



Environmental Science and Sustainability Department Newsletter

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Students Participating in Herpetology Hunts at Bousson Forest



Wendy Kedzierski Staff Photo
Provided by Allegheny Website

“When the students get to the camp, they can really just let loose because they really love the natural environment and the outdoors and are now among a handful of ten or so other students that really love the same stuff.” Wendy Kedzierski, the Creek Connections Project Director, is referring to the

way students behave and embrace their interests at Freshwater Academy.

Formerly known as Creek Camp, Freshwater Academy is a residential, science-based camp for high schoolers that is led by Creek Connections, an environmental education outreach program partnered with Allegheny College. This week-long camp provides high school students with the opportunity to intensely study and appreciate the importance and uniqueness of the French Creek Watershed. By participating in hands-on experiences, fieldwork, and speaker presentations, students learn specifically about water chemistry, macroinvertebrates, and wildlife species native to Northwestern Pennsylvania. Freshwater Academy is a very mobile camp, meaning that students get to visit different sites along French Creek and within Crawford County and therefore, are able to physically interact with the environment. For instance, students visit French Creek to participate in fish studies, explore Sugar Lake on a canoeing trip, engage in an owl hunt at the

Greendale Cemetery, and even participate in a herpetology hunt at Allegheny College’s Bousson Environmental Research Reserve.

Bousson Environmental Research Reserve consists of 283 acres of woodlands, streams, ponds, wetlands, and many, many native wildlife species. While it is primarily reserved for professor and student research, Freshwater Academy uses Bousson Forest to educate camp participants all about herpetology, the branch of zoology concerned with the study of amphibians and reptiles. Herpetology day, which is regularly scheduled as the last full day of camp, is filled with activities and is usually kicked off with a presentation by April Klaus, a herpetology expert, Allegheny graduate, and former Creeker. In her presentation, she focuses on educating students about reptiles and amphibians native to western Pennsylvania, and she even brings her live critters to share with her audience. Following the presentation, camp participants are usually taken to French Creek to look for hellbenders and then later arrive at Bousson to continue their herpetology hunt.



Because Bousson consists of diverse habitats that are in close proximity to one another, the herpetology hunt is usually quite successful. “We tend to find close to twenty some species of mostly salamanders, but sometimes we find snakes as well,” says Wendy Kedzierski. All while exploring Bousson, Wendy, along with other staff members, teach students how to ethically search for and handle salamanders. For example, students are taught how to gently flip rocks, logs, and leaf litter in a way that does not harm the critters or disrupt their habitats.



Students are also provided a plastic cup and are encouraged to capture the salamanders using the cup, rather than their hands, so that any harmful chemicals on their hands would not be transferred to the amphibians. Once they understand these basic ethical concepts, students are able to go off and explore the diverse habitats of Bousson and search for all types of salamander species. Bousson offers incredibly healthy and diverse habitats and is a site where you can reliably find more than a dozen species of a particular animal. “It’s nice to have that resource connected to the college and so close that we can incorporate it into the camp like that,” says Kedzierski.



Professor O’Brien’s Bousson Experiences



Rachel O’Brien Staff Photo Provided by Allegheny Website

Professor Rachel O’Brien, head of the Geology Department, started taking students out to Bousson the first semester she arrived at Allegheny. She started with her Hydrogeology class, involving at least four of their labs at Bousson Forest. Since then she has used the site

for teaching purposes almost every semester. She stated that she will continue to use this land to educate for as long as she is at Allegheny and she has missed being able to use Bousson these last few semesters. Even though she has not been able to take students to the site due to Covid, she has created hypothetical scenarios involving the Bousson Forest land for her students. This effort was aided by Professor Chris Shaffer who used GIS to create maps including; topography, soil zone, hydrography, and surficial glacial basemaps. In addition to this, she is still guiding student led research and senior comps that involve the Bousson land.

She fondly recalls her Geochemistry class using the land for a water chemistry project on a day that was below freezing and had at least 24 inches of snow on the ground! Most of the students did not have snow shoes but were real troopers and successfully collected their snowpack, stream, and groundwater samples. She says they had a great field day- they were productive and shared a lot of laughs that became a lasting memory to her as well as her students.

When she is not using the land for experiments or for example problems, she states that “it’s a wonderful piece of property and a great place to take a walk and get away from campus. In the spring, it’s lovely to see the Trillium and May Apples in the understory. In the fall there are wonderful leaves to collect.”

She encourages students and faculty to get to Bousson anytime they can. Whether there be two feet of snow or blooming vegetation, it is a gorgeous place to take in the flora and fauna around you.

The Salamanders of Bousson and Alum Karissa Coffield



Karissa Coffield Allegheny Women's Cross Country Photo

Unnoticed by most, each fallen tree shelters its own miniature ecosystem. In old growth forests, large capsized logs offer a home and a hiding spot for the woodland creatures of the underbrush, including a healthy population one of our local ecosystem's most

interesting amphibians: salamanders. Allegheny's Bousson forest, a research reserve set aside for budding scientists in the environmental science and biology departments, offers an ideal habitat for local species of salamanders. Bousson's ponds and natural pools offer breeding grounds, its undisturbed paths and untraveled roads allow for a natural and safe environment, and the fallen logs and diverse species speak to the protected nature of this wild paradise. About fifteen species of salamanders live within Bousson, including the most prevalent spotted salamanders, dusky salamanders, and red salamanders. Each lives in harmony with its environment, and unbeknownst to them, offer research subjects for some of the most ambitious senior projects seen within our campus.

Throughout the spring semester of her junior year, Karissa Coffield spent her time with her hands in a bucket. In order to write her senior project the following year, she had to coordinate her efforts with the spotted salamander migration, and therefore was one step ahead of her peers. Coffield's goal was to investigate the distribution of woodland salamanders, and in order to properly tally, she had to interrupt their natural migration. To do so, the Bousson research facility offered the perfect opportunity. Coffield, with the help of the late Scott Wissinger, anchored aluminum fences at varying distances from the breeding pools, constructing them low to the ground so that the salamanders could not scurry beneath. The salamanders were instead forced to go around, and

through their wanderings soon found themselves fallen into a bucket, waiting to be collected by the student researcher. She then, with the help of volunteers from the student body or from the faculty, counted, measured, and released 2,600 salamanders. With their journey a little longer than expected, the salamanders eventually found themselves within their intended breeding pool. The results are best appreciated by a salamander expert, offering information about the time, location, and ratio of the breeding seasons.

Karissa's project joins with many other students who take an interest in the local amphibious life. Her project is the most recent of the Bousson salamander studies, joined by Rebecca Parker's 2001 research about the effects of foresting practices on the density of forest floor salamanders. A more recent project, Lauren Durant's 2018 study on the preference of mate choice in red backed salamanders, also drew from the population found in Bousson. Each student recognized the importance of an untouched natural habitat for these interesting animals, and turned their attention to one of Allegheny's most unrecognized assets in the research field. While some students are lucky enough to visit Bousson in a classroom setting, most are unaware of the incredible opportunities the reserve has to offer. An undisturbed natural ecosystem offers sanctuary not only for the intensely studied salamanders, but also for mammals, reptiles, birds, and invertebrates. These three senior projects join the myriad of different studies that took advantage of Bousson, and its research potential is available to anyone else who aspires for a hands-on senior project. Coffield has used this experience to join a team of salamander enthusiasts at Murray State University, where she is going through graduate school and expects to travel to the rocky mountains to study tiger salamanders.

Professor Matt Venesky Takes the Reins as Director of Bousson Forest



Matt Venesky Staff Photo Provided by Allegheny Website (and friend)

For Allegheny College students, Bousson Environmental Research Reserve is an invaluable resource. The sheer diversity of pond, stream and upland forest habitats, coupled with the many microhabitats within each of these, makes Bousson an ideal

site for learning and research. But for people to use Bousson, someone has to do the legwork – and that’s where Professor Matt Venesky comes in.

A versatile professor in the college’s biology department, Professor Venesky is known by many for his broad knowledge base in ecology and his depth of experience in host-pathogen ecology. For the last eight years his lab has researched an emerging fungal pathogen called chytridiomycosis that has been devastating amphibian populations all across the world, specifically focusing on a small local salamander that is unusually resistant to the fungus. During that whole time, Bousson forest has served as a source of both specimens and inspiration for Venesky’s lab as they tackle the growing problem.

Professor Venesky uses Bousson primarily for teaching, and for research that is non-manipulative. That non-manipulative part is crucial; Venesky sees Bousson as a good example of an ecosystem that has recovered from mid-20th century disturbances to a very natural state, making it ideal for sustainable levels of experimentation based in natural systems. Too much alteration by student and faculty researchers would disrupt this balance. For Venesky, the forest is particularly valuable for students to observe how Pennsylvania forests function and take in environmental concepts in a more tangible way than simply taking notes in a classroom. “If you

spend an hour outside at Bousson talking and walking,” Venesky said, “it supplements hours’ worth of lecture in the classroom.” He added that for students, “the connections they make with nature and the theory of ecology is so much more enhanced when you are out in the field. It’s an instructor’s dream to have something like that so close by.”

Professor Venesky stepped fully into his role as the Director of Bousson forest in 2019. The late Scott Wissinger served for several decades as the steward and logistical leader for Bousson forest, and had started the process of transferring the reins over to Venesky before he retired. When Scott passed away unexpectedly in 2019, Venesky took over completely, and with everything that Scott did for Bousson, it was a big set of shoes to fill – but clearly Professor Venesky takes his responsibility seriously.

I asked Professor Venesky what he thought could be improved about how Bousson is operating. He wishes that it was utilized more by students and integrated into course curricula in the ESS and Bio departments even more than it is now. He also hopes that Allegheny’s long-standing history of aquatic ecology and biology continues with Bousson as a central component of both student and faculty research. Since it is a protected area Bousson offers an unparalleled opportunity for longevity research projects, such as Rich Bowden’s D.I.R.T. plots and Scott Wissinger’s salamander ponds. If you are interested in engaging with Bousson forest in any way, Professor Venesky would love to hear about it.

Virtual Lunchtime Talk w/ Sahar Arbab:

With ESS 2013 alum Sahar Arbab this Friday, April 2nd from 12:15 - 1:15pm via zoom (watch out for a link from Ruth Dunton prior to the event).

She will be discussing her work in environmental justice and education.

Professor Mark Cosdon and His Experiences in Bousson



Staff Photo Provided by Allegheny Website

Here at Allegheny College, Mark Cosdon has been a professor in the Department of Communication, Film and Theatre since 2002, and is also the managing director of the Playshop Theatre. Mark Cosdon became acquainted with

the late Scott Wissinger through a small teaching circle, and gained much of his early knowledge of Bousson from him. Scott and his wife were avid supporters of the Playshop Theatre, which opened up many discussions between Scott and Mark about topics ranging from the arts to outdoor recreation and the Bousson Forest.

The summer of 2015, Prof. Cosdon finally made his first trip out to Bousson. Like many of us, he grew up playing in the woods and creeks of eastern Pennsylvania, so exploring Bousson gave him a sense of familiarity. He continued to learn about the Bousson and its incredible history from Biology Professors Milt Ostrovsky, Matt Venesky, and Scott Wissinger, as well as our own Rich Bowden.

For six years, Prof. Cosdon has gotten out to Bousson 2-3 times a week for at least 2 hours a day. Surprisingly, his favorite time of year to go is in the harshest, coldest days of winter. Perhaps the barren landscape lends to his meditation practice. He finds his walks in the woods really serve as a time to get away, destress, think, and re-energize. Although he occasionally bikes out to the Erie National Wildlife Refuge for a walk, Bousson is his go-to place to get away.

If you get a chance, ask Prof. Cosdon about

some of the things he's seen at Bousson. "Fishers, beaver, fox, owls, turkey, weird bugs, newts, etc. Never a bear, thankfully." He has collected an array of old bottles, some dating back 100 years. He likes to include the Purple Trail in his walks and explore the Biology Club's cabin remains. He once found a wood stove door, evidently manufactured by the Southern Stove Works in Evansville, Indiana. This artifact can now be found in his office. Recently, he's enjoyed witnessing the fast work of beavers in the far north of the Blue Trail. He says, "The swath of wood they've taken down in such a short time is pretty amazing."



Blue Trail Beaver Dam. Provided by Mark Cosdon.

Prof. Cosdon has also found some fascinating old graffiti, evidence of vandals of times past. Some are dated from as far back as the 1950's. Much of it is the heart and initial type, and some is perplexing.



"The man who loved women." Provided by Mark Cosdon.

Over the years, Prof. Cosdon has found significant evidence of trespassers, especially hunters. He has found numerous gut piles and trail cameras on the grounds. ATV's and snowmobiles have caused damage to the trails, land, and labs. He even heroically escorted hunters off the land in December and reported them to Public Safety and the Game Warden. He has also noticed tree stands on the adjacent property popping up in the past year.



Mark Cosdon captured by a trail camera on a winter stroll..

Prof. Cosdon has found the Bousson Forest to be an invaluable resource for the Allegheny College community. He loves to consider the tug-of-war between humans and nature that Bousson has endured throughout its history. It is rich with opportunities to connect with the people who have used and cared about it, past and present, and to reconnect with nature and self. Only 15 minutes from campus, Mark Cosdon recommends a visit any time of day and any time of year to explore it for yourself.

Students for Environmental Action-

The SEA Club has been given the go-ahead to meet in person for the rest of the semester! These meetings will be held on Thursdays in Carr 120 @ 7pm. They will still have their google meet link to join virtually as well.

Email sea@allegheny.edu to receive their updates.



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