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Summer Internship at the Connecticut River Museum

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Summer Internship at the Connecticut River Museum

Olivia Blaney '23– (Sponsor: Rachel White)



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At the Museum

Day to Day Routine

Every Tuesday and Thursday morning of my summer I would drive from my hometown in South Hadley, MA to Essex CT, where the Connecticut River Museum is located. A typical day at the Museum was often atypical. On my first day at the Museum, I—along with my fellow Eastern Connecticut State interns— went on a boat ride on the Onrust. Built by the Dutch, the Onrust is an authentic representation of one of the earliest vessels on the Connecticut River. Not all days were as adventurous, the majority of my time was self-directed and focused primarily on researching Water Chestnuts, an invasive species which has its largest invasive site on the Connecticut River. I worked primarily on my own. However, my boss and Clark alumni, Allison Insall, and I devised a final deliverable for my summer: produce an informative video on the Water Chestnut's for the Museum's website and the local schools. In Allison's office our team of interns would collaborate and edit each other's work and findings for our own personal projects. Allison's goal for me was to work more on the conservation portion of the Museum's content—as that area had been lacking. In delivering on her request, I completed comprehensive research on the species impacts on the river, the river's ecosystem and how Water Chestnut's affect humans. My research was comprised of a multitude of resources, including online academic articles, databases and websites along with the various resources that the Museum had. Once I found all the information I was looking for, I then spent my time compiling my findings into a comprehensive script. About halfway through this project, I found a volunteer opportunity to pull the Water Chestnuts, at their most invasive site. This site is Log Pond Cove, located an estimated mile down the river from my home in South Hadley. Given the geographical significance to me in tandem with my interest in enhancing my understanding of what I was researching I elected to participate in the event. This event became a hallmark for my findings and my understanding on the integral nature of maintaining this invasive species. After combining this experience and my research into a script, I then filmed my video and included a voice over to coincide with my photos from the Water Chestnut pull. Apart from my research, I also enjoyed how Allison's mentorship afforded me professional and developmental with experience in fundraiser event development and execution.

Working for a Clark Alum

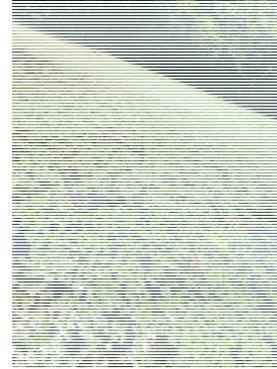
Working under Clark alumna Allison Insall was both an advantageous and enjoyable experience. Moreover, not only did I benefit from Allison's own experience and professional development—but I also found insight from Allison's husband, another Clark alum. Allison interwove teachable moments throughout my summer at the Connecticut River Museum. One of her lessons showed me the value in pursuing a position within an institution of higher learning with graduation. After Allison graduated Clark, she worked at Boston University and she said it was an extremely beneficial experience. Given this, I am now considering a career path I had previously not been aware of. Our mentorship superseded professional development, as we were also able to connect over our affiliation with Clark. This made the days go by fast and my time felt well spent. Allison has also offered to connect me with her friends in the Environmental Science field, affording me the possibilities of even more opportunity and connections. In total, working under a Clark alum created a dynamic of personalization that was key to my experience and I would not pass up a similar opportunity moving forward.



Image taken at the Connecticut River Museum in Essex, Connecticut.



Images taken at Log Pond Cove in Holyoke, Massachusetts.



Takeaways

Academics and Professional Development

This internship left me feeling like I grew both in the academic spectrum but also in my understanding of what type of career path I would hope to pursue after Clark. Working at the River Museum allowed me to what I am learning in the classroom to the experiential field. For example, I was able to do research on a local invasive species and investigate how that invasive species affects its surrounding ecosystem and how the native vegetation is impacted by the presence of the invader. I also took my findings a step further and theorized about what humans can do to help limit the negative impacts of the invasive species. Another way I was able to synthesize my learning was in the development of my video deliverable. This product was the culmination of my findings along with my scholarly research in support of my argument. Career wise, this experience allowed me to get a feel for what I am interested in and what I am not. Doing my own research was very interesting, but I find I want to work in a career that interacts with the public and the community. I also found it interesting when I was looking into solutions/suggestions as to how to maintain the water chestnuts, which solidifies my desire to work with environmental policy making. In summation, the value of this internship was two-fold: I furthered my academic learning and pursued experiential insight of what a potential career may resemble.

How People Can Help

Ways you can help stop the spread of the Water Chestnuts:
Volunteer! With the help of an adult or family and friends find your local watershed conservancy that works on your local stretch of the Connecticut River. The average volunteer can pull at most 50 pounds an hour which means that each bag has the potential to house 150-160 rosettes, and each rosette can produce 20 or more seeds in its lifespan which means that every 50 pound bag contains a potential of over 3000-3200 potential seeds. Check your boat for remnants of weeds before leaving a body of water. If your boat has plants stuck on the motor or the side, dispose of them before leaving that body of water and especially before entering a new one. By doing this you are effectively contributing to the limiting of the spread of invasive species. Notify local conservancies if you are noticing a possible invasive infestation. Pay your boat's registration fee, as part of it is used to compensate for conservation efforts such as controlling and removing water chestnuts.

Research

What are Water Chestnuts?

Water Chestnuts are native to Northeast Asia, Southeast Asia, Western Europe, and Western Africa. They originated from Europe and came to New England to be planted first in Collins lake and cultivated in the Harvard botanical gardens and other ponds in Massachusetts. They were brought to America because of their attractive flowers and leaves that float on top of the water's surface. The growth of the Water Chestnuts was limited to these original sites until the Water Chestnut became uncontained in 1979—two years after it was introduced from Europe—and has since spread as far as Virginia and Kentucky and bodies of water in Quebec, Canada (Connecticut River Conservancy). Although their name may be misleading, the Water Chestnuts are in fact not nuts, but are annual vegetative plants. Annual vegetation means that the plant will seed, flower and die all within one year. Thusly, meaning that the plant is able to reproduce rapidly in its one season of life (Garden Design Magazine). Water Chestnuts have roots that reach the bottom of the river, as deep as 16 feet and leave their leaves to float on top of the water's surface with sharp seeds that produce white flowers. They also have the potential to be hydroponic, signifying that their roots can function while floating below the surface, and not latched onto the ground beneath the rosette. The leaves grow in dense bunches resembling a green blanket covering the water (Connecticut River Conservancy). To the left is an image I took in Holyoke MA, the largest invasive sight on the River. The invasive species of the Water Chestnut is potentially harmful to the ecosystem of the Connecticut River for three reasons. The first reason being that they form large areas of blanket coverage over the water's surface. This coverage can act as a sunlight blocker and restrict nutrients from other aquatic and native plants in the river. This matters because the lack of light and nutrients may prohibit the other plants from growing, which potentially could lead to a decline in native plants that may act as food sources for the native aquatic animal life (Connecticut River Conservancy). The thick blanket coverage can also prohibit birds from hunting for fish. The second harm caused by this species is a decrease in oxygen levels of the river water due to their steady yearly cyclical decomposition. The reason that the oxygen levels will go down is due to the increase in decomposing bacteria, affording the opportunity for its growth as a result of the surplus of decomposing Water Chestnuts. In other words, as the Water Chestnuts die, bacteria that feeds on them grow in order to consume the high amounts of dead plant material. The increased bacteria population requires a higher level of oxygen. These bacteria will absorb oxygen as they work to decompose the Water Chestnuts (Water Quality). This decreasing level of oxygen can then in turn suffocate aquatic life that lives in the body of water. Lastly, the third reason is the displacement of the native plants which can lead to harm of the animals that once used the native plants as food or shelter. To humans, the Water Chestnut can have recreational and economic impacts. Due to their thick and vast coverage, Water Chestnuts can prohibit recreational boating and water sports and their sharp leaves can cause injury (Connecticut River Conservancy). There is a barrier in Holyoke MA which is meant to contain the infestation in order to limit these impacts that the Water Chestnuts have. Economically this can prohibit fishing and boat travel. The length of the roots can cause the water chestnuts to wrap around motors and cause boaters to have to stop and detangle their props in order to continue and the presence of the Water Chestnuts can also devalue river/waterfront properties. A singular Water Chestnut is made up of roots, stems, and rosettes. Rosettes are the leafy top part of the plant that lives at the surface of the water. One Rosette has the potential to grow more than 10 seeds, this makes rapid growth of the Water Chestnuts easy. Water Chestnuts can be spread by birds, animals, and boats.

My Findings Volunteering

I was lucky enough to go and help and experience this Water Chestnut pull first-hand along with the Connecticut River Conservancy. The vastness of the infestation can only truly be understood when seen first-hand Hand Picking the Water Chestnuts. This method is found to be the most effective, as there is potential to remove the entire plant to save from regrowth. When picking Water Chestnuts from the water's surface, volunteers are instructed to get the entire plant, including rosettes, stems and roots, in order to best limit the chances a seed will remain and will allow for more growth. One method volunteers use is the Spaghetti method, which winds the long stem and root of the plant up and around their glove, in order to remove the entire Water Chestnut. Volunteers are encouraged to pull the plants as early in the season as possible, because the plants will be that much less likely to form a strong root to the ground. In Holyoke, Ma the infestation is so intense that as volunteers we focused on maintaining not eliminating. In order to keep the Water Chestnuts contained to Log Pond Cove, there is a barrier set up and volunteers work to pick the stray plants that grow along the edge of the pond, making an attempt to spread into the rest of the river. The ability to see my findings in person consecrated for me the importance of maintaining and stopping the spread of Water Chestnuts. I am very thankful I was able to join the Connecticut River Conservancy in their mitigation efforts, and if I work with a project that has volunteer opportunities again, I will definitely not pass them up.