Project Title	**Food For Thought**
Collaborators	**Kelsey Fletterick** B.S. Environmental Science and Management Expected graduation: Fall 2021 **Phoebe Hughes** B.S. Botany Expected graduation: Spring 2022 **Harrison Kummer** B.S. Botany Expected graduation: Spring 2022 **Thomas Premo** B.S. Environmental Science and Management Expected graduation: Spring 2020 **Collin Slavey** B.S Environmental Science and Management Expected graduation: Spring 2020 crs582@humboldt.edu
Abstract	“Food for Thought” will create parcels of edible landscape in convenient, accessible and appropriate locations at HSU. The landscape will expand the scale of food bearing terrain on campus including a diverse orchard, abundant native berry bushes and plots of perennial produce.

Project Description:

"Food for Thought" will create parcels of edible landscape in convenient, accessible and appropriate locations at HSU. The project will repurpose some of the campus's landscape for growing food. Specific elements of the project are an orchard on the Events Field, native berry bushes in plots otherwise populated by invasive or ornamental plants and plots of perennial produce where appropriate.

Orchard:

The Food for Thought orchard would be grown on the campus events field. The orchard will have a number of features and benefits for the campus community beyond food. It will serve as a social space, a common area, beautify the campus, provide shade, and potentially create revenue.

After interviewing farmers in the community including Sean Armstrong, Facilities and Management Climate Action Analyst Morgan King, and using the index built by members of the Roosevelt Institute at HSU (Appendix Item A), the trees planted in the orchard will need to be easily identifiable when ripe, will need to be ripe while school is in session, will need to flourish in the climate of humboldt county and will need to be able to grow with minimal irrigation.

Appropriate and Accessible Plots:

Building on the already-approved HEIF project "Greenspace," the lawns approved for conversion would be appropriate plots for native gardens or perennial produce. Beyond that, an inventory of plots on campus should be assessed for soil quality, student traffic, sunlight and water retention/irrigation infrastructure. Consulting Nate Swenson, the majority of the soil on campus is arable since it can be classified as urban soil, which only means it has a maintained organic material layer, and the soil itself is fine for growing plants.

Working with students studying and proficient at geospatial analysis, a map of appropriate plots categorized and ranked with the aforementioned qualities should be created. This will make planning and implementation of the Food for Thought landscape more easy. Working with student botanists on campus, the Roosevelt Institute has begun drafting an index of native plants that would work well in the climate and the soil on campus.

Need Statement:

41.6% of all California State University students reported being food insecure.[1] Food insecure students averaged a 3.17 GPA, while food secure students averaged a 3.32 GPA.[1]

Student food insecurity may be a symptom of a moderate to high cost of living in Arcata. Humboldt State University says, "With tuition and fees of just $7,863 per year, Humboldt State University is a great value. HSU combines incredible academic opportunities with affordability."[3] Humboldt State estimates the total cost for an undergraduate starting in fall 2018 to be $24,343 a year. In 2015–16, the median income for full-time dependent students with income was $3,900 per year. The median independent student earned $13,880 over the year.[5]

Beyond the social issues associated with food insecurity, scholars suggest urban gardens and edible landscapes serve as multifunctional, nature-based solutions for societal goals in a changing climate.[4] "Urban gardens can contribute to climate mitigation and adaptation through a range of provisioning, regulating, and cultural ecosystem services as multifunctional nature-based solutions in a city."[4]

The HEIF will achieve its mission through projects that are developed by students and, to the extent possible, implemented, monitored, and maintained with strong student involvement.

Clubs and student organizations should have an essential role developing the food bearing landscape in every step from breaking ground to maintaining the landscape. The student involvement may be volunteer based or may be a paid position, to be determined.

The HEIF will require accountability by measuring and reporting quantitative and qualitative results, as well as levels of involvement by students and other participants, in all its projects.

A project management group would be held accountable with a required report of progress on the edible landscape that may include the area of land successfully converted and the number of plants planted. In the longer term, a measure of success may be a simple survey of use, a quantitative measurement of food produced or a student check-in metric from ID cards.

The HEIF will strive to make its projects derive from and be connected to the curriculum of the university.

The edible landscape is a prime opportunity for a horticulture class associated with either the proposed Environmental Studies Food Studies minor or a Sustainability minor. The College of Natural Resources and Sciences, particularly the Environmental Policy and Planning major or the Botany major, should connect to the landscape. Also, as part of the 2014 CSU Sustainability Policy, an edible landscape may begin transforming HSU into a living lab.[6]

Outcome:

The tangible expected results of this project will be an orchard on the events field, a number of re-landscaped lawns around campus and additional native plant cover. The benefits of these results include, primarily, accessible food for students. As far as environmental impacts go, the edible landscape will offer a more clean life cycle for HSU foodstuffs and less dependence on imported produce. The edible landscape will make HSU more independent since it will be producing food for its own students.

Partners:

1. Greenhouse Club
    a. Phoebe Hughes
2. Food-Consuming Students
    a. Karina Vega
    b. Shelby Shupp
    c. Jeremy Dustin
3. Earth Week Every Week
4. Green Campus
5. WRRAP
6. Oh SNAP
7. Redwood Chapter of Education and Interpretation
8. Campus Center for Appropriate Technologies-
    a. Sebastian Forward
9. Natural Resource Club-
    a. Jackson Carrasco
10. College of Natural Resources Faculty
    a. Judith Mayer
    b. Yvonne Everett
    c. Jeff Dunk
11. Native American Studies - Food Sovereignty Lab
    a. Amanda McDonald
12. Slackliner

Appendix

Item A. Native food bearing plants

Scientific Name	Common name	Harvesting season	Habit
Amelanchier alnifolia	western serviceberry	August through September	
Arbutus menziesii	Madrone		Tree or Bush
Arbutus	Strawberry tree	Perennial	Tree
Chenopodium quinoa	Quinoa	Late spring	Ground Plant
Corylus cornuta	HazelNut	Mid June-August and sometimes through September	Tree
Empetrum nigrum	black Crowberry		Bush
Fagus douglasii	Blue Oak	Acorns harvestable 6-8 months after planting	
Ficus	Fig	Summer and winter	Trees
Fragaria sp	Strawberries	Spring and summer	Ground plan
Helianthus tuberosus	Jerusalem artichoke	October	Ground Plant
Malus malus	Apple trees	August through September	Tree
Morus sp	Mulberry	Late spring	Small tree or Bush
Prunus	Cherry	Mid-may through april	Tree
Prunus	Nectarines	June through September	Tree
Phaseolus coccineus	Scarlet runner bean	Perennial	Vine plant
Rhamnus purshiana	Cascara	Bark is used for medicinal purposes	Tree or Bush
Ugni molinae	Chilean Guava	Early winter	Bush

Vaccinium ovatum	Black huckleberry	Mid-September	Bush
Vaccinium parvifolium	Red huckleberry	Mid-April and May	Bush
Vaccinium	Creeping blueberry	May through June	Tree

Item B. Works Cited

1. Crutchfield, Rashida M. and Maguire, Jennifer. "Study of Student Service Access and Basic Needs." *California State University- Basic Needs Initiative.* April 2019. https://www2.calstate.edu/impact-of-the-csu/student-success/basic-needs-initiative/Documents/BasicNeedsStudy_Phase_3.pdf
2. "Cost of Living in Arcata, California, United States." *Expantistan*. 6 October 2019. https://www.expatistan.com/cost-of-living/arcata
3. "Costs." *Student Financial Services- Humboldt State University*. 2019 https://www.humboldt.edu/cost
4. Cabral, Ines; Costa, Sandra; Weiland, Ulrike; and Bonn, Aletta. "Urban Gardens as Multifunctional Nature-Based Solutions for Societal Goals in a Changing Climate.In Nature-Based Solutions to Climate Change Adaptation in Urban Areas. Part of the Theory and Practice of Urban Sustainability Transitions book series." 2 September 2017.
5. Urban Institute. "Working During College." *Urban Institute*. April 2017
6. "Campus as a Living Lab" *CSYou - California State University* 2020 .https://csyou.calstate.edu/Divisions-Orgs/bus-fin/cpdc/peu/LivingLab/Pages/default.aspx