

# Reviving a 150 year-old local food system: Sewanee, Tennessee

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## **Abstract**

This study tracks the adaptive cycles of a local food system in Sewanee, Tennessee. Our goal is to understand the factors which have contributed to resilience in the system. Sewanee's history of local food dates back to 1868 with the opening of the University of the South which produced all its own food and milk on site. Local food production stalled during the early twentieth century, but is being revived by today's residents. Our study focuses on three key components of this local food system: University Food Services, a regional food hub supplying food to the University and surrounding area and the University farm. As in all social ecological systems, a primary consideration is management of the subsystems and their interaction with each other. We address the decisions, constraints and disturbances faced in the continuing evolution of a local food system.

## **Introduction**

Sewanee, TN, is home to the Episcopalian University of the South (also referred to simply as Sewanee) that occupies 16,000 acres (referred to as the Domain) on a plateau between Chattanooga and Nashville. On July 4, 1857 delegates from 10 dioceses of the Episcopalian church convened on Monteagle Mountain led by Bishops Leonidas Polk of Louisiana and James Otey of Tennessee with the purpose of establishing a "University of the Southern States" to provide an Ivy League education far from corrupting Northern influences. The six ton marble cornerstone was laid and consecrated in 1860, only to be blown up by Illinois soldiers at the end of the Civil War. Construction of the campus, stalled during the Civil War, was completed during the summer of 1868 with the University opening its doors to offer a variety courses. Sewanee's original curriculum encompassed law, art, science, health and religious values. Schools of dentistry, engineering, law, medicine, and nursing once existed, and a secondary school was part of the institution into the second half of the twentieth century.

The University also has a rich agricultural history. As the campus expanded from a single cabin<sup>1</sup> that housed Bishop Otey, thousands of acres surrounding the multiplying buildings were enlisted to support the college. Atop the 16,000 acre plateau, residents of Sewanee were hired to produce all the vegetables, grains, milk and eggs needed to sustain the University and

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<sup>1</sup> <https://archive.org/stream/historyuniversi00fairgoog#page/n12/mode/2up>

community. Some relics of their remarkable productivity remain today. The former dairy processing facility and multiple barns stand in close proximity to the elegant campus buildings.

The chapel and surrounding academic buildings are adorned with stone work, wrought iron and stained glass windows. The campus design has been compared to those of Stanford and Harvard, early rivals of the Sewanee athletic teams. As funding fluctuated, the University opted to drop many courses including nursing and dentistry, consolidating to more academic studies in the early 20<sup>th</sup> century. Today, the campus holds an average of 1,300 students during the school year and offers undergraduate liberal arts degrees and a new (2006) School of Letters<sup>2</sup> offering graduate degrees in literature and creative writing.

The farm land surrounding the campus remained in use until the late 1960's when it became less economical to maintain. Since the shut-down, the fields have largely been left fallow. With most areas long overgrown with forest and brush, the decision in 2009 to revive the Sewanee Farm is an ambitious and monumental task. Until 2012 the only animals on the vast acreage were a few horses, owned by a faculty member, grazing the remaining pastures.

The study of Sewanee, Tennessee's local food system is one of nine case studies conducted by the Resilience Project to explore resilience of local food systems in recalcitrant areas of the South. The purpose is to assess these areas through the lens of a set of casual factors<sup>3</sup> which appear to occur in all resilient agricultural systems. These causal factors, as they are refined and tested, appear to be strong indicators of resilience on multiple scales. This case study augments the findings from others in creating a practical resilience index for use by farmers, marketers, and others working in or building local food systems. We interviewed three key stakeholders in Sewanee's local food system to understand what the challenges and successes have been. Through these Interviews we sought a variety of inputs and perspectives of the larger system of Sewanee.

### **The Revival of a Food System: Students with Mission(s)**

Sewanee has been experiencing its local food renaissance since 2003. The year was marked by the creation of a campus EcoHouse, the Environmental Residents Program,<sup>4</sup> the first Environmental Studies majors graduate, and for the first time since Aramark took over the catering services; the arrival of select local foods. Each year since then has been marked by significant changes and improvements by faculty and students to become (more) sustainable.

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<sup>2</sup> <http://letters.sewanee.edu/>

<sup>3</sup> The model of resilience we are exploring through these case studies is based on the principles of ecological resilience and, the Adaptive Cycle (*Abel, Cumming, Anderies*) and Cabell and Oelofse's analysis of indicators of resilience. We hypothesize that eight components are necessary to develop resilient agricultural system. These components are relevant at all scales (e.g., soil, farm, market, policy system) and include: 1)Modular Connectivity 2)Local Control 3)Building Assets 4)Redundancy 5)Complimentary Diversity 6)Conservative Flexibility 7)Ecological Integration 8)Reformation

<sup>4</sup> <http://www.greenreportcard.org/report-card-2011/schools/sewaneethe-university-of-the-south/surveys/campus-survey.html>

- 2004 - Vice Chancellor Joel Cunningham signs the Talloires Declaration; University commits to buying clean energy through TVA's Green Power Switch Program.
- 2005- First Eco-Cup, an inter-dorm challenge to save energy and water, is held across campus.
- 2006 - Community, students and faculty rally to save Lake Dimmick.
- 2007 - Vice Chancellor Joel Cunningham signs the Presidential Climate Commitment that vows to move towards becoming a carbon neutral campus; Sewanee hires two new staff members focused on sustainability; hiring a Resident Sustainability Coordinator and Laurie Kianka is hired as the Sustainability Manager in Physical Plant Services (PPS)
- 2008 - The EcoHouse concept moves to the new Green House on Alabama Avenue. The Green House has programming space, a garden in the backyard and begins work to build Hen Hall to house 12 chickens for eggs and educational purposes.
- 2009-2010 - Sewanee hires designer and 2001 alumni, Rocco Calandruccio as the Residential Sustainability Coordinator. Through his creative leadership and the work of the Environmental Residents (ERs), they re-focused their program, took on additional environmental responsibilities in the dorms, and initiated several meaningful efforts including: support of the Mountain Goat trail to Monteagle, successful community discussions focused on university sustainability efforts, an electric bike rental program, expansion of the "ER" position to fraternities and sororities, creation of a dedicated sustainability website including student produced videos/photos/text, the growth, and creation of, new environmental leadership positions, as well as the creation of an annual campus-wide dorm energy reduction competition. All of this has become known as: "Sustain Sewanee"

Before a student arrives to the campus they may encounter the above efforts made to transition the campus to sustainability on their website where Sewanee highlights the "Green Life" of student living<sup>5</sup>. There is even an independently run student-operated website highlighting "green" activities. Regularly updated by students to talk about new actions, plans and resources, the page keeps the university and the public aware of significant changes. For instance, the proposed Sustainability Master Plan (SMP) has been made official as of October 2013<sup>6</sup>. The Master Plan comes as a next step after the passing of the 2008 strategic plan and the signing of the Presidential Climate Commitment for Carbon Neutrality. The University has also hired an Assistant Provost for Sustainability and Environmental Stewardship as well as a Director of Sustainability. These two new hires have been working with the students and faculty since 2008 to create the Master Plan. There is a clear desire to continue to implement change moving into the future. As is the case with most new projects at the University, all this was made possible by the actions of the student

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<sup>5</sup> <http://life.sewanee.edu/live/green-life-in-sewanee>

<sup>6</sup> <http://sustain.sewanee.edu/stories/sustainability-master-plan-officially-passed>

body over the last ten years. The faculty work together with students to foster research projects which often involve examination of the University's function and purpose.

When orchestrating these new ideas, the students illustrate a unique case of conservative flexibility<sup>7</sup>. While conserving some traditions and University programs, there is an inherent over-flexibility in the nature of University life. In some ways the changing student body can be seen to conserve strong values and principles through their code of honor<sup>8</sup>, which remains strongly upheld. Additionally, it was noted throughout our interviews on campus that the student body of Sewanee maintains a particularly reverent attitude. It appears this reverence has positively impacted the rate and nature of the changes made since 2003.

Conversely, it was also noted in our interviews that when the students lose interest in certain activities such as the recycling and composting program, they tend to fall by the wayside. As the students cycle through the university, their opinions and decisions influence the direction of University programs. One class cared deeply about the recycling and composting programs, engaging other students and faculty during their time at the University. After they graduated though, there remained few with the same enthusiasm for the program and none to lead. Without strong student participation both programs eventually ended, much to the chagrin of Executive Chef Rick Wright. This has been seen over the years as projects start with great enthusiasm succumb to the changing ideals and values of students who come later.

Without a way to maintain consistent participation within the University, it is unpredictable what programs will remain. The proposed farm and farm school at the center of our study, stand as one of many proposed ideas that receives inconsistent participation and support. The ever shifting nature of programs illustrates also the influence and impact of local control<sup>9</sup> which effects how projects change depending on who is local to the campus at any given time. This can be seen in other industries and businesses with high turnover (i.e. service industry, temp jobs, or seasonal positions) where it becomes a challenge to establish norms<sup>10</sup>. Programmatic changes and revolutions in leadership/participants do encourage development and innovation. At this University's rate of change though, it's difficult for programs to mature or be maintained.

The desire to develop sustainable initiatives remains a facet of the university. With every new class there are new advancements made where old ideals fall away. Innovation

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<sup>7</sup> Conservative Flexibility: The system's capacity to foster innovation while harboring practices and knowledge that are time tested.

<sup>8</sup> Sewanee University Code of Honor - <http://life.sewanee.edu/live/the-honor-system/>

<sup>9</sup> Local Control: The system's capacity to organize and control the local ecosystem, autonomous from larger organizations or partner organizations.

<sup>10</sup>[http://www.shrm.org/Research/benchmarks/Documents/Assessing%20Employee%20Turnover\\_FINAL.pdf](http://www.shrm.org/Research/benchmarks/Documents/Assessing%20Employee%20Turnover_FINAL.pdf)

flourishes with the support of faculty and the community around the university which remains tuned into the goings on, on campus. The continual development of the student operated website Sustain Sewanee<sup>11</sup> and a consistent cycle of residents in the EcoHouse all continue the tradition of sustainable development on campus. These actions echo a factor contributing to ecological resilience: periodic reformation<sup>12</sup>.

As each new innovation occurs, the University reforms itself into something different. Sometimes, as we observed with the decline of the recycling and composting programs, the reformation doesn't always result in a system which accomplished the University's ecological goals. At other times, as with the renovation<sup>13</sup> of their golf course to be more sustainable and utilize past research on bio-diesel, reformation can create lasting and positive changes. The fact that research conducted in years past on biodiesel can endure long enough to influence present day issues bodes well for the revival of other programs and initiatives of value. Perhaps it is the reverent nature of the students, revering the ideas and creations of those before them. Combine this inclination to conserve good ideas with the honor code mandating conscious and right action and you have a university willing to overcome accepted norms for the sake of positive reform. The success of future endeavors is contingent on the value and magnitude of innovations in research. These innovations create newly formed programs that replace those that are released<sup>14</sup>. For instance, the research on Biodiesel was a valuable enough innovation to maintain validity through changes in the student body.

Through the continual development of new programs there are many potential opportunities for the students, as well as the surrounding community. One proposed idea is to develop a business plan to process kitchen scraps on site to create compost for use on campus. This compost could also be sold to the community, and beyond, depending on the scale of operations. Similarly, the research project on the feasibility of biodiesel would utilize fry oil from the cafeteria. This would save money on disposal and its use can be scaled to production. Their maintenance department has intentions of using the biodiesel in their vehicles, but the system has yet to be implemented.

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<sup>11</sup> <http://sustain.sewanee.edu/>

<sup>12</sup> Periodic Transformation: A systems ability to reform its management structure to promote consistent change and avoid stagnation or corrosive dictatorships. See Cabell and Oelofse, *ibid*.

<sup>13</sup> This renovation illustrates the integration of past research with present day needs, representing the concept of conservative flexibility: The willingness of the University to hold onto, or conserve, information or practices that are of value and demonstrating flexibility in present day utilization - <http://sustain.sewanee.edu/stories/green-isnt-always-good>

<sup>14</sup> Release is 1 of 4 phases of the adaptive cycle. In the theory of adaptive cycles release most commonly associated with the period after Conservation. Conservation is expressed as a system that has stabilized and has been conserving its resources, an example is an old growth forest. Similarly the release phase in ecological terms can be expressed in the distribution of conserved resources in the form of seeds, carbon, and nutrients after natural cycles like forest fires.. See Holling, *ibid*.

These changes to a more sustainable future aren't happening in isolation though. The town of Sewanee is carried in the momentum of changes occurring inside the campus walls.

### **A Town is its People**

Sewanee is a small, insular place where University staff have an overwhelming influence on the region. When a strong personality comes into a prominent position in the University, they will have a powerful effect. In 2009 Sewanee made an important addition to their staff in hiring Rick Wright as their new Executive Chef. He has spent his life working up the "brigade system" typical of restaurants and cafeterias. From his start washing dishes in his teens to now as Executive Chef for the University Dining Services he has worked in every stage of the culinary arts. Throughout his life he has focused on health through food, doing his part to enable a healthy lifestyle through his kitchen. He recalls to us a quote from a past faculty member, "we are always looking for a technological advancement to fix our sociological problems" reminding us that he can't fix the problem of poor eating by just providing healthy food. The change must come from a more substantial place, from the conviction and minds of those he caters to.

Chef Rick has been acutely aware of the social problem of food for many years now. He worked intimately with the Alton Park Development Corporation in Chattanooga Tennessee passing on his knowledge to youth in urban areas. He tells us that often when he went to a school to talk about fresh food, most children didn't know where their food came from. Often, when asked about a tomato, or, an apple children just remarked that they come from "The grocery store". Rick does his part to explain those, and more mysterious things like potatoes and carrots that children are mystified to discover come from below the ground.

Since hiring Executive Chef Rick, the University has experienced a saltation<sup>15</sup> in Dining Services. Beginning, Chef Rick tells us, with changing one small thing that he had always hoped to change in previous dining halls without success: White rice, to brown. This may seem small to most casual observers, but the transition was a big deal for Chef Rick who is in tune with how nutrient deficit<sup>16</sup> white rice is. Additionally white rice is cheaper and people are used to it, unlike brown rice which maintains a kind of stigma for most people. Remarkably the whole Dining Services team was on board and soon there was no white rice to be found on campus. Soon thereafter Rick began looking for more ways to change the quality of the food and the direct experience of the students and faculty. He regularly asks himself, "How can I provide the healthiest food possible to my clients?" looking for ways to integrate more healthy options to the cafeteria.

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<sup>15</sup> Saltation is an abrupt change in an ecological system created by a disturbance which forces the system to reorganize.

<sup>16</sup> <http://realfoodforlife.com/brown-rice-vs-white-benefits-powerfood/>

## Emergence of a Food Hub

As the University continues to change its focus to locally sourced products, it has affected the region around it as well. University of the South has facilitated organizations such as the South Cumberland Food Hub,<sup>17</sup> appropriately named “Rooted Here” to emphasize the local focus. In 2010 the Food Hub was a shared idea between the University’s Executive Chef Rick Wright, and Jessica Wilson; a woman from a neighboring county and wife of the University Domain Manager. Jessica had been active in the local Sewanee Farmers Market for a number of years and Chef Rick was active in the local food system in Chattanooga. During his career working in Chattanooga he worked with urban organizations to educate youth about where food comes from and connecting those children to local farmers through taste tests. Both food advocates, they met at a regional planning meeting and discussed their shared vision. After the meeting, Chef Rick and Jessica kept in contact and by reaching out to their own networks began to build the framework for what, in 2012, became The South Cumberland Food Hub. The South Cumberland Region is comprised of 4 counties (Grundy, Franklin, Marion and Sequatchie) on the Cumberland Plateau. Rick has remained as a prime purchaser through the University, and an advisor on the board. Jessica went on to write a USDA VAPG Grant that has funded the food hub’s office and administration. Their interaction is an example of modular connectivity<sup>18</sup> and complimentary diversity.<sup>19</sup> Both successful as individuals, they were able to expand their capacity by connecting their resources.

Chef Rick advises as a member of the Board of Directors, while Jessica Wilson has taken the position of President<sup>20</sup>. From their first conversation to now, Sewanee University has been a major contributor to the food hub. Most notably as their primary purchaser while school is in session with annual purchases made by Sewanee from the hub reaching nearly \$80,000. The university is apparently a great benefactor for the food hub, but when we spoke with food hub administrator, Risa Brown, she tells us that the University does present some issues. Easy to lean on while school is in session, the summertime creates a vacuum for their produce. The hub has other purchasers, though none are of the magnitude of Sewanee. With the peak of production in summer, Risa as the marketer, struggles to find consistent buyers for the plentiful produce until fall with the return of Sewanee’s student body. However, if she does find purchasers to pick up where the University drops off, there won’t be the same amount available to Sewanee when their fall semester begins again. The

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<sup>17</sup> <http://www.rootedhere.org/>

<sup>18</sup> Modular Connectivity refers to a systems, or individual’s ability to maintain functions as an independent system (modularity) yet receiving feedback and resources from other subsystems.

<sup>19</sup> After Rick and Jessica met they connected their resources creating both strong and weak ties that became mutually beneficial. In this way they exemplify Resilience theory through Complimentary Diversity. Representing diverse backgrounds, their connections proved to be complimentary in the founding and continuation of the South Cumberland Food hub.

<sup>20</sup> <http://www.rootedhere.org/about.html>

hub is struggling to find a way to diversify their sales while conserving the great connection that is the University.

This transition to a wider market could be made easier with more cooperation between growers to produce specifically for the University's needs in Spring and Fall (e.g. with cole crops which love cooler weather or with hoop houses to produce heat loving crops earlier before the school year ends). Hub administrator Risa tells us that fostering that cooperation has been their goal from the start, but remains a challenge to achieve. There are struggles with scale and interest. Some growers are much larger than others and can offer more consistency and dependability. This makes Risa's job much easier than working with small scale producers. On the other hand, for Risa to keep focus on the hub's original mission, she must work with small scale producers who sell as a supplemental income. Often the smaller scale growers are less interested in "scaling-up" to sell more to the food hub. With the food hub asking growers to sell their produce at wholesale, an average of 1/3 the price of retail, it's not an enticing offer for those with direct marketing options. Many of the small scale growers already sell out at the local farmers market so it is difficult to entice them to sell their produce to the food hub.

Moreover those small scale growers aren't often willing to strategize or invest time into growing specific crops they are not used to, or changing their management to produce within the school year. It is rare, Risa explains, to have growers who are excited to work in collaboration with her or other growers in the food hub. Consequently, Risa has been putting more attention on attracting mid-size growers in the area, but has been having difficulty in finding them. She says, "If they're out there, they're well hidden." Self-sufficient mid-size growers who can package their own produce are a rare and prized commodity. Risa continues to search for new farms nonetheless. Until she can find more, she aims to help existing farmers expand their production, while maintaining 2 other businesses and 2 daughters. "Time", she tells us, "is my biggest obstacle", explaining that she wishes she had more time to give to the food hub to build the marketing, production, and distribution. The VAPG grant pays Risa a marginal salary, but it isn't enough for her to dedicate more time than she does already.

The USDA VAPG grant that has funded the hub for several years is due to end. This has happened on a smaller scale before during the October 2013 U.S. government shutdown. At that time requests for reimbursement remained unanswered by government staff. The food hub went into immediate action to conserve resources while maintaining production and distribution in the community. They weathered that period, but Risa has some trepidation about their ability to maintain activities over the long haul without the financial support of the grant. In particular she is worried about the winter season, wondering if meat and egg producers by themselves will be sufficiently remunerative to support the hub. One potential solution Risa hopes to someday act on is to hold over potatoes, onions and other cool crops



during the winter to keep the food hub operational. They lack the storage space to do so now, though.

For the past two years the food hub has been crucial to the University's success in purchasing 15 percent of their produce from local farmers. Without the hub, Chef Rick would have to go out to farms individually, or, go to farmers markets continually. With the University's goal of 20 percent local food, the continued success and growth of the food hub is crucial to meet their target. Chef Rick has worked in institutional cafeterias for decades and has only now been able to merge his desire to include local food into his menu. In years past when working for corporately owned cafeteria's he would often have focused more on cutting costs. The industry term for an economically lean cafeteria is a "Cool Star Buffet" styling that offers high salt, high sugar, high carbohydrate buffets. The goal is to create a sense of high satisfaction while maintaining low participation. On the other hand, the Dining Services team at Sewanee is supportive of the "farm to table" style that Chef Rick prefers. Foodservice Director Wyatt Stewart often asks Rick how their team can "develop a foodservice program that is a role model for other food service programs for sustainability and education?"--a far cry from every other institutions Rick has served. The cafeteria's choice to become independent from Aramark, their former food source, has enabled them to create their own priorities. To take control, locally, of their menu and their purchases demonstrating the local control<sup>21</sup> component of resilient systems.

The food hub has offered Rick and the whole Dining Services team the opportunity to bring substantial amounts of local fresh vegetables and greens that otherwise might have been shipped from California. Chef Rick not only takes pride in serving the local food, it's more than that. He and the foodservice director spend remarkable amount of resource on educating the students, and faculty, on what it means to eat locally. Rick tells us too that, he wants students to understand how their diet changes their ability to absorb new information. As he sends out daily emails to the students and faculty he always includes a piece about healthy eating along with the day's menu. As a final touch, the cafeteria is adorned with plaques showcasing what foods are local, and offering suggestions to help participants make healthier choices.

For Rick, what stands in contrast to these plaques is the presence of multinational corporations like Coca Cola advertising right next to the cooler providing local, RBGH-free milk. This is a double edged sword for Rick as he realizes that part of his sizable funding comes directly from Coca Cola's contributions. What Rick is hoping to avoid in the cafeteria is exactly what Coca Cola and its co-conspirators perpetuate: high salt, high sugar, high preservative diets. In his mind the food he serves from the cafeteria should help the students to achieve excellence in their studies. To accomplish this, he relies on the aid of

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<sup>21</sup> Local Control refers to the system's ability to manage itself with autonomy from larger governing systems. In this case separating from larger corporate control of Aramark, a nationwide food distributor.

whole grains, leafy greens, and quality proteins. As most chefs must do, Rick works with not only corporate sponsorship, but also the entrained tastes of his clientele. Chef Rick notes that students expect Coca-Cola, chicken nuggets, and pound cake because that's what has been perpetuated for several generations of American culinary life. Weaning students off these items too abruptly risks losing the ability to attract students, decreasing income to Food Services, and decreasing his ability to effect change. This is a prime example of conservative flexibility as Chef Rick is innovating to include and incentivize local, fresh food options, he is willing to conserve the modern day traditions of his clients by providing the items they expect.

### **A University and its Farm**

As Chef Rick struggles with the cultural palate of Sewanee, the University farm is fighting entrenched attitudes. The University Farm reached its peak in the 1950's,<sup>22</sup> feeding and teaching the student body while employing local residents for additional labor. It's been a challenge for Gina Raicovich, farm manager, to find funding for the massive renovations, equipment, and labor needed to transform the landscape and infrastructure to their former glory. The plan for the farm school was initiated in 2012, the same year as the food hub. Unfortunately, the farm has been slow to gain significant support from the faculty or student body. Though the faculty and students like the idea of a large farm at the school, Gina remarks that, it's just that: "a sexy idea" which has not attracted deep commitment. Gina was hired by Sewanee in 2012 to fill the role of Farm Manager for a 3 year term. A graduate of University of Montana with a masters in Environmental Studies, a bachelor's degree in natural resources from Montana and a bachelor's in sociology from Wesleyan University in 1998, the position seemed a perfect fit.

Her vision consists of a large farm school that would offer students more than just learning how to farm sustainably. She wants to teach them about permaculture design<sup>23</sup> and an array of farming principals while also providing leadership training and personal development. She sees students so concerned about turning papers in and studying for their next test that they miss out on development of practical skills. She wants to help students learn more about themselves as they face the real challenges of building a farm. She hopes to build classrooms in the old dairy facility to offer courses inside, as well as outdoors. These students would ideally help her guide the farm that would produce food specifically for the university. This hasn't come to fruition as she had hoped, mostly due, she

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<sup>22</sup> <http://www.celsias.com/article/sustainable-sewanee-bringing-farm-out-retirement/>

<sup>23</sup> Permaculture Design :” Permaculture is a creative design process that is based on ethics and design principles. It guides us to mimic the patterns and relationships we can find in nature and can be applied to all aspects of human habitation, from agriculture to ecological building, from appropriate technology to education and even economics.”  
<http://permacultureprinciples.com/>

avers, to lack of funding from the university. She has managed to get a few projects running both on and off campus.

The Sewanee farm in 2013 and 2014 delivered 1,500 lbs. of produce and 8 head of cattle. The vegetable plots are managed and cared for by Gina and a student intern. The cattle are left over from a previous class project to research grazing. The cattle, though a nice addition to the tremendous demand from the cafeteria, pose an array of issues for Gina now that the project has ended. The herd, once cared for by a class conducting research, is now solely hers to manage throughout the year. If this were her only task, it would be more reasonable, but this comes as an addition to an already hefty workload maintaining the gardens, managing interns, and continuing to build infrastructure. This workload is her primary reason for petitioning the faculty to hire another farm hand to help with projects.

In addition to hiring another farm hand she has requested the renovation of the large dairy factory to turn it into a proper storage area, classrooms for the farm school, and housing for the proposed farm hand. This renovation would be a sizable investment by the university, and faculty has been slow to decide what kind and size of investments to make.

In the meantime Gina has reached out to the community in and around Sewanee through the local farmers market. She offered to send interns to local farms and in exchange asked that they teach students about their style of farming. Gina had initially wanted to send the students abroad or out of state to study at large scale sustainable agriculture farms, but when faced with lack of funding she has settled with sending the students to local farms instead. In this way she is exhibiting elements of resilience in terms of her conservative flexibility<sup>24</sup>. She had a desire to act on what she has known in the past to work: sending students' great distances to learn new techniques. Instead, she shows flexibility in her utilization of local farms to create a similar outcome. As Sewanee's farm grows Gina will soon have need to bring the interns to work primarily on the campus farm. She is discouraged by this as she likes the variety of experiences they receive outside of campus.

Gina Raicovich and Risa Brown are in similar situations regarding Sewanee. Gina, having started her employment with Sewanee with great enthusiasm, has made lots of advances. Though, as time has passed and University administrators are reluctant to fund her suggestions, she has become discouraged. Though growth is happening in Sewanee's farm, Gina is losing enthusiasm for the project. She is so overwhelmed with all her tasks that even when out-of-state friends visit, they spend their time helping her build the farm.

Risa, brought on board at the inception of the South Cumberland Food Hub is still enthusiastic for the idea, but is low on energy to maintain it. The hub now is requiring more than ever, especially as the hub faces the end of its grant and Risa and the board of

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<sup>24</sup> Conservative Flexibility: The ability to retain systems that work, while remaining flexible to innovation and new practices.

directors must find a way to ensure its financial viability. Risa must spend time caring for her daughters, two other businesses, and is busy trying to help existing farmers to meet current, and future, demands. She knows that as the hub expands beyond the university to other markets like Chattanooga, alternate school systems and restaurants the farmers must be more dependable.

Both the food hub and farm school lack elements of modular connectivity<sup>25</sup>, conservative flexibility<sup>26</sup> and redundancy<sup>27</sup>. Modular connectivity is lacking in that both the farm and the food hub are reliant on connections that don't offer consistent support, creating unstable conditions. Conservative flexibility is lacking in that there is a distinct need for innovation in both the farm and the hub, but innovation remains stunted by members' attitudes and resources. Redundancy is missing in that there doesn't appear to be anyone to come after them or to fill in for them during emergencies and without the aid of another they are both overwhelmed. These three elements are crucial in building the network of support that Risa needs to develop a greater food supply and to connect the markets outside of Sewanee. For Gina, until the university can foster a collective vision for the farm at Sewanee there will continue to be a lack support for her projects. Despite the theoretical support of faculty and students for the farm. So far the university has been dedicated to changing the policy of the school to support the idea, as opposed to physically building up the farm school.

These facts create a predicament for Chef Rick as he plans for the future of Sewanee Dining Services goals to purchase more local food. He remains hopeful that both the food hub and farm school will succeed in the long run, but what about the short term? He is proactive in the school, but similar to Gina lacks the capacity to effect changes in funding. This presents a big problem as no faculty members appear to be personally invested in the success of the farm school. As it stands, only faculty members can vote on new investments into infrastructure. To Gina, this is a misbalance of power where staff don't have a voice at the table. Without presence at the faculty meetings, there is no way to tell how, or if, the farm has any support at all.

Recently, the Department of Environmental Studies at Sewanee hired a new faculty member and Gina has hopes of working together with him on projects between the farm school and students. Gina expresses with clarity the kind of projects that could be created between the different divisions of earth sciences. Gina is hoping to merge the efforts of the University's forestry, water and climate studies efforts to create a unique farm wide effort. Unfortunately the new faculty member lacks the knowhow, or interest to help her. This

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<sup>25</sup> Modular Connectivity: The ability to maintain modularity, or autonomy, while simultaneously retaining enough loose and strong connections to ensure supply and demand network viability in case of shortages or dropouts.

<sup>26</sup> Conservative Flexibility: The ability to retain systems that work, while remaining flexible to innovation and new practices.

<sup>27</sup> Redundancy: The ability of a system to provide replacements for key positions. If a senior wolf dies, many young wolves are ready to take his place. If a farmer becomes sick, retires or dies, his farm system has redundancy if there is someone to take her place.

leaves Gina unsure of how to bring about the change needed within the Environmental Studies department for future projects. Furthermore, the new faculty member stands to be a potential voice at the table during faculty meetings, but until she can foster connections with him, it's unclear whether he is willing to make requests for funding.

**Sewanee and the South Cumberland Food Hub sit upon a precipice.** Many ideas have come to fruition like the food hub and the university farm, where will they go now? As Sewanee changes, how will these programs change with it? Chef Rick stated that he feels Sewanee, as a whole, is on a “true path”, bound to create, again, a hyper-local food system. He says this based on the stance of the university, and the culture of its residents. In terms of how long it will take, and with what sacrifices, remains unclear.

Near to Sewanee in Nashville and Chattanooga, local food systems are emerging that reflect the same values. Right now it appears that Sewanee is looking for a niche to fill. The University seeks to create a progressive example of Southern culture, to perpetuate ideals of sustainability and earth stewardship<sup>28</sup>. There is little need now to oppose the influence of the north, so now Sewanee stakeholders are opposing the influences of multi-national corporations through their desire to focus on locally grown, healthy foods. Our interviewees have painted a picture of a region that is reverently aware of their ability to make distinct and lasting change that echo beyond their once isolated plateau.

### **Illustrating ecological resilience**

Consistent with past ecological resilience research, Sewanee illustrates a number of resilience indicators. Illustrating the beginnings of a complementary diverse system made up of supplier/producer relationships. The community itself is connected, but at this stage lacks the element of modularity, with each facet relying on the other for support. This is to be expected in the early development of any regional system as the individual players develop their roles, abilities, and systems and realize their limitations. The flexibility of the University students is balanced by the conservative nature of the greater community seeking to revive what was once a thriving agricultural economy. The University set clear intentions to create local control as they diverged from corporate control of their Dining Services and have been making strides to produce their own food through the University farm. The South Cumberland Food Hub, in similar fashion, is preparing to take ownership of itself with the eminent end of the USDA grant. In the meantime they're working hard to develop the production needed to satisfy the market it's solidifying around the region. The system as a whole is preparing for overall reformation in the food hub and the University. These two have a distinct impact on the regional farmers as they offer opportunities and expand potential markets beyond the Sewanee farmers market.

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<sup>28</sup> “Earth stewardship involves shaping trajectories of social-ecological change at local-to-global scales to enhance ecosystem resilience and human well-being.” - Ecological Society of America [http://www.esa.org/esa/?page\\_id=2157](http://www.esa.org/esa/?page_id=2157)

Sewanee can be observed to lack redundancy and assets<sup>29</sup>, and these two components are as crucial as any others. Assets are things to build over time in the form of equipment, soil health or other forms of infrastructure. A system can become stunted or subject to premature failure in the absence of accrued assets. In the case of the South Cumberland Food Hub, they have desired to construct a storage space to harbor root crops over the winter and in its absence, it has been difficult to maintain sales over the slower period of winter. On the other hand they have managed to purchase a delivery van that has enabled them to ship their products to purchasers. In the case of the University farm school, there has been a reluctance to create assets. Though Gina as farm manager has requested construction of a farm school and storage spaces, her requests remain unfulfilled. Without these tools for growth it will be difficult to continue to grow the farm school past its current capacity.

The Dining Services of the University has addressed redundancy more than any other component of this local food system. With the department as a whole sharing Chef Rick's vision, they create a buffer in case Rick moves on to another school. The food hub has the aid of its board of directors to create a similar buffer zone. However, there is no clear replacement for hub manager Risa as grant funding dries up. This creates a precarious scenario for the food hub similar to Gina as manager for the University farm. Gina is a self-proclaimed "army of one" and, like Risa, if she were to leave by circumstance or choice it would derail much of the work already done.

The reaction of the food hub to funding constraints and the decision not to fund and staff the farm school appropriately are both key challenges and decision points. Ecological resilience models cannot yet forecast the level of resilience of this system, but our emerging model points to the precarious perch of this food system on Monteagle Mountain.

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<sup>29</sup> Building Assets: The ability to systematically build and integrate material assets that enable greater production and redundancy within the system in case of shocks or shortages outside of itself.