

ESS Newsletter

November, 2022

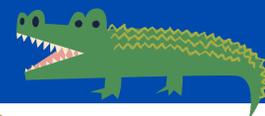
Food Forest Update

Five years ago the idea of a food forest was imagined by alum Sebastian McCrae. This fall the now standing food forest is experiencing its first harvest! During the spring semester earlier this year, the Sustainable Design Team started working on the forest after a long process of sharing ideas and trying to gain support from people all over campus. From tiny seeds to big corn stalks, kale, and more, it is now flourishing and ready to be used! The food forest is a project completed by students and for students so you are welcome to stop by and enjoy the harvest too! The Sustainable Design Team also holds events that involve the new food forest and Carnden such as their recent SDTea where they used dried herbs to create different tea mixtures and had a gathering in Grounds for Change so everyone could try them. They've also dried corn kernels so they can be made into popcorn to be snacked on during a movie event. The forest is already thriving and providing a lot of opportunity to students to learn and practice sustainable food cultivation and use. SDT president Ashlynn Peachey says that "it's amazing to think of what it's going to do in the next five years because right now we have small plants that are just taking off" and in the years to come as the plants begin to really establish themselves the food forest is going to grow into something even more amazing.

SEA Fire-Cooked Potatoes

This year, Students for Environmental Action (SEA) has come up with a new fall event combining some great features: outdoor activities, energy reduction, community building, and, perhaps most importantly, free food! On Gator Day evening, SEA hosted a bake your own potato event at the Murray lawn fire pit. Students were invited to bake Carnden fresh potatoes on a fire fueled by scrap wood from the Vukovich Scene Shop. SEA was also able to serve some potato toppings sourced from the Carnden and Food Forest. Kelly Boulton and the team of Carnden workers were responsible for the harvest and processing of the potatoes and toppings. This SEA event also served as Energy Challenge programming, since attendees were encouraged to turn off their lights and appliances in their dorms before attending the outdoor, minimal energy event. Having seen the success of this event, more SEA fire and cooking events may be coming in the future.





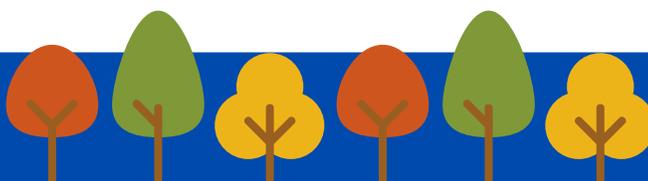
Creek Connections Summer Work

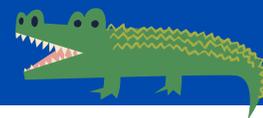
This summer, Allegheny College's Environmental Science and Sustainability Department had some great summer jobs for students on campus! One of the organizations that employed summer interns was Creek Connections who works with the community to "turn waterways into outdoor environmental laboratories". Kaitlyn Royal and Bianca Sanchez were Creek Connection's Project Assistant Interns this summer. One of the fun projects they worked on was the Martin Luther King Jr. 21st Century Mentoring Program. Creek Connections and their interns worked with students in the community to do water quality assessments once a week in order to "better understand the influence Rainbow Lake has on Mill Run" says Kaitlyn Royal. They also got to kayak or paddle board on French Creek and the Allegheny River some days! Over the summer, no two days looked the same, but a lot of time was spent "gathering materials for activities, planning lessons, traveling to events, and getting in the creek/doing creek education with kids," Royal also says. A lot of the work they did with children in the community involved working with water chemistry samples and macroinvertebrates. Both of the summer interns also work for Creek Connections during the school year and love it! Kaitlyn's favorite part of the summer was "working with students and seeing how they grew to understand and love the creek! She says you can see the kids absorbing the information and the gears turning in their little minds! It is so great to see kids enjoy being outside and getting to have fun (AND LEARN) in the creek!" Bianca's favorite part of the summer was getting to enjoy the beautiful summer weather in Meadville and getting to know the summer Creek Connection's students and helping them learn outside of the traditional classroom setting!



Changes of Seasons

This semester we welcome new faculty to the ESS Department! Dr. Tamara Misner was an Allegheny College professor from 2010–2015 and is now returning from Edinboro University to help graduate the remaining geology majors and minors. Dr. Misner is one of the core professors of the current Geology program and is teaching Field Geology and Sedimentology and Stratigraphy this semester. Dr. Misner earned her undergraduate degree in Geology at University of Nebraska-Lincoln and both her Master's and PhD in Geology at University of Pittsburgh. Dr. Misner's geological specialty is paleolimnology, which is the study of inland lakes and rivers from their sediments and fossils. Nothing lackluster about lacustrine! Dr. Misner's favorite field work location and her coolest research project involved some serious freeze-factors. She worked in Antarctica on a research vessel to collect seismic, bathymetric, and ocean sediment core data. She investigated former grounding zones of the West Antarctic ice sheet and analyzed the data to try and relate it to changes in sea level. If you want to break the ice and welcome Dr. Tamara Misner, her office is Alden Hall 204!





"Leaf " it Where it Lies

For those who may not be the well-versed environmentalist, the initial term "leaf litter" raises the idea of something that needs to be packed up and shipped to a landfill. Leaf litter on the other hand is better when you "leaf"-it where it lies. Here are some reasons to leave your leaf litter and ways to use it to create a healthier lawn!

The beautiful autumn foliage eventually surrenders to the cold and falls to create an ecosystem where insects and small critters thrive during the colder months. Endangered species like the Rusty Patched Bumble Bee use leaf litter as an overwintering refuge and displacing leaves can take away from their already limited habitat. This forest of foliage also harbors butterfly and moth eggs as well as small animals like snakes, salamanders, and turtles. Leaf litter is not only a safe harbor for these critters but also decomposes to create nutrients for insects like earthworms, snails, and millipedes. These snug bugs become grub for birds and their hatchlings.

Leaf litter isn't just good for birds, bugs, and 'bitty critters, it is also good for shrubs, lawns, and the natural environment! Leaf litter protects root systems and maintains ground moisture. Leaving foliage on lawns is also shown to lower fertilizer runoff because of its help with stormwater absorption. If the neighbor's side eye at the leaves scattered on the yard feels too menacing, composting or mulching is also an option. By using leaf litter to create mulch or compost you are limiting the waste sent to landfills that would break down with other organic materials to produce methane. According to the EPA, in 2017, yard trimmings generated 35.2 million tons of waste nationally making up approximately 13% of municipal waste.



In 2018 the statistics weren't much better with 35.4 million tons of yard trimming waste, around 12.1% of total municipal waste. Save money and the environment by composting or mulching! According to Penn State Extensions, leaf foliage from one large tree can produce around \$50 of plant food or humus. An article published by Environmental Horticulture: Guide to Nutrient Management provides some easy step-by-step instructions for backyard compost creating!

Compost Instructions

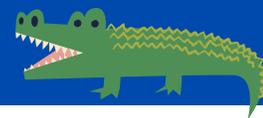
1. Create a four-sided structure of wood or wire meshing
2. Add vegetable matter, like kitchen scraps
3. Add autumn leaves and yard clippings
4. For better decomposition processes add occasional soil or ground limestone
5. Turn the compost occasionally

TIP: If you only want a small amount of compost this process can be done in a plastic bag by adding the dry leaf litter material with 2 quarts of water if dry and 1 quart of slightly moist, tie bag and turn monthly to distribute moisture

References:

1. Pumpkins. Agricultural Marketing Resource Center. (2021, August).
2. Written By Sydney Giuliano, & Giuliano, S. (2019, October 8). *Leaf-ing space for wildlife: U.S. Fish & Wildlife Service*. FWS.gov.
3. Environmental Protection Agency. (n.d.). Time to take out the rake and bag the leaves, right? EPA.
4. Raking leaves? drop the rake and stop what you're doing. Chesapeake Bay Foundation. (n.d.).
5. Written By Sydney Giuliano, & Giuliano, S. (2019, October 8). *Leaf-ing space for wildlife: U.S. Fish & Wildlife Service*. FWS.gov.





Sustainability and Halloween

When we think of Halloween, scary creatures such as werewolves, mummies, and vampires are quick to come to mind. However, in the world of environmental science, the aftermath of Halloween has a much more fearsome creature – waste. Carving pumpkins, dressing up in costumes, decorating, and collecting candy are all seemingly harmless factors that have increasingly caused Halloween to rival Christmas in terms of waste and, consequently, environmental harm.

Even outside of the holiday season, two of the biggest culprits contributing to climate change are agriculture and clothing and textile – or in this case, costume – production. The most notable spike in agriculture waste comes from pumpkins. “According to the USDA National Agricultural Statistics Service, nearly 66,200 acres of pumpkins were harvested in the U.S. in 2020” (Pumpkins, 2021). Those carved pumpkins sit out on your porch for a few weeks before being thrown away. Food waste is a year-round issue for the United States, with about 40% of food that is intended for human consumption ending up in landfills (Methane emissions, 2021). This management of food and organic waste is a concerning contributor to methane emissions. Many people buy pumpkins just to carve them, but being sure to use the inside “guts” for treats such as pumpkin rolls, pies, or baked seeds can help cut down on waste. Then, instead of throwing pumpkins away, whatever can’t be eaten should simply be used as compost in your yard or garden. On top of all of the food waste, about seven million costumes (the equivalent of 83 million plastic bottles) are thrown out every year, the majority of which end up in landfills (Moullec, 2021). This is especially scary because a majority of costumes are made from synthetic fabrics, which release harmful toxins as they decompose. The easiest way to reduce this issue is to make Halloween costumes out of things you already own, or to borrow from friends. Even pieces that seem too unique to be reused can be turned into scrap fabric for other projects – get creative!

References:

1. Methane emissions are driving climate change. Here's how to reduce them. UNEP. (2021)
2. Moullec, C. (2021, October). Scary halloween sustainability facts. Save Your Wardrobe.
3. Pumpkins. Agricultural Marketing Resource Center. (2021, August).

Summer Symposium

This summer, on June 16th and 17th, Lauren Schrock and Lydia Giannini (both class of 2023) presented “Student Knowledge and Perception of a Green Campus” at the 5th World Symposium on Sustainable Development at Universities. This year the theme was “Educating the Sustainability Leaders of the Future.” The other locations of the symposium were Rio, Brazil; Manchester, UK ; a university in Malaysia, and MIT, so it is very exciting that the symposium was able to be held at Allegheny! Lauren started the research as a continuation of her Environmental Research Methods class in which they analyzed Professor Choate’s personal research on “how much Allegheny college students actually know about the green initiatives we implement on campus.” Lauren went on to do an independent study to finish the research with Professor Choate for a semester and the following semester, Lydia worked on writing the study’s research paper. Lauren and Lydia were nervous to present at such a big symposium, but were excited to present the findings, and network with environmental professionals from many different countries. Both of them are so grateful to have had the opportunity to attend, present, and work together and they said they couldn’t have done it without each other!



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