



Community Gardens

Annual Report 2018

Associate Professor of Sociology James Cook
Assistant Professor of Psychology Kati Corlew



Annual Report Executive Summary

Over the last three years, the University of Maine at Augusta Community Gardens have been renewed as a pair of civic engagement projects and centers of education, each integrating academic coursework, student organizations, campus events, faculty advisors, action research and outreach to a variety of university and community constituencies.

In 2018, the UMA Community Gardens accomplished much:

- The growth of 1,031 pounds of fresh produce and herbs, 315 pounds of which were distributed on the Bangor campus, and 716 pounds of which were donated to the Augusta Food Bank;
- The dedication of thousands of hours of summer gardening service by 177 participants in Bangor and 305 participants in Augusta drawn primarily from the ranks of students but also from faculty, staff, administration and surrounding community;
- The involvement of 14 campus groups in the Augusta-campus “adopt-a-bed” program to plant and care for vegetables in dedicated raised beds;
- The incorporation of the garden as an educational space for 7 academic courses across 5 academic programs;

- The sponsorship of more than 150 on-campus events;
- A variety of infrastructure improvements to both gardens to develop long-term sustainability.

The Community Gardens projects were also the site of significant extracurricular academic work:

- Action research by faculty coordinators Kati Corlew and James Cook to operationally iterate the inputs, actions, outputs and outcomes of work on the garden project;
- Experimental research by Corlew and Cook (funded by an external grant) to examine the impact of student garden participation on climate change attitudes and ideational commitment to the university environment;
- Comparative research by Cook, Liberal Studies major Larisa Batchelder, and Justice Studies major Susan Kiralis-Vernon examining the prevalence and characteristics of campus community gardens at state universities across the United States;
- Faculty-student collaborative research by Assistant Professor of Computer Information Systems Matt Dube and CIS Major Philip Foss on the development of a sensor-based observational and predictive system for garden conditions in the Augusta-campus garden.

As they continue their work, the garden projects face long-term challenges:

- How can time commitments for garden leadership be effectively managed and supported?
- How can garden activities be further integrated into academic curricula?
- How can the garden spaces be further integrated into campus facility design?

Vision

The University of Maine at Augusta Community Gardens in Augusta and Bangor are *sites of education* in community organizing, *seedbeds for social connection* that sustain and retain students on campus, *testbeds for practical application* of academic research, *spaces where skills of civic engagement* are learned and practiced, and *programs to serve public need* through the growth of food for Maine families and the growth of leadership for Maine's future.

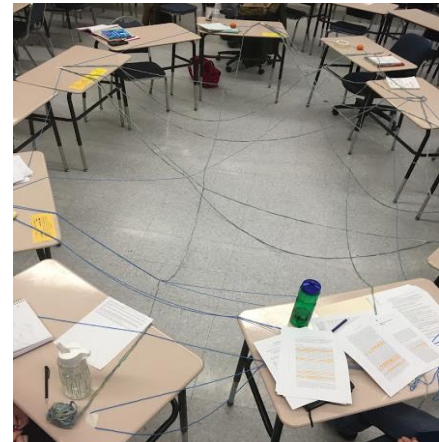
Introduction

This is the second annual report of the UMA Community Gardens. A history of the gardens can be found in the 2017 annual report and will not be repeated here. Instead, this year's report focuses on conditions during the 2018 calendar year and plans for moving forward into 2019 and beyond. In May 2018, the previously unified effort was divided into two parallel but separate projects, one on the UMA Bangor campus and one on the UMA Augusta campus. Each campus project is now sustained by its own section of an academic course (SSC 334, Cultivating Community: The Garden Seminar), its own student organization with two chapters, its own student club, and its own physical garden space. Following a section on the last joint teaching of SSC 334 in Spring 2018, the remainder of the report will therefore be organized into a section describing conditions and plans for each campus project.



Academic Coursework and the Gardens

Spring of 2016 marked the first offering of SSC 334, Cultivating Community: The Garden Seminar. This course was team-taught by Dr. Corlew (a community psychologist) and Dr. Cook (a sociologist) and used the object and activity of the garden for students to learn and practice social science principles of community building and community organizing. Areas of academic study include principles of organizing and mobilizing (Han 2014), social movement framing (Benford and Snow 2000), social capital (Putnam 2000), the capabilities approach to leadership (Schischka et al 2008), eco-identity and eco-development (Bronfenbrenner 1994), in addition to the substantive subjects of food insecurity (Coleman et al. 2017) and community gardening (Draper and Freedman 2010) themselves. While honing their academic skills, students learn to identify interest in and cultivate strength in areas of capability of personal and professional relevance to them, while also gaining skill in various forms of leadership within the class, within a student organizational setting, and on campus among their student peers.



In 2017, SSC 334 underwent two aspects of innovation. First, the plan to alternate venues for teaching the course on a yearly basis was implemented. While in 2016 the course was taught in Augusta, in 2017 the course was taught in Bangor. In 2018, the course returned to Augusta, and it will move back to Bangor in Spring 2019. The idea is to provide academic impetus to boost organizational strength in the UMA Community Garden Club chapter on each campus in Year 1 of a 2-year cycle, while allowing space, time and autonomy for that club to grow and change independently in Year 2.

Starting in 2019, the Bangor and Augusta courses will be taught separately by Corlew and Cook respectively. The Augusta course will be taught in the fall semester, in the hope that student interest will be higher at a time when the garden is in full activity.

Bangor Campus Project

We had a terrific year at the Bangor Campus Community Garden! Our little garden was only 1,152ft² at the start of the season, but we have grown a great deal throughout the year with the help of committed volunteers, fantastic community partners, and the support of UMA's Facilities crew. Our accomplishments this year were definitely a communal effort. The community garden truly is a perfect example of the strength and power of people coming together to work toward a common goal.

Learning to Grow: Addressing Food Security

Our final harvest tally for the year was 315.5 lbs. of fresh, organic produce and herbs. All of the food we harvested was distributed on the Bangor Campus through multiple drop-off sites, including TRiO, Nottage Library, Eastport Hall, the Admissions Office, and our new Food for Thought Resource Pantry. Based on our experiences distributing food in the 2017 season, we opted to focus on growing snacky vegetables that students could grab and eat right away (beans, peas, carrots, tomatoes), as well as the popular greens (kale and chard) and zucchini.

Additionally, this year we had our first planting of potatoes and pumpkins, and our white sage patch (planted in 2017) really took root and proliferated. We also decided to let some wild ground cherries grow, just to see what would happen. We got a small harvest, but mostly they just got in the way, so it is unlikely we will let them take up space again in future seasons.

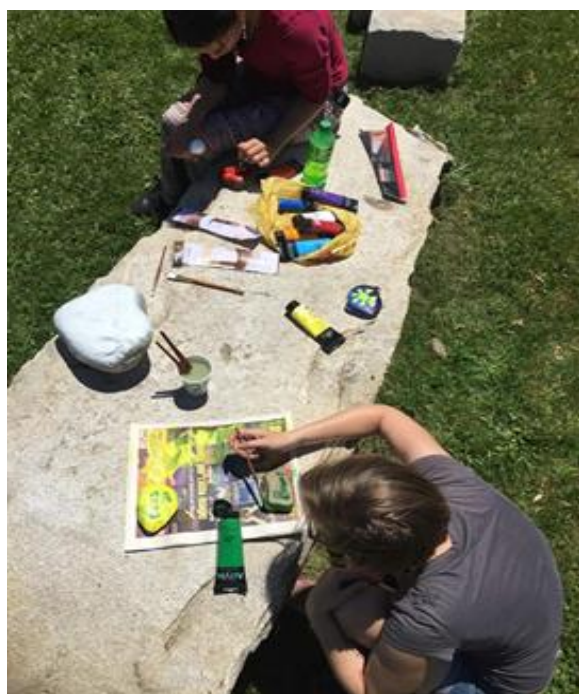


- Beans, 11.5 lbs.
- Carrots, 13 lbs.
- Chard, 6 lbs.
- Ground cherries, 0.5 lbs.
- Kale, 4 lbs.
- Peas, 10.5 lbs.
- Potatoes, 5 lbs.
- Pumpkins, 70.5 lbs.
- Sage, 13 lbs.
- Tomatoes, 64 lbs.
- Zucchini, 117.5 lbs.
- **Total: 315.5 lbs.**

We had a few difficulties along the way. Several things we planted just never produced. We had no luck with onions, beets, peppers, and strawberries this year (though we are hopeful that the strawberries took root sufficiently to regrow and produce fruit in 2019). And we had a LOT of difficulty with critters eating our produce! Most of our potatoes were eaten in the ground by a family of cute, fuzzy, burrowing nemeses. A lot of our tomatoes were eaten right off the vine by our fuzzy frenemies as well (though as you can see, we still had a terrific tomato harvest). But most heartbreaking, all five of our Iroquois corn plants were eaten by deer before we were able to harvest the corn.

Cultivating Community: Events and Activities

We recorded participation at 45 garden events and activities throughout the 2018 season. Events ranged everywhere from the basic planting-weeding-watering-harvesting gatherings to educational workshops to water gun fights to meditations. In the garden, we had birthday parties and bonfires, Zumba and rock painting. Basically any way we might get together and have some fun to build community is fair game in the garden. Special thanks to students Hannah Wheelock and Nicole Johnson who led our Plants vs. Zombies event (bringing your potted plant back to life). Nicole also led a workshop on composting. Special thanks also to alumna Kaitlyn Norwood who led her first Zumba class ever out in our garden!



We also had the opportunity to collaborate with campus events, groups, and classes! Over 50 incoming students came out to the garden during the New Student Orientation for a “Burn your Fears” bonfire, where Director of Counseling Jen Mascaro and Learning Success Coach Colleen Coffey discussed the many worries that new students have about their ability to succeed in college. The new students were then invited to write down any fears they had and burn them in the bonfire. 10 of these students returned to the garden at least once in the fall after this initial activity.

Additionally, students in Dr. Kati Corlew’s Psychology 100 class, and students in Patricia Brace’s art class both spent time in the garden for class-related educational activities. The Garden Club’s connection with the First Nations Student Circle continued this year, with joint events including bonfires and making

sage sticks for smudging/smoke cleansing with the sage grown in the garden (the original plant was donated by a FNSC member in 2017).

In total, 177 students, staff, faculty, and community members were recorded as joining us in the UMA Bangor Community Garden or garden club activities during the 2018 season. This includes 9 faculty members, 14 staff members, 30 community members, and 124 students. 77 of these attendees came to more than one event.

Unfortunately, we failed to record an unknown number of activities and participation. During our field trip to the Bog Walk, discussed below, we only recorded UMA participants but not the crowd of Bog Walk volunteers who came out to assist us that day. Similarly, the Bangor Garden Club started up a weekly lunch event similar to Augusta's weekly Meet and Greet. We did not record participation for some of the indoor lunches in the fall. And finally, special thanks to student Alicia Bessey who took it upon herself to go out to the garden solo many times during the summer to help our plants survive with some extra watering. We did not record her extra visits, but we DO remember and we DO appreciate it!



Planting Seeds: Building the Labyrinth

In August, the Peace & Justice Center of Eastern Maine (P&J Center) reached out to us to talk collaboration ideas. The P&J Center's Art Coordinator, Andrea Simoneau, has an interest in blending art with justice and food security. She wanted to see if there was an artistic project we could do in the garden that would be beautiful AND help feed people. After discussing this for a while, we came up with a plan – we would build a garden labyrinth.

We decided to use hugelkultur for the labyrinth beds, since it is a minimally invasive and self-sustaining style of raised garden beds. “Hugelkultur” means hill culture and requires building mounded beds that are full of a mixture of branches, mulch, leaves, and other biomass, and covered with top soil. Over years (perhaps even a decade or more), as the biomass decays, it provides a continuous feed to the plants above. Read more about hugelkultur here: <https://www.permaculture.co.uk/articles/many-benefits-hugelkultur>

For three months in Fall 2018, volunteers from the Garden Club, the UMA student body, and the P&J Center came together once or twice a week in addition to our regular social gardening events to work on laying the foundation of these hugelkultur beds. The UMA Facilities crew was indispensable, helping us to move many yards of mulch and soil from the delivery drop-off point by the Fitness Center to the garden area for us to have easy access for our work.



Word of mouth and social media wound up being amazing organizing tools for this project. The University of Maine Women's Rugby Club heard about our project and contacted us to ask if they could help! They came out almost every weekend (saving game days) this fall and completed a *massive* amount of work for the labyrinth's construction. We never would have gotten anywhere near as far as we did without their enthusiasm and dedication!

Additionally, community members came out of the woodwork (so to speak), donating their tree branches and brush to help build up the mounds. Andrea and Kati stopped to chat with a work crew we saw mulching downed branches, and they agreed to deliver the mulch to us! When the Bangor Facilities crew had a tree removed, they brought the wood out to the labyrinth. We had worried briefly about getting enough materials to build the mounds sufficiently, but our community took care of that!

Andrea Simoneau has been busy grant-writing to support the garden labyrinth project. She has successfully applied for multiple grants -- \$2,500 from Green Drinks; \$200 from SeedMoney; \$1,000 from the Bangor City Council – as well as several grants that we have yet to hear from. This money will go toward top soil (of which we will need a LOT), seeds, an irrigation system for the labyrinth, and possibly crushed asphalt to lay in the garden labyrinth path (this may wait until 2020). These grants are being managed through the P&J Center.

Sprouting! – Site and Infrastructure

Our little Bangor garden grew a lot this year! The Labyrinth, for example, is about 2,800 ft², including roughly 1,750 ft² of plantable area. This is about two and a half times the size of the original plot, showing a pretty significant scaling up of this location. Additionally, early in the season we connected with Jim Bird, Director of the Orono Bog Walk about procuring some of the old boardwalk sections that had been replaced during their renovation. Having seen a giant pile of old boardwalk pieces in the Bangor City Forest, we thought they just might make good raised beds. And boy, do they!

Each of the nine sections we collected is 4 ft. X 8 ft. X 12 in., and when flipped so the boardwalk side is down, there is a nice hollow center that is perfect for planting. They are made from untreated hemlock, which is a great wood for raised beds due to its antimicrobial properties. It is slow to rot, meaning we'll be able to use these beds for years to come. Additionally, each bed is easily 200+ lbs., which thankfully the volunteers at the Bog Walk understood perfectly. Eight or ten Bog Walk volunteers came out that day for the sole purpose of helping us load as many sections as we could handle, and that person-power was indispensable! We garden volunteers simply had no idea what we were getting ourselves into. Golly, those things were heavy!



We used three of the boardwalk sections to extend our garden's compost capacity. The remaining six sections were reserved for raised beds, five of which were active in the 2018 season. Additionally, UMA student and staff member Alex Carson procured garden fabric and crushed asphalt to lay between the beds, providing us with a gravel walkway to work from. This walkway has worked so well that we hope to eventually lay one of the same type for the labyrinth's winding path!



The garden sign was another welcome addition in 2018! In the fall as we began digging out the labyrinth's footprint, we also began transporting small to medium size stones to lay beneath the sign. Over time, we will paint some of the stones to provide pops of color to help welcome the community in.

Tending the Garden: Future Plans

The 2019 season looks to be an exciting one. The Bangor section of SSC 334 Cultivating Community: The Garden Seminar has brought in a small group of students dedicated to building community connections on campus and off.

With the addition of the garden labyrinth, our yield is expected to grow, enabling us to begin providing food to local area pantries and shelters, in addition to our UMA students. Our students are already active in identifying partners, finding out what foods they would like us to plant, and planning out the harvesting and delivery logistics for this summer and fall.

The labyrinth will also be a place for recreation and relaxation. Multiple groups and classes have already indicated they are developing plans to use the labyrinth for their regular activities. Moreover, our P&J Center partners are very interested in continuing to cultivate the artistic beauty of the space, with kid-friendly events for painting rocks and developing other art pieces.

Given the difficulty that we had with our furry frenemies (I still have not forgiven the deer for eating all of our corn!), we are looking into fencing options for the area. Kati Corlew will also be participating in the UMaine Cooperative Extension's Master Gardener Program this year, where among other things she will learn safe and organic pest control strategies.

The Harvest: Reaping the Rewards/Awards

Last but not least, we want to express our extreme thanks for the dedicated efforts of certain members of our community. This year, the UMA Bangor Community Garden would like to recognize four individuals/groups for their outstanding service to garden activities, events, and growth.

The UMA Bangor Community Garden Student of the Year is Alicia Bessey. Alicia was logged at 28 of our 45 recorded events in 2018, but that does not even begin to cover the efforts that she committed both to gardening and community development. Alicia came to the garden all summer on "off days" to water the garden and ensure its survival through a very hot and dry season. Additionally, she planned, organized, set up, led, and cleared up well over half of our events throughout the year. She has been an invaluable member of our community, and we are so very grateful to her.

The UMA Bangor Community Garden Staff of the Year is Patrick Decker and the Bangor Facilities Crew. Under Patrick's leadership, our Facilities folks have always helped care for the grounds around the garden. In 2017, they helped us erect "Gardenhenge," our stone seating area. In 2018, Facilities saved us an incredible amount of labor by machine-moving many yards of soil and mulch to the garden for easy access. They brought us branches from downed trees for the hugelkultur mounds. Patrick also came out to measure and spray paint the labyrinth's footprint as we began this new project. Facilities found us a picnic bench, now dedicated to our garden area. And – coming soon – designed the new walkway from College Center to the Fitness Center to swing near the garden, which will give us a paved path that will make the garden more accessible. We are deeply grateful for all of their supports!

The UMA Bangor Community Garden Community Partner of the Year is Andrea Simoneau and the Peace & Justice Center. Andrea came to me with a notion of collaboration, bringing together art and gardening for the overarching purpose of food justice. After only one conversation, it was clear we had

found (actually, she found us) a fantastic community partner. She and other volunteers from the P&J Center – special thank you to Andrew Williams! – were out multiple times a week throughout the fall to build the physical labyrinth. She also reached out into the community, including writing and receiving multiple grants to support the development of the garden labyrinth. This vision would not have become a reality without her and Andrew’s work and the Peace & Justice Center.

The UMA Bangor Community Garden Volunteer Group of the Year is the University of Maine Women’s Rugby Club. This is another group who found us. Not only are these women incredible on the field – congratulations to a terrific 2018 season! – but they are dedicated to their academics and to community volunteering. They heard about our project and contacted us to see how they could help. The team then came out every Sunday save game days until the first snow, bringing hilarity and hard work with them. We will be painting one of the giant 40+ lbs. stones they dug out with a rugby ball. It will sit at the entrance of the labyrinth to celebrate the work they put in to bring this project to fruition.

Augusta Campus Project

Trends in the Garden: A Student Leader's Experience

This section contains a qualitative report regarding UMA Augusta Community Garden activities from a student's perspective. It is written by the student most strongly involved in leadership of the garden in 2018, as a member of the SSC 334 course, as a liaison to external non-profits, as a club leader, and finally at the end of the year as its Garden Leadership Intern, Larisa Sanidas Batchelder.

In 2018 I became enmeshed with the University of Maine at Augusta Community Garden. For me, it started as a class, morphed into a passion that streamlined my career direction, and is currently the basis of my senior internship as Garden Leadership Intern for the social science department. The following is an overview of what I have seen and learned through the garden, the goals we set forth for the garden, what goals were met, where we struggled, and how we can do even better in the future. This is of course from my perspective as a student, intern, and community member.



As a student at University of Maine I have learned that there are many important facets of a community garden beyond the cultivation of food. Although feeding the hungry is a noble cause, and a goal that is easy by which to measure progress made, I have learned that a community garden cannot be quantified by pounds of produce alone and truly be called a success to the community at large.

I would like to begin my overview of the 2018 Community garden experience by discussing the important goals of a community garden set forth in a classroom January of 2018 as a member of the *Cultivating Community – A garden seminar (SSC 334)* class. In our class, a group of 8 people, we studied the effects of community gardens around the world. These gardens brought unlikely souls together, created friends out of once rivaled social class and ethnic groups creating unlikely community friendships. The gardens we studied encouraged skill building, team work, and enhanced environmental stewardship. This class that I took through the University of Maine allowed students of different ages, ethnic backgrounds, and levels of education to speak openly about ideas for the garden that they felt were important and were allowed to run with those ideas that were well thought out, and proved a community building theme for the Garden. The class being intertwined with the Garden Club allowed students to learn how to participate in board meetings, work with a budget, and collaborate as a team. By the time spring came around our team had decided that our garden would be about growing community as well as crops. Below I have bulleted our goals as we entered the summer of 2018.

- **Awareness:** As seen by an increase in participants to the Garden program and Garden events.
- **Equality:** As seen by students, staff, and community members working together, voicing ideas, and feeling comfortable to show up to the garden club no matter the socio-economic, cultural, educational, or age gap they might have with each other, as observed by a mixing of people from these groups
- **Ownership:** We wanted everyone to feel that they could make a difference, encouraging ownership or “buy in” to the program, as seen by garden bed adoption, regular participation, people bringing ideas or talents to the group, joining the board, or volunteering time. We wanted families to visit and to encourage generational entanglement as seen by people bringing children to visit the garden, class field trips to happen at the garden, and by seeing a large age gap between youngest and oldest participants.
- **Nutrition/ food insecurity: To attain nutritional and food security standards we made a rule to check with the food bank first and make their requests the majority of our crop.** To bring the food insecurity topic to light a goal was set to have several food drives events over the year, and support the food drives of other programs. To highlight nutrition we set a goal to hold nutritional talks in the garden.
- **Social integration:** The Garden club wanted the Community garden to create a sense of community, where people of all walks of life could network with people unlike those that they might normally meet to share culture, ideas, and talents. This would be measured by number of community members visiting increasing, number of social events held, and witnessing people of different cultural niches communicating in the garden, and participation by groups of different educational majors such as Art, Music, Computers sciences etc.
- **Environmental stewardship:** Our group decided that by having the garden organic, with compost, and a recycling station, that we may increase environmental awareness. Seen by decrease in trash left behind, increased use of the composting bin, and recycle bin.

It is my belief that we not only met all of our goals but exceeded them. We gained a lot of attention for our cause. Through word of mouth, events, flyers, social media, and email we went from a group of 11 participants to a group of over 300 people. We had weekly Eat and Greets in the Garden, ranging from 5-45 people attending at a time. All of our Garden Beds were adopted by faculty, students, and clubs.

We attained social integration, ownership, and equality together by design. We had local musicians play in a circle of baby sunflowers, and campfire sing alongs. Art clubs spent time in our gardens, the photography club projects; computer science majors did studies on real life applications in the garden. Ladies with grey hair gave tips on growing tomatoes to 19 year olds. Children played with hoses, while parents picked beans. People of different religions and economic backgrounds ate and laughed together. When High school students bussed in to volunteer, they could not tell teacher from student, further proof of equality in the garden showing through.

As an older student, who will be 40 upon graduation integration is tough being as I am the same age as many professors but a peer to many in their twenties. This does not provide for ideal moments to create friendship. I came, took my classes, and left, rarely speaking to anyone. With the garden however I was able to take ownership of an ideal, make friends, and find my community due to the even playing ground provided within the fences of our garden. I know for me this drove me to make better educational choices, take an outward look at community situations, and increased my drive to make a change around me, or be that changing force for someone else.

During my time in the Garden I was hired by a local agency that sends welfare recipients to volunteer spaces to gain job readiness skills. We took on volunteers in our garden from this program. Three soon-to-be new mothers who volunteered in the garden but had previously thought college was out of reach for them, nevertheless reported signing up for classes at UMA as a result of their positive engagement in the garden. These people tell me that being around others with educational goals made them decide they were worth it.

Four “new Mainer” families signed up to volunteer in the garden, because nobody else would have them being as they could not speak English. They had each been in Maine for over a year, taking English as a second language courses and still had not grasped the language. One of these people complained (with interpreter) that people in Maine do not like people of their culture so they stay separate and do not integrate. After 2 months being part of our Garden two of these families showed marked improvement in their English skills, and all four families talked about how welcome they felt at the garden. This opportunity to work with new Mainers as volunteers also allowed for them to share their cultural identity, and be seen in the community in a positive light.

Not only did our garden donate over 700 pounds of fresh produce, but we donated produce specific to the needs of the shelter with a large amount being lettuce and kales for fresh salads. One of our members went on to do their internship with the local food bank. We had a student presentation in the garden regarding medicinal uses of fresh herbs and veggies, and served fresh vegetables at our events. During these events we promoted volunteerism and donation to our local food bank. We held pop up food drives for nonperishable foods and continued these efforts with our last food drive in December. Our compost bin was filled, we saw an increase in the use of reusable containers, and an acute awareness of garbage consumption on the garden grounds.

As stated before I believe we met each one of our goals, which was a terrific feat with a handful of dedicated volunteers and a shoestring budget. I can only imagine what could be done for the community if it were regularly staffed and funded. I would love to see the garden become a regular facet for the community at large, taking its already established goals, and volunteer base and increasing the grandeur and the result each year.

Quantitative Trends - Garden Output

One of the goals of the UMA Augusta Community Garden project is to grow fresh and healthy vegetables to donate to the Augusta Food Bank. For historical reference within the term of the current project, in 2015, the garden space lay fallow and no vegetables were grown or harvested. In 2016, the UMA Augusta Community Garden grew 298 pounds of vegetables for the Food Bank, and in the 2017 season the Augusta garden grew 560 pounds of vegetables, with 556 pounds going to the Augusta Food Bank and 4 pounds going to an intercultural dinner event with community members cosponsored by UMA and the Capital Area New Mainers project.

From 2015 through the current year, the physical extent of the UMA Augusta Community Garden -- 9,000 square feet -- has been palpable and intimidating to those encountering the space across time. In 2015, the absence of work was visible in 10-foot-high grasses and invasive thickets of burdock. In 2016, a third of the garden was put in a passive cover crop of oats, a third was covered in thermoplastic, and only a third was cultivated. In 2017, approximately 400 square feet of garden remained unplanted and covered in the same plastic.

Moving to our most recent year, 2018 was the first time in which the Augusta garden project committed to planning and planting the entire space. The increased number of people committed to actively gardening in Augusta allowed us to meet that commitment, and increased participation has also made a noticeable difference in the garden’s condition in 2018, with a significant reduction in weeds and a significant increase in the production of compost.

In 2018, the output of the UMA Augusta Community Garden increased again to 716 pounds of fresh vegetables, all directly donated to the Augusta Food Bank. This marks the third year in a row of harvest increases for the UMA Augusta Community Garden. In addition, during the 2018 calendar year the UMA

Augusta Community Garden Club participated in two food drives, bringing in 121 packages of dry prepared food (plus \$4.26 in cash) to the Augusta Food Bank. Finally, during the 2018 calendar year the UMA Augusta Community Garden Club delivered 11 packages of seeds saved from the garden to the Katz Seed Library and delivered a further 63 packages of seeds to UMA students and their families at on-campus events.

As the volume of vegetables we harvest in the UMA Augusta Community Garden has changed, so has the variety of vegetables we grow. As part of a class project in the 2018 section of SSC 334 co-taught by Corlew and Cook, Social Science major Jessica Breithaupt interviewed the leadership of the Augusta Food Bank to determine what kind of vegetables would be most and least useful to the food bank. The Augusta Food Bank’s response was clear and firm: while potatoes and squashes are relatively easy to grow in bulk in Maine, for that reason they are also already abundant in the food bank’s supply and therefore less needed. The leafy greens that would make up a salad and the vegetables that would top a salad would be much more useful donations, we were told. In responsiveness to our community partner, we shifted our growing strategy for the 2018 season, as the table below shows:

UMA Augusta Community Garden Harvest Variety, 2017 & 2018		
Vegetable	Pounds 2017	Pounds 2018
Arugula	-	3.7
Beans	80.5	59.0
Beets	6.5	29.0
Blueberries	-	0.3
Cabbage	-	37.5
Carrots	75.0	68.8
Chard	10.4	3.8
Cucumbers	-	159.5
Garlic	20.0	37.0
Hungarian Wax Peppers	-	0.3
Kale	2.0	61.0
Lettuce	-	14.5
Mixed Greens	-	16.1
Onions	26.0	10.0
Peas	15.5	34.0
Radishes	60.0	13.0
Squash	175.0	19.0
Strawberries	-	1.8
Tomatoes	34.9	112.0
Turnips	54.0	26.0

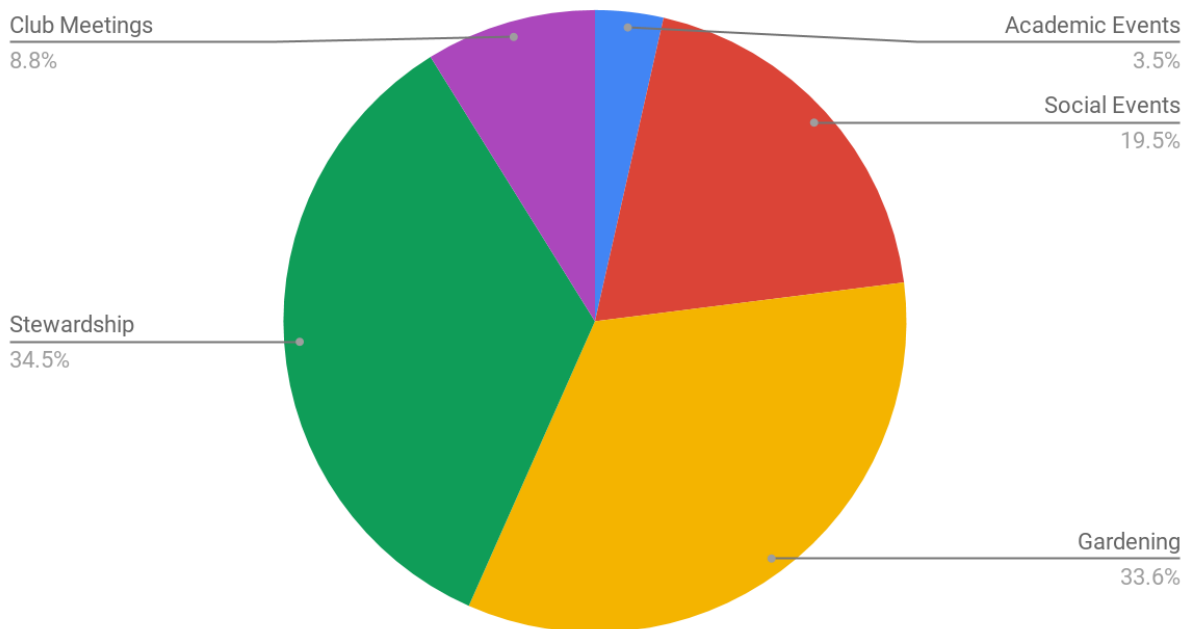
In 2019, we may experiment in the growing of a few unusual “heirloom” varieties of potato in order to further develop our own collective gardening skill and to provide something unusual to food bank clients. But otherwise, the UMA Augusta Community Garden will continue to avoid growing heavier but less-needed vegetables from the squash and potato families.

Participation in Gardening and Garden-Related Events

The 2017 annual report of the combined Augusta and Bangor community gardens references 49 gardening work sessions and 9 other garden-related campus events on both campuses, a number that the report asserts was “a remarkable level of co-curricular activity.” This surely was the case in comparison to the 2016 calendar year, which featured less than half as many gardening sessions and only 1 campus event. 2016 was in turn an acceleration in comparison to 2015, a year when the UMA Augusta Community Garden was being planned but lay fallow, unused, and entirely without physical activity.

In the 2018 Augusta campus garden, both the number of gardening sessions and the number of campus events organized by the Augusta garden club continued to grow, to a total of 113 recorded events on the Augusta campus alone. These events can be broken out by type:

Type of Garden Activity, Augusta Campus, 2018



In this chart, “gardening” refers to the group activities needed to grow a garden: sowing, weeding, watering, and harvesting. “Stewardship” refers to activities needed to maintain the space of the garden for use, such as equipment maintenance, mowing, tilling, and event setup and takedown.

As the number of garden events has increased, the number of participants in Augusta gardening and garden-related events has also increased. 2016 participation was not recorded but involved roughly a dozen individuals. Across the entire 2017 calendar year, we recorded¹ 29 distinct individuals (5 students, 9 community members, 2 administrators, 6 staff members, and 7 faculty members) participating in at least one gardening activity or related event. In the 2018 year, by contrast, 305 distinct individuals (126 UMA students, 108 community members and students from other schools, 4 administrators, 44 staff members, and 23 faculty members) took part. Of these, 102 participated more than once and 23 participated ten times or more.

This is the first year in the current four-year garden project that UMA students have made up the majority of participants in gardening and garden-related events. In the 2013 Office of Civic Engagement Strategic Plan, Key Goal 2.8 declared that the garden should “Maintain and expand an annual community garden to involve a minimum of 30 students annually.” This goal was met jointly by the Augusta and Bangor gardens in 2017. In 2018, we have surpassed that goal for involvement four times over, a remarkable success.

These and following participation statistics refer only to the events in the garden with specific attendee lists directly reported to the Augusta campus garden coordinator. We are aware of additional gardening sessions by the Robinson Hall team, by the Holistic Nurses Association, and by Garden Club members, for which specific attendee lists were not collected. This means that actual participation statistics are actually higher than those enumerated here.

Collaboration

In 2017, the Augusta campus cooperated with community partners (the Capital Area New Mainers Project and the Augusta Food Bank) and worked with First Nations students to welcome Convocation speaker Sandy White Hawk. 10 on-campus groups (6 staff offices and 4 faculty groups) also adopted and tended special raised garden beds during the 2017 calendar year.

From 2017 to 2018, the extent of collaboration increased significantly. In the Augusta-campus adopt-a-bed program, sponsored participation increased from 10 to 14 groups (we even had to add a new bed to accommodate interest), as indicated below. Although staff and faculty continued to dominate the adoption of raised beds, two student groups (the Holistic Nurses Association Student Club and students in a UMA photography class) joined the ranks.

¹ Formal recordkeeping of exactly who attended gardening activities and garden-related events did not begin until mid-June 2017. As a consequence, attendance at 7 Augusta campus gardening sessions and at a small number of additional special events at the Augusta campus garden cannot be included in this report. Fortunately, a program of consistent recordkeeping for the UMA Augusta Community Garden in 2018 has greatly diminished the missing data problem, with only non-scheduled gardening activity occurring outside the garden coordinator’s direct knowledge remaining uncounted.

2018 Adopt-A-Bed Participants	Pounds of Vegetables Harvested from Bed
Laura Rodas - Community Standards and Mediation	4
Amber Theriault & Brent Wooten - UMA Communications	21
Rachael Magill and Ian Magill - Early College	11
Matt Dube - CIS	21
Doris Nalley - Holistic Nurses Association Student Club	20
Libby Wade and Jacob Albert - Katz Library	27.5
Diane Shorey - Academic Logistics	126.5
Kimmy Baker and Brittany Landry - UMA Photography	10
James Cook and Lorien Lake-Corral - Social Science	28
Rose Pelletier and Aaminah Aleem - Student Life	1.75
Staci Warren - Alumni	45.75
Leslie Ellis, Kim Moody and Robert Zuercher - Robinson Hall	5
Robert Kellerman - Honors	74
Elizabeth Powers and Amy Jones - Writing Center	1

Collaboration between the UMA Augusta Community Garden and other groups also grew outside the bounds of raised beds. UMA Augusta Community Garden Club officer Larisa Batchelder, Assistant Professor of Computer Information Systems Matt Dube, and Administrative Specialist Diane Shorey were a major informal guiding presence in the garden along with Cook, helping to orient visitors and incorporate them into the garden’s activities and rhythms. Over the summer, these four formed an interdisciplinary core that connected with many others.

Larisa Batchelder’s class project for SSC 334 was to forge a connection with FedCap, a non-profit contracting agency that places Mainers who receive government benefits into required for-profit work or “volunteer” non-profit positions. Over the summer, 14 recipients of benefits came to the garden to help the garden grow, and in so doing to meet these requirements. As Gans (1971) pointed out a generation ago in a scathing critique of sociological functionalism, this sort of arrangement has the potential to place civic engagement projects in the position of reaping benefit from the very circumstances of poverty it seeks to ameliorate. Without poverty, after all, would we have a such a group of people who are coerced into work that sustains the poverty-alleviating garden? Batchelder ably answered this ethical challenge in class by designing the experience of visiting the garden for FedCap participants in two ways. First, all visiting participants were invited to learn more about the university and possibilities regarding enrollment, which in many circumstances also have the potential to meet federal benefit requirements. Two community members brought to campus via FedCap signed up for UMA courses in this fashion. Second, in a continuing effort over the summer, Batchelder particularly invited immigrant New Mainers in the FedCap program to come to the garden with their families. The Augusta garden became known over the summer as a “safe space” for New Mainers in an often-intolerant city, where they could participate in campus picnics, practice English, and take a breath of fresh air.

Associate Professor of Art Robert Rainey interacted extensively with the UMA Augusta Community Garden in a summer-long collaboration involving the work of his photography students, leading to a Danforth Gallery photo documentary exhibition of the garden's civic engagement work, entitled *What is Community?* In addition, Professor Rainey advised the C.A.U.S.E. student group as they organized, publicized, and held an "empty bowl" event in the Danforth Art Gallery in August. This event connected art to the experience of hunger, connected members of the UMA and Augusta communities with one another, and raised hundreds of dollars for the Augusta Food Bank.



In another academic collaboration, Assistant Professor of Computer Information Systems Matt Dube worked with CIS Major Philip Foss on an applied research project involving the development of a sensor-based observational and predictive system for conditions in the UMA Augusta Community Garden.

This year, the Augusta garden invited two groups of area high school students to campus, where they volunteered in the garden and made connections with UMA faculty and students. On May 2, a bus of 13 Cony High School students tilled the soil for a season of growth with a cadre of UMA students at their side. On October 23, 21 high school students and 2 teachers from Kent's Hill School helped prepare the same soil for winter while they enjoyed a campfire and barbeque.



In yet another cross-disciplinary collaboration, designed and initiated by librarian Jacob Albert and Assistant Professor Kati Corlew, a seed library was established in the Katz Library, allowing students to take home vegetable and flower seeds for planting in the spring and return whatever seeds they might collect in the fall. As indicated above, the Augusta garden was happy to return re-filled seed packets to the library this year; we look forward to continuing the relationship in the 2019 year.

You know you're recognized when your location is officially marked. A cooperative accomplishment in 2018 was the installation of a permanent sign marking the location of the UMA Augusta Community Garden on campus. The design of the unique sign was the work of UMA alumna Karyssa Upham. The UMA Office of Civic Engagement helped fund the sign's purchase, American Studies Associate Professor Sarah Hentges worked with Professor Corlew to help coordinate the ordering of the sign, and UMA facilities staff put in many hours to safely and securely install the sign.

In the Spring of 2018, with the support of a Honeybee Conservancy Grant awarded to James Cook and Biology major Arik Ross, egg-laying habitat for pollinating mason bees and leafcutter bees was installed in the garden. Ross also worked in the garden during Summer 2018 as part of an academic project sponsored by the Biology program to conduct a multi-species bee census.

Significant connections between art and community gardening were explored in 2018 by students in Patricia Brace's drawing class, who each sketched a vision for more fluidly incorporating the existing Augusta garden into its campus. Student Richard Stone's design for a "Reclamation Park" community space connected to the garden was submitted as a Cultural Events Committee grant application at the end of 2018 with Patricia Brace and James Cook acting as supporting co-authors with Stone.



We've taken the garden to the quad as well, once when Admissions asked us whether we might be interested in participating in Accepted Students Day, and once when the Student Government Association asked us to participate in Clubs Day. We were glad to take gleeful part, sharing seeds and information. As winter took hold in December, students in the Augusta Community Garden Club got creative and organized a Selfie Booth and seed giveaway for an all-campus holiday party with the Student Government Association. In these events, we celebrated the garden's part in a broader revitalized Augusta campus community.

A new collaborative research project between faculty member James Cook and students Larisa Batchelder and Susan Kiralis-Vernon extends the vision of the Augusta-campus project to a national scale. This research team is tackling two research questions. Our first question is, how common are community gardens on the campuses of American state universities? The team started its work in December 2018,

and of the population of 710 state universities the team has identified, data has been gathered on the presence or absence of community gardens in 246 of them; of these, approximately two-thirds show some evidence of an on-campus community garden. Our second research question is, how are state-university campus community gardens structured to be supported by their sponsoring universities and to support the communities within which they are embedded? This second question will take more time to answer, but we anticipate that the benefits of that answer will be considerable. The long-term goals of this research project are to involve students in social science research, to promote more effective and empirically-grounded planning and administration of the UMA Community Gardens, to publish an academic peer-reviewed research paper, and also to publish a broadly-available public report to inform higher education and community gardening constituencies.

Social Media Development

The UMA Augusta Community Garden has an established public Facebook group on which social media promotion of activities and events occurs. At the start of 2018, the Augusta Facebook group had 148 members; by the end of the year, membership had increased to 180. Members of the group are more engaged in posting and discussing posts in 2018 than in 2017. During the calendar year of 2017, 10 members made 55 posts about the garden, to which there were 48 comments. During the calendar year of 2018, by contrast, 15 members made 181 posts, to which there were 201 comments and 1,253 reactions. We hope that in 2019, members will continue to find the Facebook page a useful place to follow the garden’s progress, find out about events, and discuss garden-related happenings.

Design Innovation -- UMA’s First Successful Garden Labyrinth and Perennial Corners

After an unsuccessful attempt to grow a corn labyrinth in the Augusta garden 2017 by Corlew and Cook, Cook worked in Winter 2018 to adapt a design for a concentric-circle labyrinth from *Labyrinths & Mazes: A Journey Through Art, Architecture, and Landscape* (Tatarella 2016) to fit an ellipse within a central rectangular space in the garden.

	A	B	C	D	E	F	G	H	I	
1	To Jewett: minor axis	To Shed: major axis	width	content	b: 1/2 minor axis	a: 1/2 major axis	Major Axis	Foci: center +/-	Foci in feet & inches: center +/-	rope from foci to draw: 2a
2		51	60 3 feet	annuals	25.5	30		15.80	15 feet, 10 inches	60 feet
3		45	54 3 feet	clover	22.5	27		14.92	14 feet, 11 inches	54 feet
4		39	48 3 feet	annuals	19.5	24		13.99	14 feet	48 feet
5		33	42 3 feet	clover	16.5	21		12.99	13 feet	42 feet
6		27	36 3 feet	annuals	13.5	18		11.91	11 feet, 11 inches	36 feet
7		21	30 3 feet	clover	10.5	15		10.71	10 feet, 8.5 inches	30 feet
8		15	24 1.5 feet	herbs	7.5	12		9.37	9 feet, 4 inches	24 feet
9		12	21 center	clover	6	10.5		8.62	8 feet, 7.5 inches	21 feet

After finding the centerpoint of the rectangle with Prof. Matt Dube, students in the SSC 334 class used the mathematics of an ellipse to identify the placement of foci for concentric ellipses in late April 2018, then drew out successive lengths of rope around these foci to stake out the dimensions of these ellipses.



In May, Corlew and Cook placed locations representing the cardinal points of North, South, East, and West for perennial beds, then marked connections between concentric ellipses, creating a labyrinth design in which a single path winds toward a central herb garden with garden beds as path borders. Cony High School students and UMA students then worked together to till out ellipses, sow beds with sunflower seeds, and lay down paths with a combination of white clover seed and protective pine needles. The clover enriches the soil and is a perennial, traffic-tolerant ground cover. For the rest of the summer and fall, we waited, weeded, and watched UMA's first successful labyrinth grow.

Each year our permanent path will weave through a newly-planted set of annual beds leading to our herb garden, so that while the structure of labyrinth will hold constant, its content will colorfully change from year to year. In 2019, we plan to plant moderately tall vegetables to establish labyrinth walls, including pole beans.



Finally, placing an elliptical labyrinth within a rectangular space has left the center of our garden with four unused corners. This year we planted two of the corners with annual flowers and the remaining two corners with raspberry canes and blueberry bushes. In 2019, we plan to complete our perennial corners by planting another set of raspberries and blueberries.

2018 Augusta Garden Awards

The UMA Augusta Community Garden Awards are now in their second year, publicly recognizing the effort and participation of some of the most committed individual participants in the UMA Community Gardens.

- The 2018 Augusta Community Garden Student of the Year is the standout **Larisa Batchelder**, who organized, led, and otherwise contributed to 57 garden events this year. As an Augusta Garden Club officer, she developed and led public informational events, designed promotional materials in multiple forms of media, and coordinated activities between the Garden Club, the Student Government Association, the FedCap non-profit agency, New Mainer community groups, and other groups on the Augusta campus. Ms. Batchelder is an indomitable force on the

campus whose work has drawn the attention of many members of the staff, faculty, and administration.

- The 2018 Augusta Community Garden Staff Member of the Year is **Diane Shorey**, who brought good cheer to the Augusta campus garden, adopting and tending a bed to raise 126.5 pounds of vegetables in 19 gardening sessions. Not content to tend her own adopted beds, Ms. Shorey could often be seen working in other areas of the garden, “just to set them right.” As any visitor to the Augusta Community Garden this year can attest Diane Shorey has the greenest of green thumbs. Her tomato plants grew so monstrous as to literally break out of five cages.
- The 2018 Augusta Community Garden Faculty Member of the Year, as last year, is **Matt Dube**, who contributed to 39 gardening events this year. Professor Dube maintained a programmed irrigation system, creatively integrated garden needs into his computer science coursework, and gave his time to become an unofficial third leader of the SSC 334 community gardening class. This year, Professor Dube guided an independent-study students through the process needed to integrate sensors into the garden landscape to keep track of weather data and associate it with harvest outcomes. Ask Professor Dube about baseball, and he’ll supply the garden with a long, fresh supply of carbon dioxide. Ask Professor Dube for help, and he’ll always give it.

Financial Support

From 2016 through 2018, the UMA Augusta Community Garden Club has been sustained by generous annual funding from the Student Government Association. Until 2018, no funding for the stewardship and maintenance of the physical Augusta-campus garden itself had been made available. In 2018, gifts of funding of \$500 by the Social Science program, \$500 by the Office of Civic Engagement, \$500 by the Office of the Dean of the College of Arts and Sciences, and \$100 by the Office of Student Life have created a fund that will help maintain the physical space of the garden moving into the future. We are grateful for all these sources of funding.

The Problem of Staffing Support and Time

The number of people involved in the Augusta campus garden, and the number of events held by the garden, mark a strong new success on 2018. But these successes take work. For every Augusta-campus garden event, supervision must be present, and UMA regulations require a club advisor to be present for all club meetings and activities. Also, as the pie chart on an earlier page implies, the upkeep of a vigorously-growing, vigorously-used garden space required as many stewardship events as there were actual gardening events. At times, garden events were led by helpful substitutes Kati Corlew, Diane Shorey, Larisa Batchelder and Matt Dube, but Augusta-Campus Garden Coordinator James Cook was present for 97 of the 113 events, each of which lasted a minimum of 1 hour and as many as 6 hours. 39 of those 97 events were not for group events themselves, but rather for purposes of site stewardship.

This represents a significant investment of time for the Augusta-campus garden coordinator across a year. In a sabbatical-year experiment, Cook’s temporary scheduling flexibility was used to invest as much time this year as was needed to support student-led events and to maintain the garden in good condition. In non-sabbatical years, this time commitment is not sustainable, and a long-term solution to the problem of

time commitment must be found, especially now that each campus has only one faculty coordinator. Part of the solution will be found through the academic research into state university community gardens by Cook, Batchelder, and Kiralis-Vernon. Hopefully, with administrative support, creative institutional solutions to the time crunch can be adapted from successful community gardens at other universities.

References

Benford, Robert D., and David A. Snow. 2000. "Framing processes and social movements: An overview and assessment." *Annual Review of Sociology* 26: 611-639.

Bronfenbrenner, Urie. 1994. "Ecological models of human development." In *International Encyclopedia of Education*, Vol. 3, 2nd Ed. Oxford: Elsevier.

Draper, Carrie, and Darcy Freedman. 2010. "Review and analysis of the benefits, purposes, and motivations associated with community gardening in the United States." *Journal of Community Practice* 18(4): 458-492.

Gans, Herbert. 1971. "The Uses of Poverty: The Poor Pay All." *Social Policy* July/August: 20-24.

Han, Hahrie. 2014. *How Organizations Develop Activists: Civic Associations and Leadership in the 21st Century*. Oxford: Oxford University Press.

Putnam, Robert. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.

Schischka, John, Paul Daziel, and Caroline Saunders. 2008. "Applying Sen's Capability Approach to poverty alleviation programs: Two case studies." *Journal of Human Development* 9(2): 229-246.

Tatarella, Francesca. 2016. *Labyrinths & Mazes: A Journey Through Art, Architecture, and Landscape*. Princeton: Princeton Architectural Press.