. (<https://imagine.jhu.edu/jobs/baltimore-county-recreation-parks-oregon-ridge-nature-center-naturalist-internship/>).

## **Research in Oregon Ridge Park**

### **Baltimore Ecosystem Study, Long-Term Ecological Research Project at Oregon Ridge Park**

The entire Park is the focus of this nationwide ecological research, which includes researchers from across the United States. The forest at Oregon Ridge Park is a reference forest for multiple research studies.

“The Baltimore Ecosystem Study (BES) is a wide-ranging, multidisciplinary study of the Baltimore, Maryland ecosystem that is part of the National Science Foundation's Long-Term Ecological Research (LTER) program. BES includes active and planned research on hydrology, vegetation, relationships between social factors and urban environment, climatology, air quality, and wildlife. Modeling is carried out at scales ranging from small watersheds and local scale to regionally.”

<https://baltimoreecosystemstudy.org/> - overview of project

<https://beslter.org/index.html>

<https://md.water.usgs.gov/preview/projects/BES.pdf>

[https://www.zotero.org/groups/2337189/baltimore\\_ecosystem\\_study/collections/Q65DSYUD/items/SY43S26W/collection](https://www.zotero.org/groups/2337189/baltimore_ecosystem_study/collections/Q65DSYUD/items/SY43S26W/collection) - compilation of BES research publications

[http://bes-dev.sr.unh.edu/wp-content/uploads/2019/01/bes\\_annual\\_report\\_2012.pdf](http://bes-dev.sr.unh.edu/wp-content/uploads/2019/01/bes_annual_report_2012.pdf)

Examples of the research:

- “Soil organisms are being investigated using two approaches. Monthly pitfall sampling and has been conducted in forested plots in Oregon Ridge, Hillsdale Park, and Leakin Park. These plots have also been sampled for earthworms. Qualitative sampling of Isopoda and Diplopoda is conducted in unmanaged grass plots, managed lawns, city parks, roadsides and abandoned fields. Arthropod sampling is conducted at sites with data on soils, biogeochemical processes, and vegetation. Soil organism data are being compared with climatic models.
- “...Forest patches are being quantified, and the vegetation structure and composition of forested permanent plots, extensive permanent point samples, forest gaps, and riparian zones assessed.” [http://bes-dev.sr.unh.edu/wp-content/uploads/2019/01/bes\\_annual\\_report\\_2000.pdf](http://bes-dev.sr.unh.edu/wp-content/uploads/2019/01/bes_annual_report_2000.pdf)

**Climate Data from the Baltimore Ecosystem Study:**

<https://www.yumpu.com/en/document/read/28000389/instructions-on-using-climdb-baltimore-ecosystem-study>

**Haverford College Data Analysis from Baltimore Ecosystem Study Stream (Baisman Run): Long term trends in nitrate and chloride in streams** - <https://www.haverford.edu/kinsc-undergraduate-science-research-symposium/news/long-term-trends-nitrate-and-chloride-streams>

**Towson University, Towson, MD**

Dr. Joel Moore, Professor of Geosciences ([moore@towson.edu](mailto:moore@towson.edu)) collects water samples at the USGS gaging stations at Pond Branch and on Baisman Run at Ivy Hill Road in the same location as the Baltimore Ecosystem Study samples. “For a current study, we’re working with the Baltimore City Department of Public Works to **understand chloride and deicing salt inputs to the drinking water reservoirs with the Baisman Run USGS gage being one of several sites for that study**. For this sampling, we follow established paths and sites that are used by the USGS, Baltimore Ecosystem Study, and others to be sure that we are not negatively impacting the park in any way. My lab also has published work on previous data collected at the same sites, both by my lab and by the Baltimore Ecosystem Study.”

De-icing agents and salinization: [https://www.researchgate.net/figure/Land-use-of-the-Gwynns-Falls-and-Baisman-Run-watersheds-showing-sites-from-which\\_fig1\\_307812464](https://www.researchgate.net/figure/Land-use-of-the-Gwynns-Falls-and-Baisman-Run-watersheds-showing-sites-from-which_fig1_307812464)

Urban Stormwater Management in the United States: [http://www.capitalarearpc.org/wp-content/uploads/2017/09/WWSP\\_UrbanStormwaterManagement\\_US\\_041117.pdf](http://www.capitalarearpc.org/wp-content/uploads/2017/09/WWSP_UrbanStormwaterManagement_US_041117.pdf) (search for ‘Baisman Run’)

## Dickinson College, Pennsylvania

- Dr. Jordan Hayes, Assistant Professor of Earth Science, ([hayesjo@dickinson.edu](mailto:hayesjo@dickinson.edu)) is **studying the 'critical zone' at Oregon Ridge Park** (i.e., from bedrock to tree canopy: how bedrock, soil, atmosphere, water, rock, biota interact to make the planet habitable). She collected data via seismic and electrical sensors on the soil to measure and then infers how rock properties impact soil and weathering in the Park. Her grant collaboration with Dr. Ciaran Harman (Johns Hopkins University) and Dr. Joel Moore (Towson University) also supports two-week training sessions with undergraduate students traditionally underrepresented in earth science. The goal: students will discover the basics of geophysics and perhaps modify their career goals. In 2023-24 that work will begin at Oregon Ridge. One student in the program noted: "I've never sat on a forest floor before."
- **Student research and honors thesis in Oregon Ridge Park** – Benjamin Eppinger, 2019. A Characterization of Critical Zone Architecture and Near-Surface Seismic Anisotropy in Oregon Ridge Park, MD. "In this study, we investigate critical zone architecture and seismic anisotropy in Oregon Ridge Park, MD; specifically, the Pond Branch and Baisman Run catchments." [What is anisotropy? anisotropy, in physics, the quality of exhibiting properties with different values when measured along axes in different directions. Anisotropy is most easily observed in single crystals of solid elements or compounds, in which atoms, ions, or molecules are arranged in regular lattices.]  
<https://www.britannica.com/science/anisotropy>  
[https://scholar.dickinson.edu/student\\_honors/368/](https://scholar.dickinson.edu/student_honors/368/) Link to peer reviewed publication resulting from student thesis:  
<https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JF006289>
- Results have also been presented at national conferences.

## The Johns Hopkins University hydrology study of Oregon Ridge Park and planned field observatory

The Johns Hopkins University is engaged in a long-term hydrology study of the Park. In January of 2017, Ciaran Harman, an associate professor of landscape hydrology and the Russell Croft Faculty Scholar in the Department of Environmental Health and Engineering from the University ([charman1@jhu.edu](mailto:charman1@jhu.edu)), received funding to create a field observatory in the Park to study the **Park's hydrology** (<https://engineering.jhu.edu/news/ehes-ciaran-harman-receive-nsf-career-award/>). The five-year grant (started in 2017) will support Harman's research into the movement of water through the landscape from rainfall to streams. The funds will be used to develop a field observatory at Oregon Ridge Park in Baltimore County, where detailed observations of water cycle dynamics and environmental tracers will help Harman and his students learn how the architecture of the surface and shallow subsurface controls the movement of water and contaminants in the deeply weathered landscape of the Piedmont.

The park and observatory will also be used to provide an opportunity for **experiential, direct learning for undergraduate students**, and funding from the grant will be used to help promising **students from urban Baltimore public elementary schools attend STEM-enriched summer nature camps** at the nearby nature center.

### **United States Geological Survey (USGS)**

The primary USGS product is a continuous data stream, which is published annually (<http://wdr.water.usgs.gov/>), and with most station data available in near real time (<http://waterdata.usgs.gov/md/nwis/current?type=flow>). The USGS maintains one long-term gage in the Pond Branch watershed, which lies within the park, and one on Baisman Run, a short distance downstream of the park boundary. These are important reference sites for comparing the hydrology and water quality of a largely forested park ecosystem with the more heavily modified suburban watersheds. <https://pubs.er.usgs.gov/publication/70200650>

## **Other Resources about Oregon Ridge Park**

Bird list for the Park, compiled from ebird.org. <https://ebird.org/hotspot/L210528>

Redman, Donnell E. 1999. *An Annotated Checklist of the Vascular Flora of Oregon Ridge Park, Baltimore County, Maryland*. *The Maryland Naturalist* 43(1-2): 1-31.  
<https://www.biodiversitylibrary.org/item/239235#page/2/mode/1up>

The following print resources are available from Charles Davis, Ecologist ([charliedavis1@verizon.net](mailto:charliedavis1@verizon.net)):

Davis, Charles. 2013. Note on '*Leucothoë walteri*' in Baltimore County. Unpublished. [A note about *Leucothoë fontanesiana* in Oregon Ridge Park.]

Davis, Charles. 1983. Oregon Ridge Park chapter in Mittenthal, Susan Meyer. *The Baltimore Trail Book*, revised edition. Edited by James W. Poultney. Baltimore: The Johns Hopkins University Press.

Envirens, Inc. for Dewberry and Davis, Land Design and Survey Division. Consultant report. *Flora and Fauna Inventory for Oregon Ridge Park: Initial Lists for a Working Catalog*, 1991.

Hackman, Douglas, botanist. *Botany Field Maps of Oregon Ridge Park*.

*Oregon Ridge Rare and Endangered Plant Species list for the Park*, 1992.



Schnader, Jefferey. *Proposal for a thesis entitled Avian Community Structure of a Serpentine Barrens in Comparison to a Piedmont Deciduous Forest*. Student paper. Towson University, August, 1990.

Whitman, Requardt, and Associates. Consultant report. *Oregon Ridge-Ivy Hill Park: A Resource Survey*. 1972.

Whitman, Requardt, and Associates. Consultant report. *Oregon Ridge Park: Appendixes to the Report*, 1973.

Whitman, Requardt, and Associates. Consultant report. *Oregon Ridge Park Nature Center*. Prepared for Baltimore County Department of Recreation and Parks, 1979.

Wolinsky, Dillon, Bennett, Tsamouras, Smith. *Oregon Ridge Park Environmental Inventory and Proposed Management Plan*. Student paper. Department of Geography and Environmental Planning, Towson University, 1989.