

EDIBLE LANDSCAPE INITIATIVE: A SUSTAINABILITY PROJECT

by

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by

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Abstract

Climate change is a wicked problem that is faced by every person on earth. Whether this impact comes in the form of food scarcity, weather changes, disease, or the destruction of homes and habitats makes no difference. While the climate does go through a series of changes and rotations, the changes that we are experiencing now are exponentially higher and thus more dangerous. Climate change has been fueled by an excess use in fossil fuels, an excessive amount of deforestation, and an excessive attitude of uncaring within large companies and governments that have the ability and power to create real change. This problem has only grown in the past years and will continue to grow unless a change is made within each citizen of the world.

The Edible Landscape Initiative began as a group of honors college freshmen. Our passion for the environment brought us together to make an impact. The goal: to create an orchard to bear fruit for the community, to promote an ecocentric worldview, and spread love of the environment across college campuses. By giving others the ability to invest in the environment through the establishment of orchards, we ensure future generations have effortless access, and the opportunity to cultivate a love for the natural world.

The Edible Landscape Initiative group procured land, developed plans for the orchard (fruit trees, bushes, and pollinator/herb garden), gained necessary university approvals, and established ties with university communities to create a sustainability plan. Through crowdfunding we raised approximately seven thousand dollars, developed service opportunities, and negotiated purchase of all plants, soil, and tools (planted on April 24, 2021.) The success of this project stands as evidence that not only can students make a difference on their physical campus, but also on the mindset of those around them.

In conclusion, the destruction that climate change causes will not be fixed with one change, but instead a change of mindset within a community is needed. One small orchard within a single community can help to inspire and grow an ecocentric mindset within areas around the community, country, and around the world. The Edible Landscape Initiative actively works to create a change within the world by creating a change within the minds of students who will go on to positively change the world.

Introduction

Climate change is an apocalyptic level threat that is facing our planet everyday. The overall warming of long-term temperature is causing extinction at alarming rates, is starting potentially catastrophic sea-level rise, and is accelerating the rate of natural disasters across the globe. This rapid and often irreversible change is because of the level of greenhouse gasses that we as a species have released into the atmosphere. We currently are releasing carbon, the most recognizable greenhouse gas, into the atmosphere at a rate of 43 billion tons yearly. This is contributing to a carbon level of around 420 parts per million (ppm), the highest level ever recorded and, excluding the past 100 years, nearly double the next highest number in history.

Greenhouse gasses act as a layer of insulation surrounding the Earth, and this has led to a relatively comfortable climate for the majority of history. As the sun heats the Earth during the day, our temperature rises. Greenhouse gasses absorb this heat and keep it within our atmosphere for longer periods of time. Over the course of many years, this compounding effect results in changes to the overall global climate. This theory was first proposed back in 1896 by Swedish scientist Svante Arrhenius. Many people did not listen.

Forty-two years later, an English engineer named Guy Callendar was able to prove exactly how carbon dioxide contributed to climate change. American scientists followed suit shortly after in 1965 and began warning the president of potential impacts if we did not change our ways. This pattern has continued until today. Scientists warn world leaders and the people of the world of the detrimental impacts of climate change, even listing it as a major reason the world doomsday clock sits at only '100 seconds till midnight'. Yet we as people continue to release more carbon and take only small actions as a means of mitigation. Climate change is threatening or has killed off almost 11,000 species of plants and animals. Billions if not trillions

of dollars have been spent on reparations from the increasing rate of severe weather. Since climate change was theorized, we have seen sea level rise of 8-9 inches. The history of climate change is riddled with warnings and people turning a blind eye, and it has led us to a spot today in which we have to make a change.

The desire and drive to create a change led to the formation of our honors college group. In Honors 2000, seven of us had the same passion for the environment and the drive to do what we felt was right. While climate change was an overwhelming topic, we still wanted to find ways we could help. After conducting hundreds of interviews and many hours of research, we decided on the creation of an edible landscape area on the East Carolina University (ECU) campus. This space can be used as a way to get people involved with nature and help them realize the beauty and importance of the very thing that we all are playing a hand in destroying.

As we moved on to our second semester, Honors 3000, we managed to bring six new members into our team. We continued to push forward with our cause and divided our thirteen member group into subsections to make the development of the project more manageable. We had two groups which were responsible for design and community engagement, respectively. This way everyone was working on creating the best possible plan and we could follow through on the creation of the orchard as quickly as possible. While we initially hoped to be able to plant the orchard during this semester, we encountered many setbacks and a lot of red tape that halted and slowed our progression. Our Honors 3000 semester planning eventually led to five of us returning for the Honors 4500 campaign.

Signature Honors Curriculum

In order to actually make a real difference toward climate change, the group decided we would carry on in Honors 4500 with our original goal of establishing an orchard on campus so

we could create not only action, but education on East Carolina University's campus. In order to do this, we needed to raise funds, develop partnerships, and instill a sense of faith in the members of our group (since ECU's faculty and administration needed to be confident we would continue to uphold our standards and agreement in regards to orchard maintenance).

In order to raise the funds needed to establish the orchard, our group members reached out to Jennifer Watson (part of ECU's University Advancement team), as referred to us by former Interim Chancellor Ron Mitchelson. They believed that the University crowdfund could be a potential solution to our fundraising trouble. However, we would be the first students ever to use this platform, as it was primarily used by professors and University organizations. In order to prove that we were responsible enough to not only run a crowdfund campaign, but to manage the money raised, we had several discussions with ECU administrators and department heads, including Bill Bagnell, John Gill, Chad Carwein, Mike Van Scott, and Ron Mitchelson. During these meetings we were asked to create blueprints for the orchard and secure Memorandum of Understanding between our group and student organizations to prove there was interest on campus once the orchard was established. Once these documents were secured we were given final approval to proceed with a crowdfund campaign.

The campaign was scheduled to run from January 1, 2021 to March 15, 2021, and for those 45 days we would be expected to post announcements, contact and gain donors, and push out information not only about our group members and initiative, but also about our future plans for the orchard and Stratford Arms location. Our team worked on creating a comprehensive social media plan prior to the beginning of the crowdfund campaign. We created posts, videos, and outreach messages to be sent to potential donors and orchard contacts. On January 1st we began our campaign. We posted on our Instagram, Twitter, and Facebook pages information

about our mission, where to donate and what we would do with the money. We made personal appeals and personal asks to individuals within the community we knew, and by the end of the campaign raised \$6,464 to go towards the establishment and maintenance of the orchard.

After completing our crowdfund campaign, we had one more task to get our group ready for the orchard establishment, and that was collaboration with groups on campus. We worked closely with administration throughout our crowdfund and in planning for our orchard establishment. We received help from Azad Atashi in developing a blueprint for our orchard layout, and we received help from John Gill in determining what days would be the best and working around other campus events. However, we did most of our collaboration with faculty in the Nutrition Science department and the Honors College. These groups provided the most support in regards to volunteers, from students, faculty, and supplies. These steps, the crowdfund campaign and connections with campus organization and groups set us up for our future and establishment of the Edible Landscape Initiative Orchard.

Results & Impacts

The goal of the Edible Landscape Initiative was to reach out to our local community and get people engaged in helping slow climate change and promoting a more environmentally sustainable future. We used a couple different media sites and metrics to help us gauge our impact and see how far our reach spread. Our primary methods of reaching out to people include a website and Instagram. Each platform had a similar role in promoting events or encouraging an environmentally sustainable lifestyle by the means of posts that would address such topics.

We chose Instagram and a webpage as the primary platforms for the grounds of communication to our audience because we believed that these two forms of media allowed us to have a broader reach to the general audience. We believe that the relative ease of use of these two

platforms are a great way to communicate our ideas and views to the audience. Instagram serves as a great method to update our audience about how the project is going and serves to push out reminders. We primarily used this platform because it is a great way to reach out to the general audience and the app also is easy to use. The website was also a great way to further interact with the audience and talk about other aspects of our project.

When looking at the analytics of the website we saw that the February 26 to March 26 had some of the highest activity. This came around the same time that we initially launched the project and were new to the website. We primarily populated the webpage about the project and the team, we then transitioned over to posting on our blog page where we talked about various aspects of the project, the environment, and other activities that can encourage sustainable activities. During the summer the overall activity of the webpage had decreased slightly, and we noticed the lowest amount of traffic through the website. However, upon noticing the lower flux of people going to the website, we implemented a more routine system where we implemented blog posts on various environmental subjects to help increase foot traffic.

Our Instagram account is the most popular method that we introduced and since starting that we have received much success. Looking at the analytics we have 121 posts that pertain to upcoming events, any changes that we are introducing, or other information that we wish to communicate to the audience. Our follower base is currently standing at 440 while we are actively following around 750 people and are growing in both areas. Over the last 90 days the total number of accounts reached has gone up by 19.3%. An overwhelming part of that group is from Greenville at 55.3% followed by other cities such as Raleigh, Pactolus, and Winterville at 2.2%, 1.6%, and 1.2%, respectively. Our primary audience are people from the ages of 18-24

years old at 52.7% followed by 25-34 years old at 17.1%. Our reached audience is primarily female with approximately 70% and 30% male.

On-Going Sustainability

Throughout our time working on the Edible Landscape Initiative a main concern has been how this project will be sustained for years to come. The members of our organization will move on from ECU and continue with their own separate goals but that does not mean that the goals of the Edible Landscape Initiative will change. We want the impact that this project makes to be ever growing and far reaching. In order to accomplish this goal our team began planning and preparing to have this project become more than a single goal. Within the Honors College at ECU, each student is expected to complete a Senior Honors Project (SHP) that showcases an impact that each student is making within this community. We plan to use this requirement as a way to motivate honors students to take the beginning of this project and continue to add new aspects, new ideas, and new research to increase the scope and the reach. Students will be invited to continue the ELI in new and exciting ways for their own projects which will help to sustain the base work that has already been completed and then to increase the effect that is created. The Edible Landscape Initiative has been enveloped by the RELEAF team as a way to ensure that this project will continue for years to come. We have worked with RELEAF to explain and share our ideas for how to increase the effectiveness and scope of this project. For example, we started communication with the Honors College Student Council where we are working to incorporate a new addition that will focus solely on environmentalism with the starting point being the Edible Landscape Initiative Orchard. We have shared these communications with the RELEAF team in the hopes that this discussion will be continued. This addition will ensure the upkeep and continuation of this project for as long as the Honors College Student Council stands. Each year

students who are excited and passionate about environmentalism and sustainability will be given the opportunity to make an impact without having to start from the basics each time. These conversations between the Edible Landscape Initiative and the Honors College, and the Honors College Student Council have been ongoing and are continuing to be worked on to ensure the next group of students will have everything necessary to excel. For example, our team has worked diligently to ensure that volunteers are ready each and every week throughout the year to ensure the upkeep and continuation of the orchard. Volunteers are being recruited from Living Learning Communities that require volunteer hours, from local schools, science classes, and more. Students from around the community are excited to help their environment and are energized to be a part of something that promotes a better future for their world and has endless opportunities to expand.

Group Experience

As the Edible Landscape Initiative has grown since its beginnings in Honors 2000, the group's makeup has evolved right along with. The group's initial makeup was created from a summer survey sent out on behalf of the ECU Honors College before August 2019 that asked students what issues in the world or community intrigued them the most. These issues make up the basis of the "wicked problems" that the ECU Honors College has long sought to have students work towards understanding, as well as creating their own solutions for these problems. For this group, it was the wicked problem of climate change that brought the initial group together for Honors 2000. It was this first group that laid down the foundation for what the Edible Landscape Initiative has become within the ECU Honors College today. Students from all walks of life and academic interests came together for what they felt was a common problem that needed solving: the issue of climate change that is destroying our planet. It was these different

perspectives that came together to create what is here today and what has evolved from a simple thought into a fruitful endeavor. As time has gone on, this group has undergone major changes within its organization that greatly expanded its makeup. After Honors 2000 came presentations that would not only determine the group's survival, but also bring in even more members that would be helping make these ideas reality in Honors 3000 during the Spring of 2020. With the new course came new individuals. The group's expansion brought even more perspectives and ideas that had not been introduced or fully fleshed out before, and created an even deeper foundation that carries on today. It was here where ideas such as a website, weekly blog, and social media outlets were created as a means to get the word out that this group was striving to accomplish something big. As the Spring semester pushed on and the Covid-19 pandemic suddenly pushed everyone apart physically, more change was brought to the group as the semester wound down and final presentations were created and presented. The desire to pursue this project never died, so as members were leaving to pursue other projects and obligations, the current members that are here today carried on, and have finally brought a working orchard to ECU's campus. With this shuffling of members throughout the years have also come some different changes in both the division of roles and the dynamics that came with them.

Role Divisions and Dynamics

Role divisions and dynamics within the Edible Landscape Initiative have evolved right alongside the group itself. As the group first started, it was a small group that shared responsibilities amongst themselves. As it evolved with greater responsibilities and the number of individuals grew, so did the divisions of responsibility within the group. In Honors 3000, the group was divided into smaller subsections with certain individuals assigned to a subsection to assist with daily activities. While one group was handling the social media platforms and doing

community engagement at ECU, another group was collecting research data on what plants would be viable in Eastern North Carolina and what the orchard would look like, and another group was organizing a crowdfund campaign as well as other avenues of funding in order to get the project off the ground. With these groups came a leader within each group who organized what occurred within each subsection and then came together to bring everyone towards a common goal. As the group size decreased into its current states, these groups became individual assignments for each person within the group, until an official reorganization occurred that laid out responsibilities across the new group. With this reorganization came official group titles and the leadership of our first president, Ms. Heather Mauzy. Going forward the future remains uncertain as to what further changes will come with group dynamics or division of responsibility as new organizations and individuals have gauged interest in the project, but the future looks bright towards what can be achieved moving forward.

Conclusion

The Edible Landscape Initiative has not only made an impact on the members of this group, but also among the members of East Carolina University's faculty, staff, and student body, along with the greater Greenville community. The Edible Landscape Initiative Orchard provides volunteering opportunities, fresh produce/herbs, and a learning opportunity for all. This orchard has provided, and will provide, opportunities in nature for future college students and generations to come, and has made positive change towards overcoming climate change. This initiative will not end with this group, and we are excited to see the message of sustainability and perseverance of the natural world extend beyond our time.

Grace Harper's Personal Reflection

Throughout my time here at ECU, I have had countless opportunities to see the issues within the world around me and not feel disheartened but instead to be motivated to change the world one step at a time. Beginning my freshman year, I was able to explore and analyze the weakness and strengths in the world around me. I was able to use my knowledge and the knowledge of my peers to think about problems and solutions in a new way where people from all walks of life are able to work together to find solutions that benefit everyone.

Within this program, I have been able to work through setbacks, challenges, and pivots with the support of my group members and faculty. I was able to join an amazing group that had a plan to change the ECU community by developing a new orchard that would allow students with a hands-on approach to environmentalism. It was very difficult to enter into this group without having a background in the project field and becoming part of a team that was already created and functioning. The other new members and I had to work to find our place within this group to where we would be most beneficial and where we could produce the best results for our team. Unfortunately, this path leads to many members not being utilized to the best of their ability. However, being a part of this group and seeing how the dynamics of the group was changing and altering throughout different phases was interesting and eye-opening in learning how assigning members to roles can positively and negatively affect a project. This group dynamic was one of the most impactful parts of this project to me as I was able to gain experience in working with members from very different areas of concentration who had very different ideas for the overall goal of our project. This is immensely important to my career field and will support me in years to come. I have been able to not only learn an immense amount of knowledge that is directly related to our project, but have been able to learn how to fail forward

and how to use failure and frustration to benefit myself and my goals. This project has given me the opportunity to leave a positive mark on ECU's campus that will continue to grow and develop for years to come. I am excited to see what future Honors Students do with this project and with their own.

Heather Mauzy's Personal Reflection

Working to found the Edible Landscape Initiative has been one of the most challenging and rewarding processes of my college career. I don't think I have ever learned or created as much as I have building this initiative with my other group members. Even though we have been working on this project for over 2 years now, it feels as if it was just yesterday that our group was deciding the best way to tackle our wicked problem of climate change.

The first semester in our Honors 2000 course, it didn't feel as though we had a solid approach to tackling climate change, and in reality we didn't. It wasn't until 2 weeks before the end of the course that we officially decided on the idea to plant an orchard so that ECU students and the Greenville community could interact with a project dedicated to changing the mindset and initiating students into work regarding climate change. In Honors 3000, our group finally began implementing plans towards establishing our orchard, but we didn't truly know much about the subject or what it took to build and run an orchard. Honors 4500 and 4550 were when I feel I truly began to grow with the project. In the earlier courses, my soft skills were developed by the faculty, but actually putting these skills into practice has given me practical skills that I will be able to take to any future job or opportunity. For instance, since starting this project, I have gained immeasurable knowledge about planting and taking care of various plants in our orchard, as well as gained the skills needed to successfully run a social media campaign and account while establishing a brand for our organization. Furthermore, I have had many

opportunities, such as working with Former Interim Chancellor Ron Mitchelson, as well as presenting at the National Collegiate Honors Council Conference with our faculty mentor Gerald Weckesser. However, this project has not come without its challenges. In the two years since we have been working on this project, we have overcome countless barriers. For instance, in getting our crowdfund off the ground, we constantly had individuals who were (rightly) worried about our commitment to our project, and had to pause any forward momentum to backtrack and explain aspects of our project or prove commitment in some way in order to move forward. This process often felt as though we were moving one step forward and being dragged 3 steps back, over and over in order to finally attain our goals. Having space and time has allowed me to see that these steps were necessary in getting our group to the stage we needed to be at, but in the moment it was incredibly frustrating. Furthermore, we also had several issues with communication between group members in the earlier stages of our project. Most students know that in group projects, despite your best efforts, communication can be difficult and it can be difficult to keep everyone working on important tasks in a timely manner.

Despite the negatives, I am extremely grateful for the support our group has received in establishing our orchard and the continued interest from organizations and faculty on ECU's campus. I wouldn't be the student or person that I am today without this project, and I truly feel as if the project will continue to impact not only me, but the atmosphere on ECU's campus into the future.

Ethan Patel's Personal Reflection

As a member of the Edible Landscape Initiative, I have learned a lot, and this has truly been a very enriching experience. I was a member of the original Honors 2000 team and our transition to 3000 then to 4500 is something that has taught me many lessons. Prior to entering

the Honors 2000 class I was very introverted and had a difficult time expressing my ideas and making bonds with other people. I was also very afraid of challenges and failure. Being in the Honors program and specifically our Honors group I was able to grow out of my introverted shell and this slow transition was made possible by talking with my fellow peers and other students, by giving small presentations, and doing other activities that would encourage such growth.

When entering Honors 3000, I think I was able to grow the most and was able to confront my fear of both being an introvert and addressing the idea of failure. In Honors 3000 we are exposed to the idea of failure and that failing is okay and this is something that was very difficult at first, but was an important skill that I learned. This was especially important in going into Honors 4500 because we had to deal with a lot of set backs and other issues that I was prepared for handling.

I think in Honors 4500 and 4550 I was able to grow the most and it had the most impactful meaning to me. In Honors 4500 we were implementing steps to set up our orchard and this came with a lot of setbacks and obstacles that made the process slightly difficult. We had to go and talk to many people and reach out to various people. This was something that really helped grow my social skills as I started to get considerably more comfortable with interacting with different people. Being able to lead meetings and learning to communicate effectively and efficiently was something that I had started to excel at. COVID-19 was an obstacle that we also faced and working around this was something that I found to be challenging and dealing with this also taught me many things about addressing situations and how to not give up and continue to push through. Having the mindset to be able to continue to fight through and not give up is

something that I truly believe is the best lesson that I had learned and still believe is something that I can take to and apply to my future career.

Jacob Coman's Personal Reflection

If you had told me when I entered school at East Carolina that I would spend the next three years of my life working on the development and implementation of an on-campus orchard, I would not believe you in the slightest. Unlike several of our current members, I was not a member of this group at its inception. I was one of those previously mentioned new members that joined after Honors 2000 presentations determined that my initial group was not going to move on and I needed to find a new home for Honors 3000. It was that night where I heard the pitch from one of those initial Honors 2000 members that intrigued me enough to decide that this looked like an interesting group to be a part of whenever the situation arose where I needed somewhere new to go. It was from that night I went down a wild path with this group that I would not change at all.

Honors 3000 was a rough transition for me into the group. Being one of the new members, I had to be caught up significantly on what was going on and had a hard time finding the place I fit in the most. The Covid-19 pandemic further hampered things whenever we got split right after we had made some great advances on the project and were in a firm place with finally getting ideas into the ground. I know the transition was not easy on me, but I do feel like it needed to be that way in order to challenge myself. Honors 3000 ended up being where I found where I stand in the group as well as better understand what it was we were trying to accomplish.

Honors 4500 and 4550 was where I found my true place within the project as well as began to truly understand what it was going to take in order to get this done. Through many meetings and many discussions, all the moving parts that go with putting something of this

magnitude into the ground were able to start moving. There were plenty of bumps in the road from all different places, including my own job and academic responsibilities throwing a wrench into my involvement at times, but we were able to successfully navigate all challenges and get this into the ground, and for that I am most proud of what we have done. We took something that on the surface looked impossible to pull off and we pulled it off. We have gained interest in the orchard from other individuals at ECU and pushed this beyond the boundaries of an honors project. I am proud to say I was a part of this project because of the fact that we pulled it off. I feel good knowing that from this point, while the future of our own lives and everyone else at ECU remains uncertain, we have left something behind that other students can take interest in and put their own pride and passion into like we have done over the past three years.

Jonathan Hurst's Personal Reflection

This experience is something that I will deeply value no matter what I end up accomplishing later in my life. At the beginning of the Honors college program, it felt like we were wasting our time learning how to create mind maps and brainstorm. However, once we began working on ideas that we wanted to pursue, the application of those skills became crucial. I learned how to work with a group of many different people efficiently, how to divide and conquer massive workloads, persevere through impossible looking tasks, and see a project through to completion, no matter how unlikely it felt.

As far as the project itself goes, it is a humbling experience to be able to say I had a part in the creation of a community space within ECU. It was a lot of long meetings and frustrating times but the outcome is one of the most significant things that I have ever done. Being able to work so closely with a project that has a meaning to me as well as to a larger cause is something

that not very many people get to do. It also provided me an opportunity to give back to a community that has given a lot to me.

Perhaps greater than the project itself was being able to work with such amazing and inspiring people. From my initial group, to the evolved 3000 team, and finally our 4500 and on group, I have had the honor of seeing driven and dedicated people work toward a common goal. How they interacted is something that I can carry with me into any group situation I may find myself in and I value my relationship with each and every member that has been a part of this team, as well as our faculty mentor Gerald Weckesser. Professor Weckesser taught me so much throughout this journey and will be a long time mentor for me as well as everyone in this group for years to come.

The honors experience in 2000 was a very daunting one. Joining into a program with little direction and an insurmountable problem was scary and intimidating. However, through learning the material and being allowed to choose freely, I learned a lot about ideation and creation. Honors 3000 was challenging because of the difficulty of communicating with so many group members. Additionally, there are always people who do not have enough work to do or are not as driven as the rest of the group. Learning to mitigate conflict and work as effectively as possible within a given subdivision was another great learning opportunity. Finally, 4500 and 4550 allowed me the chance to learn about the future of projects as well as overcoming obstacles. We faced numerous setbacks and people were not shy about giving pushback when they felt it necessary. Getting to see how people push through and persevere as well as see the project to fruition and understand that this does not mean the work is done was humbling and exciting all at once.

Overall, I will forever cherish the experience that the Honors College and the Edible Landscape Initiative has given to me, and I hope to see this project continue to flourish and thrive at ECU.