ONE-ACRE HOMESTEAD

PLANNING FOR SELF-SUFFICIENCY AND FINANCIAL INDEPENDENCE

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About this book

The purpose of this book is to introduce beginning homesteaders to the planning process for a 1-acre residential, permaculture-based homestead. The book includes recommendations for budgeting, phase-planning and estimating garden and livestock productivity.

About the author

Sara is a blogger and permaculture activist living in southeast Louisiana. She has a bachelor's degree in natural resources from Oregon State University and a certificate in permaculture design from the Cascadia Permaculture Institute. In 2009 she started her blog, *The Wild Homestead*, where she has been writing about her family's early homesteading experiences.

Other ebooks by Sara McDonald:

A 10-Acre Permaculture Project: Site planning in the humid subtropics

INTRODUCTION

Modern homesteading is about self-sufficiency and wholesome food production. Taken to the extreme, self-sufficiency means growing all of your own food and maybe producing your own fuels and fibers as well. The word *homesteading* is familiar to most people, and it is based on the U.S. Homestead Act that drew pioneering landowners out west as homesteaders. In most states, the requirements were that they had to build a house and start improving the land for farming, then live there for a minimum of 5 years before they could claim the title. The land was free, except for the sweat equity put into setting it up.

Pioneering homesteaders had to support themselves mostly from food produced at home. Before cheap fossil fuels, people all over the world had to use fuel from local sources of wood, animal dung, and less often from methane gases produced by fermenting vegetation. Homesteaders were no exception. Typically, homesteaders substituted the emerging, coal-powered industrial energy in larger cities for more readily accessible fuels that could be secured on their own land. Modern homesteaders often make similar substitutions in order to achieve greater self-sufficiency.

Plant and animal fibers are ideal for producing cloth and garments, and modern homesteaders may dream of producing their own leather or wool products. Skilled, hardworking homesteaders can theoretically support themselves entirely from local materials—building their homes with locally made brick, wood, or earthen materials, stitching their own cloth and leather garments, and putting in the hours of work on the farm to feed their families. If there are children around, they can help with the livestock and the gardens. Perhaps the neighbors will come by to help with larger projec">Starting SimplySounds idyllic, doesn't it? These practices are still common in much of the world, but most of the traditions and skills that homesteading requires have been lost to people in the U.S.

I'm assuming that most readers of my book aren't expecting to go this far to achieve self-sufficiency, and so I am not writing to

instruct a fully self-sufficient level of expertise. I don't believe that is all possible, or desirable, for people living on just one acre of land. Instead, I'm writing for the vast majority of people who have woken up to the realities that peak oil and economic instability threaten the mainstream way of life in the US, and industrial food production isn't healthy, safe or sustainable in the long run. I'm writing for people who want to make progress toward self-sufficiency by assuming responsibility for their families' food and the economics of their homes. Conveniently, they will also be reducing their contribution to the environmental woes that come from modern agriculture, but since accurately measuring environmental footprints is a huge task, environmental concerns will not be a primary focus of this book.

For those who have already experienced the superior taste and nutrition of homegrown food, you'll have no doubts that this is the best way to eat. The next step is to kick it up a notch and start growing all of your food at home (excepting a few optional luxuries.) I am not going to tell you to ditch all of the conveniences of modern life, or the securities that you're accustomed toily accessible ouur, but I will ask you to question these things. I am not going to tell you to make your own clothes. If you can generate any bit of extra income at all, second-hand clothes are a cheap alternative to home-produced clothing—unless, of course, you are already raising sheep or cattle and wondering what you can do with all that surplus wool and hide. That's a problem I'm not familiar with, and so I can't help you there.

My rejection of flagrant consumerism is the root of my decision to begin homesteading, but it is not the whole story. I've longed to learn the lost arts of living that have been displaced by modern culture—not to recreate the past, but to honor tradition. I want my son to grow up knowing about his heritage and the basics of making food and running a household. These ideas aren't fringe ideas by any means, so I am resistant to the idea that being a homesteader necessarily means you're living a radically different lifestyle than what many people want. I may simply be naïve in that regard.

As I define it, homesteading is not an all-or-nothing lifestyle choice, but a transition like any other. It is the *practice* of liberating yourself from commercialism by doing more and more for yourself, for the benefit of your health, your security and for your finances. Everyone who embarks on a homesteading lifestyle will find themselves practicing at different levels—from the modest beginners who are just learning to prepare wholesome food, to those who have mastered expert skills like home biofuel production or intensive forest gardening. When I started working toward my dream, I scarcely knew how to cook or run a household, much less how to garden, raise livestock (aside from rabbits) and make home repairs. We've all got to start somewhere. Given our vastly different back">Starting Simplys and economic situations, there is little room for anyone to judge. Keep that in mind and don't be timid to begin your journey even if you fear that you don't measure up, or that you'll never have the land/physical ability/etc. to make it. Every step counts.

My perception of what makes a self-sufficient homestead came from John Seymour's 1- and 5-acre homestead plans included in his book *The Self-Sufficient Life and How to Live It*. I wasn't happy with the idea of having no room for perennial crops or trees in Seymour's 1-acre design, so I started thinking about how I could incorporate perennials into the system. Otherwise the information in this book is comprehensive and overwhelming. Seymour inspires awe in his vision, but does gloss over some of the simple, practical daily aspects of running a homestead. A lot of people have visited my blog looking for more insight into running a 1-acre, self-sufficient homestead, following Seymour's published plan "Start a 1-acre, Self-Sufficient Homestead" in the September/October 2011 edition of *Mother Earth News Magazine.* This book is my attempt to answer some of the questions I've received based on my own experience and knowledge of the subject.

Is self-sufficiency on 1-acre realistic? The answer depends on your concept of self-sufficiency and the approach you plan to take. Many people in the U.S. will probably struggle quite a bit if they try to extricate themselves from society and live entirely off of their 1-acre

farm, seeking no outside resources. Many may never succeed at this. Realistically, that's not the point. The plan I have put together the rock retaining wall with 9 in the following chapters aims for financial independence first, and then shows an example of a homestead design that produces all of the eggs, poultry, fruit and vegetables for a family of 3, as well as 34% of the years' basic staples (carbs and protein). The homestead also produces pine straw for mulch, which can be expensive if purchased from off-site each year. Ultimately, this design does not meet all of the food needs for a family of 3, but it provides a substantial amount of food in a sustainable way.

In finalizing my one acre homestead plans, I'd say that it is possible in any given year for a family to live on food produced entirely on their one acre homestead, but it will take significant planning. It shouldn't be a year-to-year goal, but if the family has an existing pantry that will last up to one year, then in the case of an emergency the one acre homestead could potentially support the family for another 3 years at maximum production. The year- to-year plan I outline, however, uses only about ¼ of the productive space on the property at any one time in order to achieve a sustainable rotation of crops and animals, by promoting health and reducing the risk of pests and disease. Whether this is desirable for all homesteaders is a matter that I cannot answer, but feel free to tweak my system anyway you like.

Before expanding beyond ¼ acre production in any given year, I recommend diversifying your production in order to get more yields from the same space. This can be done by stacking plant groups, using intensive forest gardening and bringing in small livestock. My plan is intentionally simplified to make it easier to get started, but my hope is that further experimentation can bring more yields without adding unsustainable dependence on off-site biomass.

Simplicity and self-sufficiency need not imply cutting yourself off from the world or going off the grid entirely. You can practice intensive, ecologically based farming on a small plot of land and get very good yields. You can also limit your dependence on society in other areas of your life in order to better prepare yourself for

temporary or even longer duration catastrophes (economic, natural disasters, etc.) that can restrict your access to basics like food, fresh water and border-right-color:#000000; border-right-style:solid; border-right-width:2.25pt; padding-left:5.4pt; padding-right:5.4pt; vertical-align:top; width:61.1pt">

You do not have to be cut off completely to be self-sufficient, but you do need to be flexible by having a diverse income and strong skills that can help you get through the ups and downs of the fluctuating economy.

Whether you keep the internet or wear clothes manufactured somewhere else, or whether supplement your livestock with purchased hay or commercial feed is somewhat irrelevant. Large livestock like cattle are luxuries, so if you object to importing hay to feed a cow, then don't bring a cow to your acre because you're not likely going to keep a healthy cow on one acre with no supplementation. You need at least 4-5 acres in a warm, productive climate like the southeastern U.S., to support a cow sustainably. If you decide to raise a cow and import hay, then you hit hard times and can't afford the hay, you can sell the cow and substitute her for cheaper livestock, or for a cheap, nutritious crop that can make up for some of the missing nutrition. Some folks argue that the cow will yield enough milk and cheese to pay for her imported hay. The yearling, (the baby that you get every year in order to have your cow producing milk) can be raised through the summer and sold in the fall to pay for the cow's winter hay, as John Seymour suggests. Chances are that even in a slow economy, small quantities of milk, cheese, beef and even manure will remain in demand and may be good barter for other farm products like hay. The decision is up to you.

Trying to go without off-site imports can be a noble goal, but self-sufficiency does not necessarily exclude outsourcing these extras. The reason is, you're not dependent on the luxuries—they can be eliminated or substituted, either temporarily or in the long-term, without ">Starting Simplyonce wanted to go completely off-the-grid and drop out of society. I don't find that kind of lifestyle desirable at all anymore. The assumption that it's necessary to use only things

that you've produced with your land and labor is imbalanced. Humans are social creatures and we've always relied on economies in one way or another.

For the past 4 years, I have combined homesteading with a formal education. I finished my degree online through Oregon State University's program in natural resources. I also spent a couple of years working for a non-profit land trust. I chose an individualized concentration in college, land and soil conservation for sustainable societies, which allowed me to focus on soil sciences, landscape management, economics and permaculture-- a type of ecologically-based food production theory that extends to other areas of social organization. The permaculture course offered by the university was one of the first I've seen offered by an accredited school, and certainly the first online program I'd ever encountered.

I had heard of permaculture before. It is most often practiced in the US by socially and environmentally-conscious folks living in intentional communities called eco-villages, or on progressive college campuses. The practice of permaculture was, and still is to some extent, a small niche in alternative agriculture. Until I saw a course offered by an accredited school, I have to say that I was a bit skeptical of its ability to be accepted in the mainstream.

Today, I am fully convinced of the benefits of permaculture, and I see that many of its methods have been part of society for much longer than the life of the term itself. It *is* adaptable to the mainstream, and recently, it has been applied on a very large ">Starting Simply have no choice but to adopt more sustainable production methods, because the alternative is to lose their products through ongoing degradation of the soil and biological resources that support agriculture. Many industrial food systems—from fisheries to agriculture commodities-- are facing catastrophic decline because they have interrupted natural systems.

Permaculture's focus on ecologically-based production doesn't mean that it is a natural system. Instead, it is a blend of human design and ecological principles. Permaculture uses basic laws of nature to prevent the degradation that often results from the demands of food production. The goal is to elevate food production

to a sustainable level, not necessarily to restore natural systems to their previous conditions, although many who practice permaculture often see net gains in the health of their soil and the ecology of their land. Permaculture shows great promise as a long-lasting technique for farming in arid regions, steep slopes and other places that are otherwise not considered arable. Its popularity has grown most notably in countries that are facing very serious ecological problems as a result of past agricultural practices. Permaculture practitioners recognize that human food production necessarily displaces some plants and animals due to competition. When you consider that at least 50% of the land in the world is dedicated to food production, it becomes clear that wise production methods are necessary. Our goal with permaculture is to reduce the effects of that displacement by reducing resource waste and abuse (which lead to pollution), and increasing our own awareness.

This 1-acre homestead planning guide is based on the development of my own permaculture-based homestead plan. Soon, I will be entering the 5 year of my project. The goals of this book will be to get you thinking about *home economics, developing your vision, making your plan and following through*. This plan is not going to be foolproof, and some of the calculations will undoubtedly need to be adjusted as I begin to put the plan into action. However, I think it's important to share this planning process, with the calculations included, as a way to continue the dialogue about the feasibility of creating small residential homesteads. If you see any gross errors in my assumptions or calculations, feel free to point them out, but please be sympathetic to that fact that I am still in the learning process, and I am writing and publishing this book to encourage discussion—not to promote my ideas as if they are free of human error.

Our Journey

I inherited the ambition to live off the land from my mother's parents. My grandfather grew up on an old tobacco farm in Western North Carolina near the Great Smokey Mountains, a sacred place for me, where the haunting beauty of the mountains at night inspires solemn reverence when I visit. He always wanted to return to the mountains, but I imagine that he also wanted to return to that time period of his youth in the 1940's and '50's when life was, shall we say, simpler. His mother's mother taught at a Cherokee school in Cherokee, NC, and his father's parents ran the tobacco farm. The tales of Cherokee blood on both sides of my family intrigued me. As a young girl growing up in what seemed to be a vapid culture of mainstream America, having some kinship to a people with *real* culture, no matter how misunderstood that culture was by most of us, felt special to me. Of course, I've since matured to better understand and respect my European-American roots. Reflecting on my cultural history has given me a lot of perspective in achieving my homesteading dream.

I can't say exactly when my dream to homestead became a serious pursuit. I always loved animals and wanted to live on a farm since I was very young. My grandparents kept a large flock of bantam chickens, and I raised all sorts of animals myself—rabbits, mice, rats, cats and others. The outdoors appealed to me much more than my classrooms. Friends of my grandmother had an old farmhouse in the mountains of Virginia, and we went there at least two or three times a year. If my grandparent's 1-acre of land near the coast seemed like a quiet paradise, then the farmhouse in the mountains-- 75 acres beside a protected mountain ridge-- was much more so. I knew, just by the thoughts and experiences shared by my family, that having access to land was a special privilege, and being able to farm and hunt that land to provide for a family was an ideal that we should all strive for.">Starting Simply

Though I enjoyed the dreaming, I never liked the work. After years of dedicating my time to reading, writing and drawing, quite sedentary activities, I simply wasn't fit enough for work when I hit my

teens. After my mother finally graduated from a nursing program and was able to buy her own house, my grandfather tried to get my brother and I interested in planting trees and chopping wood. I could help dig for about 10 minutes or so before I needed to make excuses to quit. I often abandoned my grandfather to his torturous outdoor activities. Being physically incapable of chopping wood for more than 5 minutes at a time was embarrassing, and the experience sent me into the house where I continued to hide from all forms of manual labor.

After my freshman year in high school, I became a vegan--eating no meat, eggs or dairy products, at the suggestion of one of my closest friends Kayla. She was passionate about animal rights and she and I had a strange connection. We'd known each other for two years by that point, after meeting online in a discussion forum for people who raised mice. We were little more than children when we met, and we both joked about our earliest impressions of each other—each thinking that the other must have been a retirement-age rodent enthusiast. We both came off as bossy, arrogant know-it-alls. We were a bit geeky.

Kayla lived in Louisiana, and I was still in Virginia. After changing my diet dramatically, I also credited her with changing my life. In the end, she is the person who introduced me to Seth, but that would be many years later. Reading literature targeted to vegetarians introduced me to a lot of things I'd never considered before—ranging from environmental issues to wildcrafting (foraging for wild herbs). I was also reading counterculture literature, poems and novels from the beat generation, and saturating myself in the fantasy of living an alternative lifestyle.

I discovered the concept of an eco-village, a place where people collectively work on building a lower impact society. I was amazed to find that an egalitarian, income-sharing community existed within 40 minutes of my home, a place called Twin Oaks. I wrote to the people at Twin Oaks and they politely responded that anyone over 18 was welcome to join their community after going through the membership procedures. I couldn't believe it. This community would accept me just as I was. How validating. Excited, I told my mom about this

place, and that I would go and live there when I was out of high school. Before long I earned a reputation in my family for my strange eating habits and ideals that seemed to border on communism.

The summer between my sophomore and junior years in high school, my aunt mov">Starting Simply

I finally met my friend Kayla in person while I was living at my aunt's, and also made a few other friendships during that year that have endured much longer than I would have ever expected. It was quite serendipitous. Life in New Orleans was amazing. It was the kind of place where being weird was expected. I adored the 17 century architecture, and the modest apartments that we lived in amidst the telltale grime of a well-used southern city. I remember standing on the porch with my basket of laundry during one of Louisiana's signature, torrential downpours, and admiring my rustic surroundings with a sense of awe—a sense that this life of borderline poverty, well-connected to the elements of nature, was something I *wanted*.

The summer after I moved in with my aunt, I applied to become part of a volunteer crew of trail workers for the Student Conservation Association (SCA). I still loathed manual labor, had no experience with it, but I yearned for the opportunity to start doing something with my life. With the SCA, I would live in the backcountry for 5 weeks, working 45-hour weeks in all types of weather, and I would love it! At least, that's what I thought.

When it came down to it, 5 weeks living on the muddy forest floor, suffering the lingering smell of sweat and mildew, and the daily chores of hauling bucket after bucket of muck from the trail, took me to the edge. In my nightmares my gloves wore thin and the flesh tore off of my hands as I lifted the sledgehammer, over and over again, to break up rocks for hand-made gravel. The girls I shared a small tent with would murmur in their dreams, questions like "where do you want me to put this muck?" Living in close quarters with 7 other people, complete strangers, was probably the most difficult part of the adventure.

They pushed me to work harder than I ever imagined I could. My spirit soared, but the anxiety was intense. In the final weeks, I

spent nearly all of my off-time in the tent writing and avoiding any kind of contact. I hated the squishy food we made-- the mushy beans, the inevitably bad backcountry bread, and the oatmeal swimming in honey. I used honey passive aggressively to drown out my anger, the lost sense of privacy, the anxiety and whatever else I was feeling at the time. Part of my gloom was triggered when one member~

Our crew leaders intervened in our friendship early on, after we took lunch alone at the rock retaining wall we were building, instead of joining the rest of the crew. The rock wall was the ultimate puzzle for me. I loved the slow process of fitting together natural stone, piece by piece, different shapes and textures, without mortar. I smashed my fingers between the rocks, but I loved the work so much that I dare not complain. Instead I thought about my father, a carpenter. When I was young he would take me to work with him. I'd smash my fingers with the hammer and he would just laugh at me. His fingernails were always some combination of white, purple, and black from being pinched between boards or from the miss of a hammer.

I was kicked off of the wall project, along with my comrade, because of our growing isolation. The next day, when I returned to the wall, I had to tear down the sloppy work of our less interested team members and rebuild it again with my focused precision. In situations like that, my perfectionism shined, but I alienated myself from the people around me. When my only friend on the crew left, I felt no more desire to socialize, and I sought out projects that would give me long hours of meditation until the experience finally passed.

We started completing truly useful projects when our crew leaders finally realized that hauling 5-gallon buckets full of muck off of the trail and plopping them into the woods was a futile effort. We restructured a trail stairway, and rebuilt a series of washed-out culverts. We completed the rock retaining wall. I personally took on the task of crushing rock with a sledgehammer for up to 4 hours a day to make gravel for the resurfaced trail. It was a laborious task. It offered me a unique opportunity to meditate on hard work away from

the rest of the group. One of my crew leaders frequently commended me for doing the drudgery that no one else wanted. I loved it.

After the SCA experience, I took a serious turn in direction. I was wholeheartedly committed to joining a community and working with likeminded individuals before, but now I dreaded the idea of living in a community. The experience was so humiliating to me and I wanted to be a hermit. I melted into a mess of tears the day before our 11-mile hike in the Smokies. My anxious dreams kept me from sleep that night. I woke up in the early morning on the day of the hike. We had moved to the front country by then, with bathroom facilities. I went to the camp restroom and was horrified to find the bathroom floor completely covered in spiders and millipedes that crunched underfoot. It seemed like an omen.

In spite of my protests, I was pressured to accompany the group on the hike. Part of the problem for me was that I had no previous athletic experience. Everyone in my crew was an experienced hiker, cross-country runner or triathlete. I measured myself against them and came up miserably short. As they disappeared further and further up the trail, I couldn't handle it. I'd gasp for breath, my eyes would tear up and Iborder-right-color:#000000; border-right-style:solid; border-right-width:2.25pt; padding-left:5.4pt; padding-right:5.4pt; vertical-align:top; width:61.1pt">

The weird thing was that I didn't have a problem hiking. One of the girls told me that when I led the hikes, we often went quicker than usual. After this conversation, I knew that it wasn't the hiking, but the panic attacks, that got to me on the trail. On our final hike, when the attacks came I let them. I didn't fight it anymore. This was something I decided I would just have to get through. When we reached the fire house at the peak of Mt. Cammerer, after gaining nearly 2500 feet in elevation, I was in awe of the beauty and amazed that I had gotten up there in just a few hours with my own feet.

Coming down from the 5-week trip was challenging. I felt so accomplished on the one hand, but totally incapable of relating to other people on the other. I wrote about it in my college admissions essay, but recalled it as a dream-like experience, something I wasn't sure I had actually done. My hygiene standards lingered just above

the backcountry hygiene I had grown used to, and I sunk into a depression for the first half of my senior year in high school. I slowly recovered over the rest of the year, and became stronger than ever. The hardest part was overcoming the doubt I had about myself. The experience made me face all of my insecurities as once, and I didn't know how to take it. Self-doubt is something that I deal with all the time, and it's one of those things I've had to face in homesteading, which is why I've included this story.

The following year I was admitted to a southern liberal arts school known for being environmentally progressive, and I started college in the fall of 2005. It was here, perhaps, where my vision began to take a more solid form. All around me, people were doing things. The college garden was always growing herbs and vegetables that made their way into the cafeteria, or into hand-made herbal salves and balms that were sold in the college bookstore. I could trek out to the pastures anytime for inspiring views and communion with nature and the college's herd of beef cattle. It was here that I felt that my dreams would finally have the opportunity to blossom.

Figure 16.- Our college raised cattle and sold grass-fed beef every fall

The place was magical. I worked as a student locksmith on campus, where I learned to handle power tools and do basic handy

work. My supervisor urged us to repair and re-use old locks as much as possible, since new locks were so damned expensive. The puzzling of old lock repair was a lot like the stone retaining wall. It was meditation for me. a significant portion ofen11

When Hurricane Katrina hit New Orleans just two weeks after I started school, I was devastated by the news reports. I didn't watch TV at the time, intentionally avoiding it since I believed it to be a worthless distraction, but enough people were watching the news that I heard continuous updates about the aftermath. Other students discussed the death toll before classes, and shared the horrific details of martial law.

I went on a relief trip in October and again in January to help people along the Gulf gut their homes and to provide whatever other services were needed. In Waveland, MS, the walls of steel-framed houses were blown away by storm surge on the first two levels. Some houses still had a third story perched high in the air on the naked steel beams that once supported thr complete house. Mind you, the first levels of these homes were elevated on piers, at least 10 feet off the ground, so it's not as if these homeowners were recklessly unaware of their proximity to the ocean. Yet they still lost 2 levels above those piers. The storm surges were massive, 25 feet and higher. We climbed over miles of debris in the woods behind the stripped coastline.

In Houma, LA we saw houses pushed off of their foundations and carried up to 100 yards away. Thick, black swamp mud covered the floors of homes, up to a foot deep. Houses that hadn't been opened up in the 2 months since the storm were rotting with black mold. The smells were horrendous. We threw people's belongings into massive heaps by the curb. I was cold, unattached, unable to sympathize. It was stunning, and I was in shock. We stripped the walls, carried out blistering, moldy antique furniture, tossed family photos and everything else. The night we arrived in New Orleans, Carrolton Street was a dark ghost town with mountains of rubbish and flooded cars piled up in the median, cast in a haunting silvery glow. My aunt's old apartment was flooded, and the roof caved in. I

returned to school regretfully, wanting nothing more than to go back to New Orleans and be a part of the recovery.

Finally, that's what I did. I left school and took off across the country with nothing more than a suitcase and my car. I reunited with some of my old friends. My plan was to live in a volunteer camp for a few months, then to get settled somewhere else. It didn't pan out. Instead I got involved with the local university working in the coastal wetlands and found a home across the lake from New Orleans. I had made a few close friends in Louisiana, people that Kayla introduced me to, and one of them, in turn, introduced me to Seth that summer of 2007. I thought him a strange, quiet fellow, but I was told that we had much in common. I had no idea that by the next summer we'd be married. That's a story for another time.

For decades, the land that Seth and I now live on supported a herd of dairy cows. They @

were later replaced with a herd of Black Angus cows and a giant bull nicknamed 'Nemesis.' A quick aside: we call this land 20 acres, but it turns out that it's only 17.4 surveyed acres. This property is where Seth's great-grandfather tinkered with organic gardening, learned how to compost, raised 3 kids alone after the death of his wife, and dealt with the trials of life in a house he built himself in the 1950's. Of course, his life was not much different than many Americans during that era. He did what was necessary to survive.

Figure 17- My son in 2009 with his great-great-grandpa, a lifelong gardener.

When I moved on the property in 2008, Seth's great-grandfather, still alive at the time, decided to sell the entire herd to a neighbor. They moved to the other side of the fence, where the grass really was greener (because it was planted in rye over the winter and our sleepy Bahia grass wasn't yet awake.) Removing the cattle from the property turned the place into a jungle of opportunistic vegetation.

Seth and I bought a trailer and moved on the hill in one of the old pastures. We officially established our homestead site on one acre in the spring of 2009. Though we only had one acre of our own, the rest of the 20 acres was easily accessible to us and I always viewed it as part of our homestead. Little did I know, I was nowhere near ready to begin managing 20 acres of land without livestock to help with vegetation control. Seth's father brought this up constantly, but in the early days, I brushed off his warnings as pessimism. The tangle of blackberries, Chinese Privet and Chinese Tallow Trees grew to make most of the forest impas@

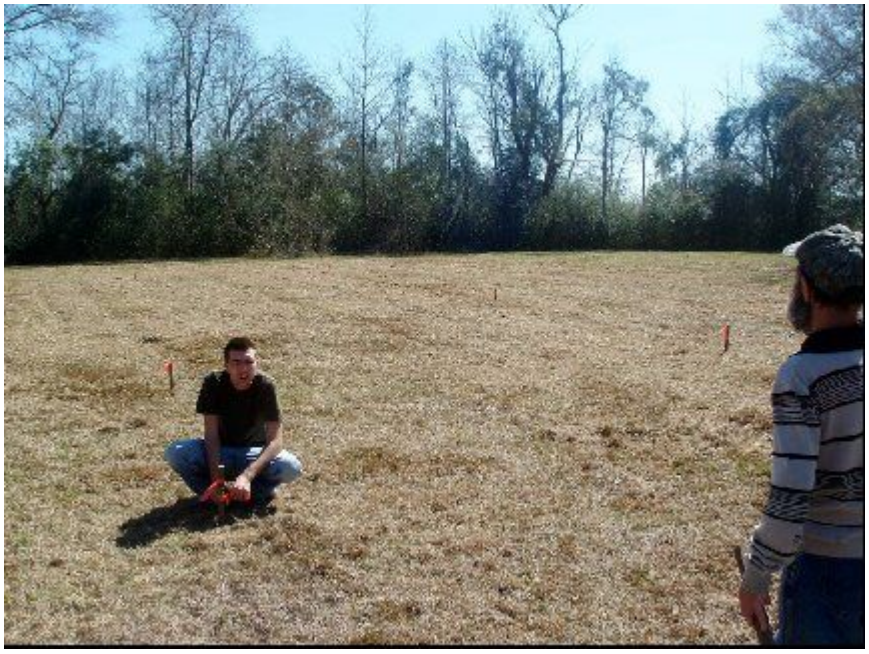


Figure 18- With the help of his uncle, Seth marked the site where we'd set up our trailer.

I aspired to be a farmer. The good old vocation of farming was something that my ambitious young friends in college, and I myself, all seemed to think was ready to be reclaimed and refashioned by an eager youth. I admired people like Seth's grandfather, whose work on the farm kept their families fed during hard times. That's something that I thought all people should do, and that we'd be much happier for it.

When I actually ended up on the farm, I had a squirming little baby who I feared overexposing to the hot Louisiana sun. He would toss off his sunhat whenever I put it on, and wouldn't stay in one place for long if I lay him on a blanket in the yard (not to mention, fire ants!) Then I suffered a few instances of heat exhaustion myself. I quickly realized that I had no idea what I was getting into.

I asked myself constantly: "*How do people do this?"*

Well-meaning survivalist friends offered some suggestions about how to homestead with a 6-month old baby.

"Get one of those backpacks to carry him in--"

I already had one…

"Cover him with sunscreen—"

But it's the heat that's the problem! I thought in protest.ily accessible ouur

In retrospect I might have bought a nice stroller with a good shade visor to set him in while I worked, but I was on a strict budget and it didn't include those kinds of things. That would have only lasted so long anyway. He soon began to squirm in the backpack, forcing me to set him free. He would have escaped a stroller if I had one.

He cried whenever it suited him. "*I have to grow food for us to eat!*" I would argue, but he didn't care. How can people raise kids and raise food at the same time?

Figure 19- Traveling around the property with an infant in a pack was a normal part of life for the first two years.

For the first few years I continued to imagine that we'd buy a few cows of our own and keep them on the property for milk. We'd probably slaughter the bull calves after their first year, though the idea of killing a large mammal still freaked me out. I assumed that when the time had come to do it, I would be ready—a flawed assumption, at best. We'd have goats at the very least, and they would work hard for us to clear the brush from the property and make it nice and pastoral again. The question was always about how far out we would expand from our solitary acre, rather than how we

would creatively limit our reach to the one acre that was actually ours. I had even set my sights on the 75-acre swamp to the east of us, the swamp I feared my neighbor's would lose after their dairy went out of business, and the 30 acres to the west, with the Holstein dairy cows, that provided the scenic views that crowned this place as authentic countryside.

Today, wondering how far we could expand our homestead across the landscape surrounding us seems like a silly question of clueless privilege, and it is. As the years passed, my stubborn vision of bringing livestock back to the property began to wane. We kept a flock of laying hens that ranged freely in our pastures (and even in the gardens), but between the chickens, dogs, a growing child and a vegetable garden, I realized I had enough on my plate. My 20-acre dream transformed into a desperate struggle to keep animals out of my garden and to keep pushing the weeds off of our acre. I finally admitted to myself, about 3 years text-align:center" aid="liurafter we moved here, that I was barely keeping half of an acre. The 20-acre dream and the 105-acre expansion that I envisioned were just fantasies blowing away in the wind, destined to disappear on the distant horizon.

It slowly dawned on me that this lifestyle is not the kind of thing that makes for a good, voluntary, counterculture fashion statement. Austere homesteading, essentially subsistence farming, is something that you only do either when you must, or when you have a pathologically rigid set of principles. I don't mean that homesteading is all based on unrealistic fantasies, but there sure is a lot of room for misconception about a lifestyle foreign to most Americans. After all, this is not something my mother or my grandmother actually did. They were poor during some periods of their lives, by American standards, but as far as I know they never lived at the subsistence level. If they did, the memories were so well suppressed that I never heard an instructive tale about how to handle a young family as a subsistence gardener.

What I do remember from the stories of my grandfather's youth —stories about his grandmother reattaching a severed finger with a bit of wood ash and a rag wrapped tightly for a bandage, or her

dangling the children over a hot bath of boiling onions to therapeutically treat pneumonia—were difficult to translate into a modern context. Even in my childhood, my grandfather often had us take a whiff from a whiskey barrel to address our breathing troubles, or apply castor oil liberally to any unusual skin ailments. Still, I hoped that if *I* ever severed a finger, there would be an experienced doctor somewhere nearby who could reattach it for me.

Seth's great-uncle, born and raised on the property where we now lived, had a number of old homesteading tricks to offer. By most standards, he was a homesteader himself. He lived most of his life on a meager income, making ingenious use of the material goods available to him—mostly remnants of his father's 1950's-1980's homestead. He helped us set up our early gardens, using all manner of twisted metal pipes as stakes and wire to keep out the chickens, and offered valuable advice on transforming just about any scrap or leftover into some useful purpose. I grew wary of his advice when I nearly poked out my pair of eyes on the stray wires from the fencing he helped us construct (very sturdy fencing though, I might say), and I scratched myself bloody when digging in the raised beds that were staked with twisted-off segments of old, aluminum television antennas. Before my son was old enough to walk, I had to deconstruct most of the fences and gardens for safety reasons, and then start over.

Other than catastrophic, backcountry medical issues, and training in haphazard reuse of old building materials, there were no heirloom tricks-of-the-trade to make the task of homesteading easier, nor any age-old anecdotes to reassure me in my striving for a ily accessible ouurtraditional way of life. No, I was all on my own. I had to adopt a different approach: training myself in one skill set at a time, and not trying to do everything at once. Seth and I each worked off-and-on at various part- to full-time jobs to bring in an income, and I went back to school in order to increase my earning potential (and I learned a few things in the process!)

Figure 20- Seth proudly completed his first garden bed with the help of his uncle. The wire and stakes were reused metal pipes and other sharp objects. Eventually, we had to pull out all of the metal and start over.

Today I don't have any plans to take over a large acreage, work from dawn until dusk and live the good life from the seat of a John Deere tractor. In fact, I'm still resisting the purchase of a tractor at all. I'm also starting to pull away from my original vision of farming a large tract of rural land. The allure of a self-sufficient homestead that can help me survive the apocalypse, or in survivalist terminology: a "SHTF scenario" seems more like a game than a real-life ambition. I've been looking over my urban neighbor's fences with envy, not wishing that I had more land, but to the contrary, yearning for their small, contained yards with well-defined boundaries. *I* want clear boundaries. I want a small space where I can focus. I want to feel the creativity that comes along with space limitations.

I might be a sell-out, but many permaculturists are starting to realize that small-scale urban (or suburban, or semi-rural) production is a good idea for most of us. We're dependent on the communities around us for a lot more than food, and the most pragmatic approach requires first investing in your own security, and then investing in your community. You can invest in your own security by growing

healthy food at home, cheaply and easily, thus saving money and supporting your health. The second part is as important now as ever. When you've learned to produce food of your own, consider how you can help your community become more self-sufficient. Self-sufficiency is not just about surviving doomsday, but about surviving natural disasters and being more independent from the globalized economy. All sorts of daily catastrophes have the potential to undermine a weak community, or to empower a strong one.

Now that I admit that my tractor-free homestead plan and insistence on a slow, essentially debt-free lifestyle restricted us to only about one acre of property that we could ily accessible ouurfeasibly manage, I feel like I've joined a much larger group of people who are trying to homestead on small lots across the globe. I call this *One-Acre Homestead* of mine a type of "Americana residential permaculture" because the issues that I've discussed are values, politics and limitations that apply most specifically to the American culture I've grown up with. The 1-acre lot speaks to, in my mind at least, today's hybrid "American Dream" where owning a single-family home on 1 acre is a good enough symbol of middle class success for most of us. It's just a stretch beyond the typical, quarter-acre suburban lot, but well below the 160 acres of the Homestead Act era.

I've started adopting permaculture practices in my gardening and animal husbandry, in order to respond to some of the challenges that we faced on the land. I still use most of the land to collect acorns and pine tree transplants to bring back to my lot, and I get a few bales of hay every fall for mulching when my neighbor comes to cut and bale the pastures. Other than that, the majority of our lives take place on about 1/3 of an acre. This is where we plant, play and watch wildlife visit the gardens. We grow most of our own food during some seasons, slack off in others, and make a decent living by participating in our unusually healthy local economy.

The ups and downs of losing flocks of animals to predators, losing beds of produce to pests or disease and struggling through a scorching drought are all things that we have to deal with year after year. This is where permaculture principles come in handy.

Permaculture doesn't demand that you go out and buy every gadget you think you may need, but instead urges you to make keen observations, use those observations to respond and plan ahead, and diversify your farm and your income in order to become more resistant to season-by-season fluctuations.

The way Seth a significant portion ofen11 and I live intentionally deviates from the consumerist, mainstream middle-class of America. Yet the differences, it turns out, are not all that great. You may be thinking that homesteading should be *much* different from the typical American lifestyle, but when it comes to the things that matter, we're all pretty much the same. I think a lot of people in America's middle and working classes want to grow a garden and become more self-sufficient, whether they are in a position to realize that dream or not. When I travel across the southern US, I see a lot of homes that already have small gardens in their yards. Many people work for low wages, have no access to credit and are accustomed to limiting their expenses out of necessity. Modern homesteading and living debt-free by choice demands a similar kind of lifestyle. Except for those who have access to substantial resources or a solid plan to continue building their financial resources, most modern homesteaders will have to contend with challenges that are everyday realities for America's working poor. This is something that I realized very early on.

With our earnings from work and combined assistance from family and other sources, we still lingered well below the poverty line those first few years. Before I embarked on the homesteading approach to life, I had time to consider several alternative paths, none of them yet tested. The presentation of these different options made it seem like a personal choice. In that way, I'm different from many people who've fallen into poverty with few other options, but the fact that it was a choice from the beginning didn't necessarily soften the blow. Life in poverty can trigger health problems, regardless of a person's background or current health status.

I went through nearly two years of depression, beginning with my son's birth. I dealt with anxiety, agoraphobia and other problems, all without health insurance (and an unhealthy fear of doctors

anyway.) Some of these things were there to start with, as I recall from my high school days, but in other ways the experience of raising a baby and trying to start a strict homestead put more pressure on me than I needed.

Our first year, was a rough year. While I was back in Virginia just after my son's birth, I learned of the tragic death of my former co-worker from the locksmith crew at my college. A month later, my best friend from childhood lost her father to complications from diabetes. I went to her side to offer support, only to realize that I was in such pain and so vulnerable myself, that I couldn't help her. We moved to our homestead shortly after that, and I hoped to start anew. Then there was more bad news. My friend Kayla was missing. Her mother searched frantically for 3 days, looking for anyone who may have known where she was last seen. Kayla's body was found floating in the Mississippi River. She had drowned. I was devastated.

Figure 21-Self-portrait of my dear friend Kayla in a field of Black-Eyed Susans. She was a beautiful, poetic soul. October 2008.

That year my father started treatment for a life-threatening health condition. A year later we had the Deepwater Horizon disaster. It seemed like blow after blow of bad news. A general sense of dread darkened the early days on the farm. Somehow I

managed to remain fairly productive during those times, when the acute symptoms of depression occasionally subsided. Maybe it's just me, but the isolation I forced on myself in the early years of homesteading only intensified the pain and the grief.

The similarities between austere homesteading and poverty, especially for people without any savings or inheritance, are painful and real. Examples of serious health emergencies and the poverty that faced the original Back-to-the-Land movement in the 1970's are well-documented in Eleanor Agnew's *Back From the Land: How Young Americans Went to Nature in the 1970's and Why They Came Back*. Not being able to seek treatment for very debilitating psychological illnesses like runaway grief, depression or alcoholism can be aggravated by the isolation of a rural, homesteading lifestyle. Setting unrealistically high expectations can tear you down as well.

These realities have brought me closer to accepting a kind of hybrid, middle-class homesteading that can be accomplished on a smaller scale than what Americans often envision in their "back to the land" dreams. Since the dark, by circumstance, early days of my homesteading experience, I have been hesitant to draw a clear line to distinguish the lives of homesteaders from the middle class, as if one path was right and the other clearly wrong. There are benefits and sacrifices to both paths, and everyone has to take or leave what is right for them. The goal of many homesteaders is simplicity and wellness. Never lose sight of that in your journey. Take care of yourself.

HOME ECONOMICS

Few public schools these days offer classesot to mention/fall in home economics, and very few universities offer a four-year degree on the study of keeping house. Exceptions include some religious schools across the country, notably BYU. You can still find vestiges of home economics programs in the university curriculum. A university near my home offers a program called Family and Consumer Sciences, which offers the basics of nutrition and child development, social sciences, etc., but the program has very little to offer by way of personal finance and time management tips for running a household, much less a working household with a small business or small farm attached. Instead, the optional concentrations in industrial textiles, fashion and other consumer topics drifts away from the traditional foundation of the home. Many people see home economics as a frivolous and outdated curriculum in a globalized economy. This troubles me.

Looking to public schools and universities to invest in household economics education is a mistake, indeed. I understand that. Public education has a mission: to serve public interest. The public interest in our modern capitalist society means, above all, a single-minded focus on national economic goals, namely GDP/GNP growth. Young people in school are being trained to contribute to these national economic standards, both as consumers and as potential employees or business owners. To a lesser extent, students are there to boost US ranks in international competitions over who has the smartest kids—another way to boost our world economic standing.

This attitude trickles down. Now parents truly seem to believe that their children must measure up to these national standards, first and foremost, or something is wrong. Many parents are afraid to homeschool their children because they fear the requirements they have to meet to prove their children are learning. Children learn no matter where they are—it's the very nature of children. In essays by John Taylor Gatto and Wendell Berry, the point is clearly made that what children learn at home is far more valuable in their daily lives as adults than what they learn at school. The most foundational skills of

relating to people across generations, and contributing to the care and maintenance of the home come from the home and the nearby community, not from schools. Many kids who spend their days in school building, socializing only with other people their own age, end up sorely lacking in fundamental life skills.

Parents work with our kids on a much more personal scale than the standard-setting government, and we have a unique opportunity to make a meaningful difference by breaking from the norm. Speaking for myself here, I know that public school can be detrimental to the health and growth of a child. Rather than making me more open to other people, the trauma of peer group socializing, bullying and other anxieties commonly chalked up as the typical adolescent experience can stunt the emotional growth of people. After so many years of insecurity, I only learned to gain confidence after leaving the public school system. It is more important for our kids to understand how to clothe and feed themselves, complete small chores, earn an income and run a house than it is for them to learn most of the things they are taught in their early years of schooling. I'm not saying everyone has to homeschool, but there is a strong argum introduced me to Sethprurent to support homeschooling where it's possible, and many homesteaders with young children will at least want to consider this option.

The government cannot focus on your household, and so they consistently fail to support the best interests of the home. If we accept the national model of what success looks like, then we cannot focus on our households either. I hear people repeat that shopping and spending money is the "right thing to do" and that "things will only get worse" if we stop shopping and start saving. I actually heard someone say this, very passionately, on the news recently. She was a young woman who apparently bought into this rather perverse justification of helping others by helping yourself-- shopping for the good of all. It is an example of the explicit buy-in of Adam Smith's principle of the "invisible hand," from his guiding document An Inquiry into the Nature and Causes of the Wealth of Nations, upon which modern economics is founded.

It doesn't matter what you buy, just do the shopping. That's the idea. Faithful shopping as a do-good objective, is almost like a tithe offering for the furtherance of globalized trade. If it's good for the economy, then it's good for you—right? Shop now and, children, you will be blessed. Americans are trained to be ashamed of themselves if they don't have salaried jobs with benefits and other big status indicators. Are we now at the point where we must be made to feel guilty for not shopping during the biggest shopping season of the year? If you ask families who have opted out of the commercial gift-giving tradition, you'll probably hear that the answer is a definite "yes!" People think you're stingy or just plain weird if you don't often go shopping.

I do not mean to imply that capitalism is wrong, or that home economics has no place in a capitalist society. It's just that home economics is one of many things that is overlooked by the parameters us~ in the 11ed to measure economic success of the nation. The statistics that come from the top down cannot reasonably applied from the bottom up in this system. A government that demands production and consumption on an endless cycle of growth undermines the very notion of household security. Growth and stability are at odds with one another as long as more human and natural capital is required to generate growth. In the end, you're left to your own devices when it comes to fighting for the integrity of your household. As an alternative to the growth of financial and other types of capital, we can focus on the growth of human capital—education, community and security as valuable investments for our homes.

It is an unquestioned cultural assumption in developed countries that your food will come from the grocery store, and all of your household supplies will be brought in from some distant source. In his essay "Feminism, The Body, and The Machine," Wendell Berry observes,

> *"The modern household is the place where the consumptive couple do their consuming. Nothing productive is done there. Such work as is done there is done at the expense of the resident couple or family, and to the profit of suppliers of energy*

and household technology. For entertainment, the inmates consume television or purchase other consumable diversion elsewhere."

Home economics is not a slap in the face of feminism. When it comes down to it, nearly all of us could benefit from the archiving and sharing of traditional homemaking knowledge. I, personally, side with Wendell Berry and other authors, who assert that the home is the basic economic unit—the foundation on which the rest of capitalist society is based. If we cannot invest ourselves in our own homes, then where are we headed as a soci">Final Thoughts In truth, the concept of home is gender-neutral and universally desirable. The home should function well as a symbol of security. While security is never guaranteed, an insecure home is no good place to be. Home economics is, at its very basis, the study and practice of making a secure and functioning home.

The Basics

When most people hear the term economics, they automatically think of money. Money, cash, financial capital, liquid assets-- whatever you call them, these things are *not* the foundation of home economics. Instead, other types of capital: labor, time, natural resources and even intangibles like religion, love, and again, security, all contribute to household well-being. Economics is merely the balance of the different elements that contribute to livelihood. The necessity for cash capital can increase or decrease depending on the availability of other types of capital. I think this concept is pretty well accepted, even if people don't think of this as economics. The less time you have, the more help and processed goods you need, so you need cash or other barter to pay for help. On the other hand, if you have the time, you can often use cheap, raw resources to make goods, and you can spend your time laboring instead of paying someone else to do it. Most people understand this.

When you work 40+ hours a week, you exchange your time and labor for money and in turn, you expect to invest that money into your home. This exchange only makes sense when the value that you get out of it is greater than what you put in— and again, not necessarily monetary value. If you could work 20 hours a week to make enough money to pay for your necessities and things you can't do on your own, and the extra 20 hours a week goes to making surplus discretionary income, then first 20 hours is most valuab">Final Thoughts to you. The benefit of the first 20 hours exceeds the benefit of staying home if it means you can keep your basic bills paid and save a bit for future hardships. The extra 20 hours of work has a *declining marginal value*—meaning the pay you get per hour contributes less and less to your household for every extra hour that you work. You end up spending that money on consumer goods, impulse buys and things that don't add any value to your home. You can't justify this waste by saying "well, at least I was helping the economy." If you're not maximizing the value of your home and your earnings, then you're not maximizing your contribution to your community's economy.

In economic terms, *declining marginal value* means that every extra hour of work provides less benefit than the previous hour. This is especially true if you have other ways to use your time. If the other things you'd do with that 20 surplus hours a week have profit potential, then there is a monetary **opportunity cost** for working an extra 20 hours per week. The opportunity cost is the lost profit from other ventures, and should be subtracted directly from the monetary compensation for those 20 hours per week. Since your household has other types of capital, like health, love, joy, security, religion, etc., the lack of time to invest in these areas of your life are also costs. You can't quantify these things in terms of monetary value, but in microeconomics, these are your nonmonetary benefits. I'll come back to this concept in just a moment.

There is another way of looking at the monetary benefits of your day job. In *Your Money or Your Life* by Vicki Robin, Joe Dominguez and Monique ">Final ThoughtsTilford, the authors encourage you to add up all of the expenses associated with getting to work, eating lunch on-the-go, buying entertainment to "decompress" after a long day of work, and all those extra hours you spend worrying over the job while you're at home. If you add the costs of all of these things, then subtract them from your income, divide by hours worked (including hours wasted thinking about work), then you will find your real hourly wage. This method is also promoted by Anna Hess in her excellent book *The Weekend Homesteader*. The results of this exercise can be unnerving if you've never considered your real wage before, but it can also be uplifting if it helps you to realize that you can cut back your work hours and get *more*, not *less*, out of life. Before you do that, you can try to cut back on each of the individual items that take away from your real income. Spend less on useless or habitual purchases that seem to go along with your employment. Tell your coworkers or your boss that you're saving money and can't go out to eat at restaurants. Reclaim your time at home. Inform your boss that you won't be available to check email or receive phone calls while you are at home.

Alternatively, some economists also encourage people to look at the nonmonetary benefits of their jobs, and contend that this possibly

increases your real wage. If you hate your job, you can say the nonmonetary benefits are close to zero, but if you find it fulfilling to do the work you do, then perhaps your nonmonetary wage will balance out with your real wage. Work isn't all bad, after all. Many people love to work, as long as they feel that they are staying true to their values and balancing work with home. It's a very personal choice. With that said, much of the rest of this chapter will focus on strategies for helping people who want to reduce their work hours outside of the home.

Low Income Homesteading

One question that folks have regarding the homesteading lifestyle is whether it is possible for people living below the poverty line to achieve self-sufficiency. Or is homesteading just a middle and upper class endeavor—a dream reserved for people who have the resources to pull it off? I remember a friend of mine arguing with a business professor in college about whether people could live well making $10,000 a year or less. The professor claimed, emphatically, that yes it was possible. In fact, he had done it. Ten years before, when he was teaching at a small school somewhere, he was able to make ends meet with a $10k income. He was married at the time, and didn't mention his wife's income (I assumed she had none). Then it came out that he was not paying for housing costs during that time. Well that certainly changes things, doesn't it?

My husband and I have lived below the poverty line for the duration of our marriage. We're doing well now because our trailer is entirely paid for, so we have no housing costs. Of course, in the beginning, we were paying a note that's just over 50% of our current monthly income. At the time, our income was even lower than it is now. We had some help from family, but in retrospect, I am amazed that we got through it. Yet, that usually happens. People get through it.

Even though I've got the experience, it would be presumptuous for me to claim that everyone who's living below the poverty level today could simply replicate what I did and then come out ahead. Our note ate up more than half of my husband's minimum-wage income, but the note was still pretty low. Next to getting a free home, moving into a used trailer on family land is just about the cheapest thing a person can do, even when you have to pay setup costs (well, sewer, etc). That's what we did, and our loan was paid off within 4 years. Unfortunately, not everyone has access to family land.

The best advice I can offer to low income people is to stick to the basics and save what you can. Put money towards your savings first. Create a modest emergency fund that is reserved for real emerg the rock retaining walll11encies. Pay off your debts as quickly

as possible to avoid outrageous interest payments. If you have no debts, try to save at least 10% of whatever income you do have as an investment in your future. Then stick to a very strict budget. Make sure your family and friends know that you can't afford to spend on social events or holidays. Ask friends and family if there is anything you can do for them that doesn't cost money in exchange for financial help that is not considered a gift. Accept gifts with grace, and make a commitment to help others in any way you can. If you are unemployed, use volunteering as a way to make connections, build your skills, help others, and to get your mind off of your situation.

You can make a little bit of money stretch a long way in gardening. There are plenty of free advice columns floating around the web that offer information for taking advantage of free and cheap gardening supplies. Seed swaps might be one of the best ways to begin your garden. You don't always have to bring your own seeds to a seed swap, but it's a good idea if you can. If there is enough to go around, you could come home from a single event with everything you need to begin a decent fall garden and start improving your diet. If you don't have land of your own to use for a garden, ask a local church or community center if you can use some of their land. You can meet many people this way and learn a lot.

In the area of finances, you're in a bit of a pinch. Taking public assistance might seem shameful to you, but it's worth it if you can come use it as leverage to pull yourself out of a bad financial situation. This is what these programs are meant for. Don't feel ashamed if you need help, but be cautious of growing dependent on this kind of help because it can easily undermine your goal of self-sufficiency. If your ultimate goal is to grow your own food, then try to use assistance to help you buy staples and get through the transition, then make a plan to get off of assistance when you've become a better gardener and have achieved a well-rounded diet by growing your own food. Granted, it's easier said than done. If you absolutely reject the idea of public assistance, you can still find help from local charities that take voluntary donations. That way, you do not have to participate in a system that uses mandatory taxes for

funding, a system that many homesteaders are uneasy with, and perhaps for good reason.

Healthcare is another topic that I'll get into later, but it has come up recently since the US government has recently mandated everyone be attached to a healthcare plan by 2014. Opinions among homesteaders vary widely on this, with some saying it's a great thing if it's subsidized—now that's one less worry on the homesteader's plate—and others arguing that taking subsidized healthcare is a cop out. There's no cut and dry answer in this debate. If you can find a free clinic or free healthcare programs, use them. Your health is one of your most important assets. Most states offer programs that provide basic preventive services, including women's@ in the 11 health services and family planning for low-income women.

I've talked to single mothers living in urban areas who simply cannot command the kind of wages that would get them out of poverty and moving toward financial independence. Nevertheless, many of these women find amazing ways to make ends meet, often taking on small jobs and paying close attention to every penny that comes in or goes out of their household. The notion that low income people don't know how to ration their money is a myth that I have trouble believing. The fact is, people with limited resources are often much better at managing their resources than people with abundance. The simple fact that money isn't pouring in says nothing about someone's ability to manage the little bit that does come in.

Historically, many homesteading pioneers were young women and single mothers who leapt at the offer of free land from the government. These women simply had no other way to own land. In fact, married women were still subordinate to their husbands, and could not even apply for homesteading land of their own (UNL)[1]. Though modern people calling themselves homesteaders often decry government assistance, claiming that it undermines the notion of self-sufficiency, the very foundation of the homesteading movement in the US is the government's offer of land to anyone who would settle it. All you had to do was work the land, prove that you really wanted to settle it, and it was yours.

Land is much more expensive and much harder to acquire today —and where it is cheap, you often have to buy several acres at once and it may not be suitable as a home site. If you've already purchased an acre, or you are planning to, your costs are most likely going to come out of pocket since there are no more programs like the Homestead Act that acknowledge land as an invaluable resource for people seeking self-sufficiency.

This is exactly why most people only dream of self-sufficiency post- introduced me to Sethprurretirement. There is simply no other time in life when many people from the lower and middle classes can even hope to have the kind of cash to buy their own land outright. The exceptions are for those who are willing to jump into a long-term commitment with creditors. Unfortunately, even with the high cost of housing, government housing assistance is seeing far too much demand compared to the supply. In New Orleans, public housing has been sold to developers and the low-income residents left to fend for themselves. It was shocking, but not surprising, to take a train trip across the southeastern US and to see an outrageous number of makeshift camps set up where families were living. Yes, here in the US, children and families are living under stretched tarps by the railroad tracks. Now that *is* a shame. While poverty is a problem every society will deal with, a community that sets priorities on the welfare of all of its citizens can do much good in eliminating the most desperate symptoms of poverty.

If your goal is self-sufficiency and you dedicate yourself to that goal, leveraging your income and any other resources available to you is not a shameful thing by any means. Using programs that are available to improve your circumstances can give you a little bit of extra time and breathing room you need to get ahead of the game and start building toward self-sufficiency. Work hard, do what you can, and don't feel ashamed about your situation. There are many, many people out there facing similar struggles.

Taking the Leap: The Middle Class

It's much easier to point out the potential excesses of the middle class than it is to wrestle with all of the factors that sink people into the lower class and keep them there. Since many families in the middle class are treading water, it's critical for them to prioritize their spending and avoid the flood of advertisements that threaten to send them off course. This includes ignoring the admonitions from our@ in the 11 government officials to shop more to save the country. Shopping more isn't going to get anyone anywhere. Shop better, maybe, but not more.

On the other hand, a lot of folks in the middle class feel fortunate to have stable jobs, and when the opportunity comes to work more, they often take the bait. Work more, earn more money, and presumably gain more security, right? It doesn't always work that way. As I described in "The Basics" section, more work doesn't always lead to more value. If you have set goals for yourself that definitely require more income, then by all means find ways to secure that income. However, there are other ways to find security besides just getting more money. There are *better* ways to make your home more secure. In his essay Enough is Enough, Joel Glanzberg reminds us of the importance of conservative resources. He says "it is always cheaper to conserve energy and other resources than it is to produce them." This is true when it comes to financial resources as well. It takes less of our time and energy to save what we have than it takes to earn the equivalent value at our jobs.

One of the best ways to get started is to assume a fixed 10% of your income should go to savings. Put this 10% toward savings every single month, before paying for anything else. Adjust your budget accordingly. Then set goals for your savings that can increase the value of those earnings. I don't just mean spending goals, but consider investment goals as well. Do you know how much savings you would have to have in the bank in order to live off of the interest only? Most corporations, universities and non-profits have an endowment that enables them to use interest funds

exclusively, never spending the principal value of the endowment. Families should consider building assets like this, as a long-term goal if nothing else. If you do the numbers and realize you may never acquire enough in savings to fund 100% of your monthly expense, then set a goal to fund a smaller percentage.

Alternatively, if you're interested in running a home-based business, set business goals that you can fund with your savings. Though business has its risks, knowing @ in the 11you are working toward something and the money you are using is saved and not borrowed can make a big difference in the probability of long-term success. Savings should be regarded as investment funds, not simply funds for the big ticket purchases, the *degenerative expenses*, that you yearn for.

If you're afraid that you can't afford saving that kind of money, or that you'd need a part-time job in order to start saving, consider this hypothetical example:

Clara is my middle-class alter ego. She really wants more out of life. She likes her day job well enough and has a regular income, but she wants to save more money and then start funding her homesteading dream. Clara's budget each month matches her income exactly, but she's stuck in a rut and wants to save up to gain more financial independence. She has to start with a goal. Her first goal is to save up the oft-promoted emergency savings, which is at least 3 months of her current expenses. Right now, she makes $2000 a month and spends $2000 a month. She needs to save $6000 over the next few years to meet her goal. She hasn't been living lavishly, and is afraid of feeling deprived if she cuts back on spending. She skips looking critically at her expenses and assumes the best thing she can do is take up a part-time job.

She considers working an extra 10 hours a week at a part-time job that pays $10 per hour. She'll pay 15% of that in SS, Medicare, and income taxes. After taxes, she can save $85 a week introduced me to Sethprurin exchange for 10 hours of part-time work. The job is about 7.5 miles from her home. Driving time (30 min total with traffic) and mileage (15 miles roundtrip) add up to costs of about $5 for the half-hour at a full wage, and about $1-$2 in gas. That's $7 for each

trip to her part time job. Her 5-hour shift means she's doing at least 2 of these trips a week. She realizes that her real wage, after factoring in taxes and other costs, comes out to only $7.10 per hour. She's actually only making $71 a week for her saving, and she's giving away almost two hours of her time at the full wage each week, due to taxes and other costs associated with getting to work. At this rate, she can save her emergency savings in roughly 22 months—but that's only if she can be disciplined enough to not spend any of the extra income at all during that time.

Instead of giving away an extra 8 hours a month for two years just to build her savings, s associated with getting to workliurshe decides to revisit the expenses side of her balance sheet. She realizes she can cut her weekly shopping trips to just 1 trip per week. A 30-mile, roundtrip journey through town costs about $3.25 each trip in gas (as of the end of 2012). Currently, she goes to town about 4 times a week, meaning she spends $13 a week on gas just to afford these trips—that's money that she doesn't need to spend. Chances are, at least a few trips led her to spending more than she budgeted on impulse buys. Fortunately, she's been keeping her receipts, and she's found that in one week alone, she spent $6 on several coffee drinks, $2 on a granola bar because she forgot to eat lunch, and she bought a few items worth about $25 that she didn't really need.

If she adds that $33 of shopping expenses to the $13 spent on gas, she has already found room in her expenses to save $46—the best part, money saved is tax-free. That's equivalent to about 6.5 hours of part-time work at her real wage. When she factors in the time spent driving-- at least 30 minutes per trip when traffic is good, and at least 30 minutes shopping each time, the she cuts out 3 unnecessary trips (but adds an hour to her 1 weekly trip, because it takes longer to get everything she needs~ in the 11). This gives her an extra 2 hours a week. She has found savings of 2 hours, and $46 in cash. Let's imagine that this is her average weekly savings if she cuts expenses.

This seems really simple, but I'm convinced that a lot of people just don't think about the cost of all of those little trips to the store,

especially if the trips are to pick up supplies that unexpectedly went low—necessities, right? Learning to plan ahead saves you time, and the time you save can be leveraged to plan ahead for your next trip. By following the simple advice of Cheryl Mendelson in her book *Home Comfort: The Art & Science of Keeping House*, my husband and I have learned to plan ahead and limit our shopping trips to one per week. It has saved us a significant amount of money, well above our 10% savings goal.

Opportunities to buy in bulk and supplement food from your homestead can lead to even fewer trips if you take the time to plan. Some homesteaders claim that they need to go into town once a month or less, and then, often only to get maintenance supplies and fuel. I try to plan to make trips to the library, the post office, and anywhere else on the same shopping day. If you live near town and have the option of biking or walking, lucky you, for you won't have to worry so much over fuel costs.

The trick to limiting your trips to town is that you have to know your household well enough to know when things are running low. One thing that has been tremendously helpful for me is simplifying our meals and keeping receipts for any toiletries or groceries we purchase. Then I track how long it takes before we need to stock up again. It sounds time consuming, but it can be an excellent opportunity to prepare for managing a small, home-based business, if that's your dream. Not only that, but planning ~ in the 11ahead always saves time and money in the long-run.

Let's go back to Clara. Saving $46 a week in her budget reduces the size of her emergency savings, because remember it is based on monthly expenses (from $6000 for 3 months, to $5413 assuming an average expense cut of $195.50 per month). She also has $46 to apply to her savings every week. Since she has always stuck to the basics, she originally decided that there weren't many cuts to make to her fixed monthly bills, but now she's willing to reconsider that. She pays $45 a month for home internet, and always considered it a necessity, but then she learned that her local library has free wireless internet—not to mention thousands of books—and she decides to go without home internet and use the library.

After making this change, she finds that she is able to save for her goal in the same amount of time as she could have by taking on the extra job. She is also going to gain a few extra hours in her week—2 hours from reducing her shopping trips and, to her chagrin, 7 hours of time she was spending unproductively each week is recovered by getting the internet out of her house. Not only did she avoid the 10 hours of extra work per week, but she *gained* 9 hours on top of that, which she can now devote to cultivating her homesteading skills. She also relishes telling her boss that she will not be checking her email from home because she no longer has internet at home. Thus she begins her second journey—trying to convince people that she isn't going crazy just because she is cutting out unnecessary costs. Since she has already found some unexpected savings, she is excited about finding more ways to reduce what she spends without feeling deprived.

Just about anyone in the middle class can find ways like this to reduce their spending without losing out significantly. Instead of assuming frivolous trips to town in your weekly budget, you can budget and save for special trips to do things that you really enjoy. Habitual shopping, "retail therapy" as some of my friends have euphemistically called it, can be a devastating habit for someone looking to be self-sufficient. As Vicki Robin states, money is your life's energy. If you work for wages, money directly represents your time. s associated with getting to workliur

Just as you wouldn't hoard your life's energy knowing you have only a limited amount of life to live, you shouldn't hoard your money fearfully. Hoarding money without a goal is no better than spending without a goal. The trick is to set goals and find a balance that maximizes the value of the money you earn. In permaculture economics, the flow of financial capital in your life is like the flow of energy and other resources through ecological systems. The flow must be maintained, but catching and storing energy for beneficial purposes is encouraged. You can slow the speed of the flow in order to maximize its potential uses, but don't view savings as a never-ending accumulation of money products. Converting financial energy into regenerative types of investments—things that can sustain and

boost productivity, rather than a flat conversion of one resource to another (i.e. money for a final product)—is an ideal use for the majority of our funds. More information about investment types in permaculture can be found in Joel Glanzberg's essay Enough is Enough.

I won't spend much more time on this topic, since I'll assume those of you reading this book are already on board.

Here are a few costs to consider if you want to improve your home economics by reducing expenses:

Nonmonetary costs

- Time spent doing activities that have no positive effect on you or your home, and especially activities that have a negative effect (depressing news, time spent watching TV ads that make you feel inadequate, etc.)
- Time spent driving for unnecessary trips and trips that could be avoided with better plannings associated with getting to workliur
- Time spent in habitual activities—things you do without thinking about them, like surfing the web for hours simply because you haven't come up with something productive to do
- Lost opportunities to gain new skills, teach children, or work on a business idea

Monetary costs

- Potential income lost from not pursuing microbusiness ideas, market gardening, or another potential money-making interest
- Money spent driving for unnecessary trips
- Money spent without conscious intent—impulse buys, restaurants and fast food purchases made simply because no one planned ahead
- Expensive entertainment packages: internet, phone, and TV bundles are the biggest offenders—don't pay extra to bundle and get features you don't need. Better yet, get rid of the plans

altogether. Also watch out for, monthly subscriptions that seem small but add up.

- Paying for retail price clothing and other goods. Always look for second hand items at thrift stores or on websites like eBay, Craigslist, etc. Make sure you're really getting a deal, though, and as always don't buy it if you don't need it. Spending money isn't a savings plan, no matter how good the deal is.

s associated with getting to workliurThere are plenty of other possible sources of wasted income in the typical middle class budget. Besides just looking for cuts, it often helps to add up absolutely necessary expenses—like housing, food, and fuel to get to work-- and find out what your minimum income must be. In this case, don't include assumed necessities, like health insurance, because a lot of people go without insurance. Then add to your minimum income some of the things you absolutely want, but that still leave room in your budget for savings. It can be eye-opening to see how much you earn over what you actually need. If you dream of starting your own business or cutting back work hours, you can use this basic expenses sheet as a guide for your minimal earnings.

If you pay for health or life insurance, consider whether you really need the plan you're paying for. You may find that there are cheaper options that really make more sense for your situation. Some homesteaders opt for catastrophic health insurance only, focus on preventive care (good nutrition and a low stress lifestyle) and then foot the bill for smaller healthcare expenses.

Cooking and preserving at home will help you reduce your grocery expenses even more over time. Obviously, alcohol and cigarettes can be major contributors to your monthly expenses, and it is widely published that habitual use of either of these can destroy your health. Cut these things out for the benefit of your health and your financial goals. Many people think to look at entertainment first when they want to reduce household expenses, but others seem more devoted to the idea of cable, internet and other home services as basic household expenses. They are not. These things are almost always 100% disposable, with the exception of internet if you use the internet for business purposes or live in a remote area. If you live in

a reasonably well-populated area, your library almost certainly has internet. If you need internet once a week or less, you can check it at the library on the same days that you do your shopping.

Aside from dining out, I haven't had a lot of entertainment expenses so I'm at a bit of a loss to estimate the monthly savings from cutting these things out. I know from personal experience that restaurant costs add up quick. When I was working and dining out with co-workers, then taking my family out for meals due to perceived time crunches (the time and labors to be avoided not in the cooking, but in the shopping for food), our restaurant totals could be as high as $300 a month. It was absurd and to be quite honest, I was ashamed of that figure when I finally made myself sit down and do the math.

Based on junk ads I get in the mail, cable TV services seem to always hit at least $50-$100 a month, and even more for fancy add-on services. This, to me, just seems absolutely insane to pay for wLI"> ouurhat is little more than an invasion of your home by a bunch of big ad companies, apathetic consumerism and people with outright violent political opinions. Sitting at home in front of the TV paying for ad-bombed cable channels is not very pleasant, is it? It also drives up your utility costs.

Just get rid of it and put that money towards growing food or set it aside to invest in a small, home-based business that can get you out of the workforce entirely. You won't miss anything by getting rid of cable TV, I promise. If there is a popular show that your friends are talking about and you feel left out, go to their houses and watch the show with them, while socializing at the same time. Bring them a dish you prepared at home and tell them about your homesteading plans. You might find the social time is worth a lot more than the show itself. I don't totally reject television or media. My family keeps connected through public television, the internet and the library. My son has his own favorite shows that he watches. It's not about cutting out media entirely, but ultimately, there are a lot of other activities that are much more pleasurable.

In the end, after a comprehensive review of her spending habits, Clara's life has been much simplified. The table below breaks down the savings she has found.

Expense	*Before*	*After*	*Savings*
Savings	$0	$200	$200
Housing & Utilities	$800	$800	$0
Food	$320.30	$161.00	$159.30[2]
Fuels associated with getting to workliur	$216.25	$161[3]	$55.25
Benefits contrib.	$250	$250	$0
Misc. household	$50	$25	$25
Auto insurance	$80	$80	$80">Final Thoughts
Entertainment	$45	$0	$45
Work-related, other	$238.45	$20	$218.45
Total	$2000	$1697	$303

Since her expenses each month are only $1497 (minus savings), her 3-month emergency fund should be $4,491. With $200

going automatically into her monthly savings, and $303 left over each month, she can meet her goal in a little under 9 months. Assuming her income and expenses remain the same over the following year, the time that she originally planned to be working her part-time job and saving her emergency fund, she can now save up an additional $6,036 to put toward her homesteading dream. She also had extra time each week to practice the skills she will need to make her dream come true. This is a tremendous first step toward self-sufficiency.

Some of you might look at her budget and see some other expenses that you would cut if this was you. Ultimately, we all have what we think of as fixed costs, but many of these costs are actually more flexible than we think. Reducing waste (spending doesn't always equal waste) of the money you already earn maximizes value in your home. Worrying over finding more income when you haven't yet mastered good stewardship of your current income will only lead to more stress and anxiety over money. Chances are that if you can't stick to your budgeting goals now, by eliminating unnecessary expenses and making small sacrifices, then incremental increases in your income will only provide more opportunities for you to waste money. You'll end up on a constant cycle of increased income that leads to increased household expenses-- a cycle that keeps even many high-earning families drowning in debt.

THE DESIGN

This section is devoted entirely to the development of your homesteading plan. It is based step-by-step on my planning process and I hope it helps to give you an idea of what really can be accomplished on one acre. Of course, your regional context, climate, zoning restrictions and other factors will influence how much you can do on your property. The only property types I imagine that will significantly differ from this model will be sites with very dry climates, very poor soils, and properties with very challenging slopes or other restricting features. Unfortunately, these sites are often considered nonarable. Fortunately, there are some incredible permaculture resources for developing sites like these, but I do not have personal experience to draw from.

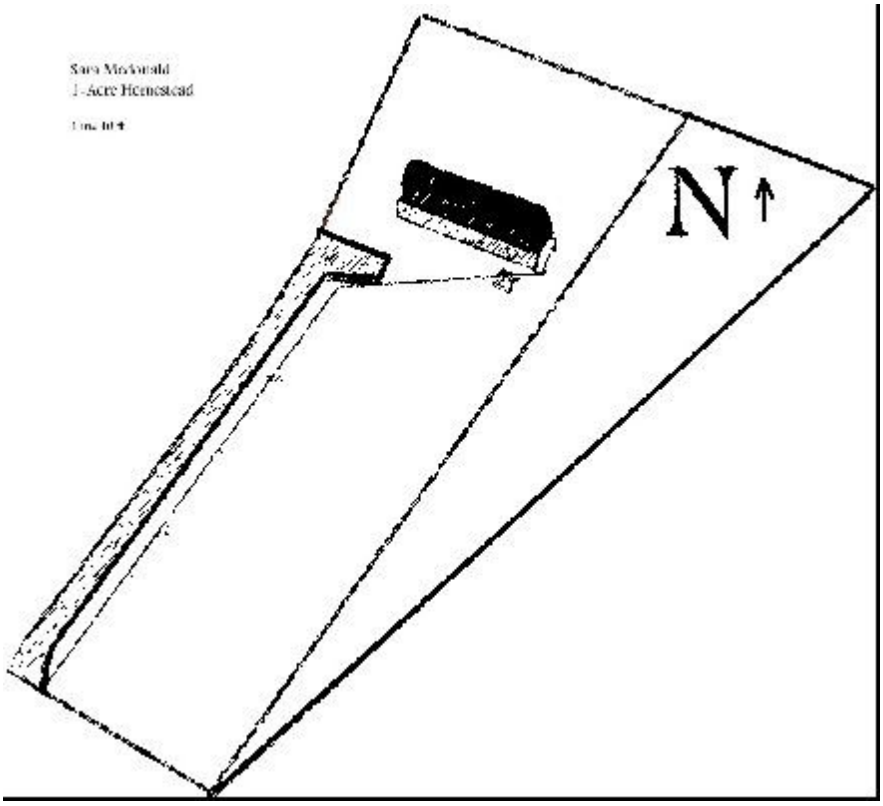
The Base Map

The first part of the design is to develop the base map. The base map includes all of the existing structures and boundaries of your landscape—the elements that limit the design. A base map can be an extremely simple drawing of your property boundaries, but ideally, you want to make it to scale. Drawing your map to scale means that 1-inch of space on paper is equivalent to a certain amount of distance on the ground. Typical scales are 1:10, 1:20, and 1:40. For my 1-acre base map, I made a map that is 1:40 scale when viewed at 100% zoom on my computer. If I converted it to paper, I might use a scale like 1:20, which would give me more room for planting designs. I will also show a 1:20 scale map when I begin to work in zones 1 and 2 (zones will be explained later).

You can create a map that is roughly scaled by marking your property boundaries, buildings, driveways and utility lines using free software available online, like Google Earth, Google Sketch Up and ArcGIS Explorer. You will also want to include a North arrow">Forest Gardening to keep yourself oriented. Directional orientation determines the influence of the sun on your property, and is critical when you are planning a garden. It should be easy to tell which direction is north by using your mapping software.

I kept the natural shadow of the trailer in my base map, since it is always good to know where shade is on the property. I can later measure off this shady area to design a shade house or garden. I included an extra half-acre in this design because it is the buffer of my property. The 1-acre is the long rectangle, while the additional ½ acre is the pie-shaped slice to the east.

Sara Mackenzie
1 - Acre Homestead



Permaculture Zones

Using zones in permaculture is a way to help define space and decide which elements belong where. Below is my understanding of Zones 0-5, originally compiled for a post on my blog *The Wild Homestead*. There is some variation in defining permaculture zones, so if you want to know more, check out some of the permaculture resources listed at the end of this book.

- Zone 0- House, and buildings directly adjacent to the house (not farm buildings). Zone 0 is often overlooked in permaculture designs because if your house is already in place and you aren't planning major add-ons or improvements, zone 0 is not going to change much.
- Zone 1- Zone 1 is typically the home vegetable gardens, and may include a small animal pen (coop for laying hens, or rabbits). Zone 1 gardens provide fresh food for the family on a daily basis.
- Zone 2- Zone 2 is the home orchard. This area may include larger animal pens, like goats or even a milking cow, larger chicken pens (possibly pastures for more intensive production), and it is al~211so where the fruit trees and larger plants are planted. Depending on the composition of this zone, care can vary from daily to weekly or even less often, but should be tended at least a few times a year even if it is a mature orchard, in order to inspect the condition of the trees and keep invaders from getting out of control.
- Zone 3- Commercial production zone. If a family is producing commercial annual crops, tree crops or animal crops, then this production will typically take place in the larger zone 3. Zone 3 is most likely a seasonal zone, where production is only going to be intensive during 6-9 months out of the year, though it could be year-round depending on the crop. In that case, it's probably going to require more attention than zones 1-2.
- Zone 4- Except where conditions prohibit it (such as grasslands and deserts) zone 4 will usually be a forest. The

zone 4 forest provides timber and wood products, tree crops, understory herbs and plants as well as mushrooms and possibly some livestock (turkeys maybe?).

- Zone 5- I don't like to use the term wilderness, but I think most people in the US understand the basic wilderness concept, so this zone is essentially the wilderness zone. It is left untouched (though can be harvested from time to time) and most permaculture authors recommend using this as an observation zone—a place to draw inspiration.

My zone map is pretty straightforward. Around the house, I have the most irregular zone shapes, while further from the house, it is more convenient to keep the zones in a traditional rectangular shape in keeping with the property boundaries. My zones 1 and 2 are already well established. Zone 2 wraps around zone 1 because the border of zone 1 is a natural pathway that I usually follow, which forms a visible boundary between the two zones and ensures that zone 2 gets visited regularly.

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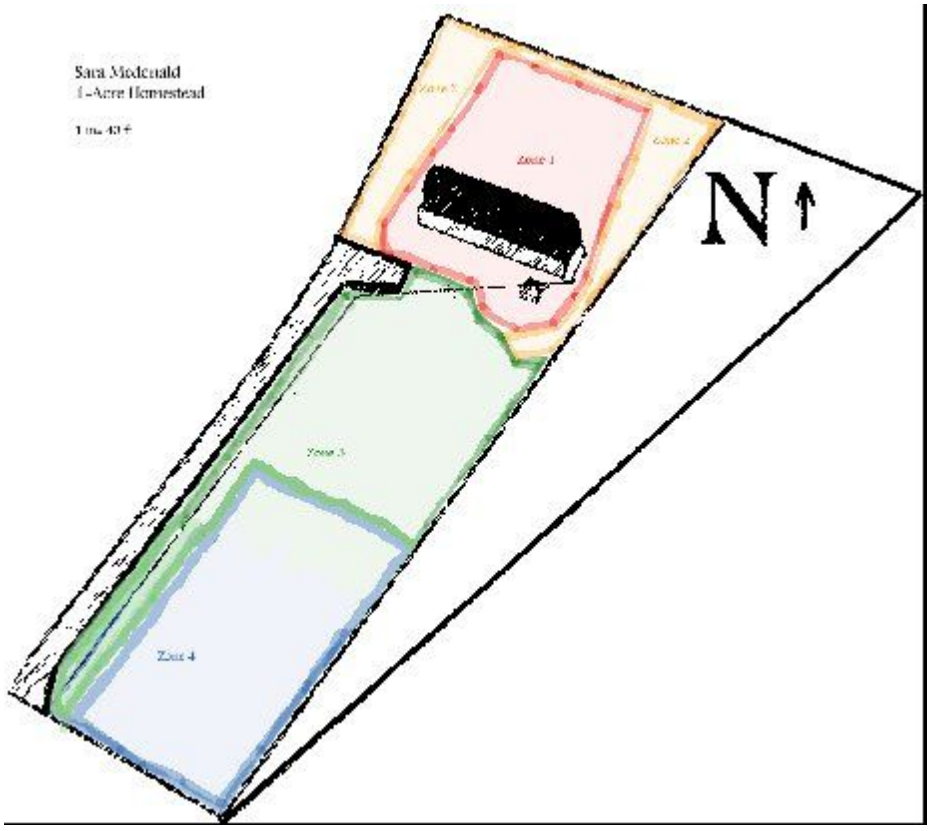
Zone 3 includes the block adjacent to zones 1 and 2, and it also extends for the entire length of the utility wires. This is because zone 4 is going to be an orchard with large trees, and it's not a good idea to plant large trees within 10 feet of a utility wire. It will just cause problems in the long run.



Elements and Pathways

If you have been living on the acre of land that you plan to convert to a homestead, chances are there are some elements in the landscape that you can't bear to part with. There may be old trees or shrubs that are no longer useful to you—neither attractive nor productive-- yet you may keep them around anyway because they offer some sentimental rewards. Now is the time to consider your landscape in a new way, free of the sentimental elements that will restrict your design.

A few preliminary questions to ask yourself as you think about how to proceed with your homestead design:

- Is your property situated on a slope? If so, is it a north-facing slope or south-facing slope?

  A north-facing slope in the northern hemisphere is typically going to be cooler, wetter and shadier than the south facing slope. You'll deal with more moisture and humidity problems, as well as challenges in getting enough sunlight. The reverse is true in the southern hemisphere. A south-facing slope in the northern hemisphere is likely to be hot and dry. You may have trouble keeping moisture in your soil, and you may need to protect your plants from intense sunlight at the height of the growing season.

  If you have a significant slope, you will probably want to create or find an elevation profile and a topographic map in addition to your simple base map. ESRI makes a free software program called ArcGIS Explorer that includes USGS 7.5m Quad maps, which show topography and other surveying marks (though not necessarily parcel survey*

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You can also use ArcGIS Explorer to view shapefiles (.shp) generated by government agencies and other groups. Sometimes

you can find parcel maps for your local area. If you use these as a guide, keep in mind that they may not be survey quality.

- Do you have large shade trees in your property? Are they close to buildings and other structures? Can you accurately assess their health?

Large, majestic shade trees are iconic elements in traditional landscapes. In southern climates, like where I live, sprawling live oaks are a preferred landscape tree. Concerns about safety in storms, shaded lawns and gardens and other potential drawbacks bring the large shade tree's popularity into question. Aside from flooding, most deaths occur in severe weather as a result of trees falling on houses. Shade can be provided by smaller trees that pose less risk to homes and other buildings, and can also serve a double function of providing food or wildlife interest. That doesn't mean go out and cut down all of your large trees. Large trees have a place on the perimeter where they do not block sunlight to critical garden areas and do not pose hazards in high wind, but you should very seriously consider large trees in the landscape that do not necessarily add value to your homestead.

Consider whether poorly placed shade trees are more of a hazard than an asset, and have them removed if they are in a bad location. Unless special care is taken, many trees suffer root and other types of damage during construction and are best removed—or at least checked out by an arborist to make sure they are not on their way to becoming unnecessary hazards. Landscape trees can also decline in health from constant foot traffic and other stresses. These trees should be checked regularly for safety. You don't want to suffer for keeping unhealthy trees in your yard for sentimental reasons. Also remember, on one acre, space is at a premium.

- Aside from trees and orientation to the sun, what other limitations exist on the property?

Many people buy property that has water, utilities, buildings, steep slopes and other restrictions already on site. When you're preparing your design, you are most likely going to want to work these things into your design.

Slopes can be terraced and pathways can be modified to improve the flow of water and reduce erosion, while also creating a beautiful and productive space. Steep banks or cliffs should be given a safe buffer zone that deters children and unsuspecting visitors, and also reduces the need for upkeep by tractors and other machines. Adding bridges to waterways can constrain the flow of water under the banks, and can trap debris in a storm, causing flooding or a bridge blowout. It's important to think about the current function of all of these elements—why is the land the way that it is? How can you improve or enhance the current functions? Can some hazards be reduced or eliminated without impeding the system, or causing problems elsewhere? Answers to these questions should help guide your planning.

Traffic circulation can be a guide in the homestead design. When I do a permaculture plan for a client, the first thing I make a note of—besides the movement of water on the site-- is the way that the family moves around their yard. Sometimes a poorly placed pathway or road is deceptive. The road makes it look like a path is open and that there is movement from one part of the property to another, but the poor placement means that the road is blocked off some or most of the time. A pathway that is in full sun and is perfect in the winter, but extremely hot and uncomfortable in the summer, which discourages foot traffic, or a road that becomes too wet after a rain, and inhibits access, are two examples of deceptive paths. There might be a better place for the path that could counteract some of these negative effects (but there might not be). I always try to look for these things.

The pathways around the house where people spend the majority of the time will be the foundation of zone 1. If important daily elements—like a chicken coop, a kitchen garden and maybe a clothesline—are too far separated from each other, the residents will spend more energy moving from one task to the other, and life

becomes more complicated. It may seem like a good idea to have the clothesline right outside the door from the washroom, but if the stairs leading out to the clothesline are falling apart (the case at my house), then there's an obstruction in the flow that undermines an otherwise functional design. Fixing the stairs may become a priority during the planning phase—a repair that can save a lot of energy down the road.

These seem like really simple examples, but in my case, while I was trying to set up my homestead, I failed to consider the importance of finding things that obstruct movement and s of beans per personliurwork and thus make life harder on the homestead. One of my earlier notions about permaculture was this misconception that piling fruit trees, gardens and other things up against the house would be beneficial. I misapplied the "stacking" concept, which usually encourages integration of several different elements (usually vertical stacking of plants as in a forest garden). Sometimes it's recommended to plant trees against a southern wall to reduce heat in the summer. People also recommend planting kitchen gardens close by, against a wall if possible, in order to make them easily accessible and to get rid of the need to weed on the wall-side of the garden.

I took these suggestions and ran with them, putting fig trees, garden beds and the chicken coop right up against the house. Contrary to the advice, I found this system was completely dysfunctional when it came to maintenance. I later found out, after working in the field with landscape architects, that it's common to establish a 3-5 foot buffer around the house for maintenance. In areas prone to wildfire, a greater buffer might be recommended, especially when it comes to trees near the home. You don't want tree branches dangling over your house in a fire-prone area. This all runs contrary to the English cottage gardening tradition I grew up with—a tradition where hedges crowding the house and roses climbing the exterior walls are the norm. Now I have moved my garden beds out a bit, and I keep enough room for a mowed pathway between the house and anything I plant in the yard. Unimpeded movement is so important in a working landscape.

Some landscape architects design important elements in the landscape first, and do not install permanent pathways until after a year or so of foot traffic as the natural pathways reveal themselves. In a permaculture design, you will probably not need permanent paths unless you're planning for frequent, intense use of them (maybe you like to invite hundreds of people over a few times a year to run laps through your garden). Even so, allowing natural pathways to emerge after the placement of the design is probably easier than trying to draw paths into your plan. Even if you decide not to focus on paths first, you still need to consider placing elements in your zone in a way that contributes to natural movement. Consider where natural paths might emerge and place things appropriately to save time and energy.

Natural gardening advocates are always griping against straight lines in a design. While I agree, straight lines often confine the gardener, the same can be said for designs meant to approximate nature without really taking cues from nature. Meandering paths are one example. Meandering paths can be beautiful~211, but I've seen community parks designed with meanders that have no apparent purpose (not meandering away from a water hole or a tree, just meandering across a blank lawn), and the meanders are so close together that the design looks entirely counterfeit—and it is. A meander shouldn't make it appear as if hopscotch is the normal way to travel along a certain part of the route, unless you really are encouraging hopscotch, of course. I'm sure the designers wanted to achieve a more "natural" look, but natural only looks natural when it's… well, natural. Unnecessary squiggles in a walkway accomplish nothing, and they can frustrate an otherwise pleasant stroll.

Don't create ridiculously elaborate paths for their own sake. Make functional paths that conform to the patterns of human movement. Think about your knee joints when considering sharp turns. Any path that encourages you to twist your knees is not going to be conducive to good health. You will need your knees for a long time. A low frequency sine wave is a good rule of thumb. Straight lines aren't bad either, although they are usually less aesthetically pleasing, but keep your turns wide. Knee joints!

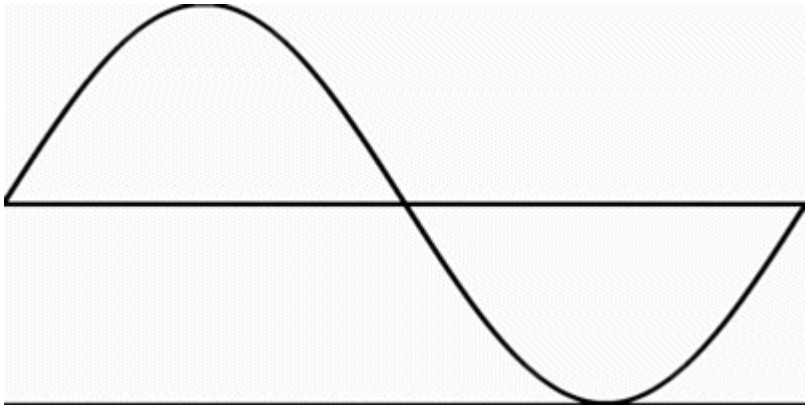

Figure 1- A sine wave is an example of a natural movement across a landscape. The unimpeded flow of water follows a sine pattern.

Home Food Production: Zones 0-2

Setting up your garden according to production goals can be one of the biggest challenges for a beginner. You can usually find recommendations for seed quantities per square foot, but information about how many square feet you need to grow for a certain crop in order to meet your own family's needs can be a lot trickier. This is especially true when you are planning to use an intensive, alternative system like permaculture. Crop loss is always a risk, so diversity is necessary. It's possible to grow just a few of your favorite fruit and vegetable crops, and become proficient enough that you rarely need to seek those plants at the grocery store, but when the s of beans per personliurseason changes or an unexpected pest arrives, you'll be out of luck. Accepting diversity in your diet means that you're more likely to have fresh produce on a regular basis, regardless of bad weather and pests. You won't always have your favorites around, but you can live well, and that's what matters.

Growing your own food and cooking with what you have on hand is an exercise in creativity. I find that in the years that I've been cooking, using the ingredients I have around the house instead of getting up and going to the grocery store every time something runs out, I've grown more confident in myself. Knowing the basics of cooking and gardening well enough to always have something on hand to make a meal, even if it doesn't look like there's anything there, brings a great sense of pride. This is the way people have lived for most of our time on Earth, and many people around the world still cook this way.

When you garden, you can become as familiar with the food supply in your garden as you are with the food in your pantry. You can see when something's getting low and replant or find a substitute before you find yourself running out of supplies. Far too many people today rely on convenience food that doesn't take much thought at all. I grew up that way. Whenever I opened the refrigerator out of hunger (or impulse), I would look for the thing that was quickest to prepare—something I could just pull out and eat right away. The funny thing is, in that mindset, even fruit doesn't seem

ready enough if it has to be washed, cut or peeled. My friends and I would say “there’s nothing to eat” even if the refrigerator was full of things that just had to be mixed together and cooked—requiring all of 15 minutes to prepare. Maybe older people who have cooking experience, or who have been through poverty, know how silly this sounds—but I think a lot of young people live this way. These become lifelong habits if you don’t consciously work to correct them.

Starting Simply

If you want to start a garden to improve your health, growing a garden of leafy greens is the best place to start. Greens and herbs are among the easiest things to grow. When I first started out, I was intent on foraging and finding unusual plants that would survive well in our local climate without much input. In response to my quest for unusual plants, a long-time gardener, prepper and family friend advised me the rock retaining waller-- to grow collard greens like most poor southerners always have. It’s funny to look back and consider that for all of my obsessing over unusual food plants, I overlooked the most practical option. I have been growing collards during the cool season ever since, and they are still one of my favorite vegetables.

Figure 2- Cilantro and lettuce in foreground with a mix of brassicas in the back, mid-autumn

Greens are a good idea because you harvest a significant part of the plant. Fruit plants (including tomatoes, squash, beans) are luxuries in a way. They require a lot of space and time when in the end you only benefit from the fruits of the plant, and not from the leaves and stems which take up most of the space and hold many of the nutrients. Alternatively, growing root vegetables can be an incredible boost to your diet. Many cooking traditions include some variations of root vegetables, and in the US sweet potatoes are gaining popularity in savory dishes in addition to their long-standing popularity as a sweet, Thanksgiving dessert. White potatoes and sweet potatoes can be grown nearby, since they are from two different plant families, but sweet potatoes are my preference by far.

My first summer gardens were planted in drought years (2010 and 2011). In fact, these were some of the worst droughts on record for Louisiana. Needless to say, it put a damper on my homesteading plans and turned me off to warm-season gardening altogether. For that reason, I've been sticking to the few simple successes I've had

with the summer garden: snap beans, summer squash, hot peppers and cherry tomatoes. These are all fine for starters, although they can have some problems of their own. For the most part, this chapter on home food production will focus on these summer crops, starches, greens for the warm and cool seasons, and some of my favorite herbs.

To begin planning your garden, you need to know the most likely plant families that you will encounter, and at least a few of their most basic characteristics. This will the rock retaining waller--help you manage pests and diseases, understand fertility issues and diversify your garden. The majority of plants that I'm going to discuss in this plan will be plants that supply fresh, seasonal food with a few that have somewhat long-term storage potential.

Keep in mind that diversity doesn't have to mean that you start with many varieties or types of plants. Instead, learning to grow 3-4 plant families in rotation is a perfect way for a beginner to practice diversifying the garden. You may only begin with 4 types of plants, but if they are all from different families you'll be better diversified than if you plan to grow cucumbers, squash, melons and pumpkins all in the same garden or if you choose 4 very different types of tomatoes. Focus on broadening your selection of families, but simplifying the plants you choose within each group. If you choose from the family Solanaceae, for example, you can pick one tomato and one pepper variety and decide to defer other plants in the family —like eggplants or potatoes-- for the following year (or another bed, depending on available space). You will have plenty of time to experiment with interesting varieties later.

Greens

Greens are some of the most nutritious, yet most ignored plant foods. With the exception of iceberg lettuce, and to some smaller extent, the other lettuces, leafy green consumption in our country is miserably low in spite of the tremendous benefits and easy cultivation. Including a bowl of fresh, steamed or stir-fried greens in your daily diet will boost your health and will probably make you feel better—especially if these greens are readily available, fresh from your garden every day. Looseleaf lettuces are easy and seem to be

more resistant to pests than Brassicas, the other most common leafy green in gardens.

Some staples in the southern US are collards, turnip greens, mustard greenshttp://wildhomestead.orgouur, and kale—all very closely related members of the family *Brassicaceae*. Other Brassicas include broccoli, cauliflower and brussell sprouts. Relatives include Bok Choi, Tatsoi and some other Asian greens. Keep in mind that in order to grow a diverse garden of greens, you do not want Brassicas to be your only crops, even if you select 2 or 3 different species or subspecies (turnips, kale and brussell sprouts, for example.) All of these plants, being closely related, can share pests and diseases. They are also heavy feeders of the soil, and can quickly deplete the soil nutrients.

Your diverse green garden should stretch across multiple seasons and multiple plant families. Common families include Asteraceae (lettuces), Chenopodiae (Orach, Sorrel), and Amarantheae (Chard, Amaranth). Chard and amaranth can both provide greens through the summer in the Deep South. Another option for greens are trees like *Toona sinensis,* which have edible shoots that can be harvested for stir-fries and the like. The Toona tree is also being studied for the anti-cancer compounds present in different parts of the plant. Some of these compounds have been subjected to western scientific studies that have confirmed anti-cancer and anti-viral properties[4]

How much space do you need to grow enough greens to have a couple of daily harvests throughout the year? This is a question I am still working to answer. My goal is to have at least 3 servings of leafy greens *a day*. This year, I have come closest to reaching my goal by harvesting 4-5 cups of fresh greens (about 2 cups cooked) a day for the past few months, with 105 square feet of garden space, mostly devoted to greens. When you're talking about the USDA's recommendation to eat 5-6 servings of vegetables a day, this amount of greens only makes up about 2 of those servings. I typically eat 1 or 2 onions, a few cloves of garlic and occasionally add in some other herbs, fruits or vegetables throughout the day—just barely meeting that recommended minimum.

If the rest of my family ate as many greens as I am trying to, we might want to double our growing space for greens, since">Our Journeysq feet is sufficient for fall-winter green production.

Figure 3- Greens and garlic growing together in a 4x 20 sheet-mulched bed, early winter 2012

My green garden is going to be located in zone 1, just behind the house, but out of the winter shade. If I plant my greens in the shade they won't grow nearly as well, and these are going to be my most important winter crops so I definitely want them to be productive. For the past two years I have been sheet mulching to create raised beds with dimensions that are 4x20 ft, 80 sq. feet each. Four of these beds will give me the 320 sq. ft. I need for my winter greens garden, so the other 4 beds, plus the 4 half-beds (4x10 ft.) can be planted in a cover crop over the winter. That's 800 sq. feet total of annual beds, with only 320 sq. ft., or 40%, devoted to actively growing crops.

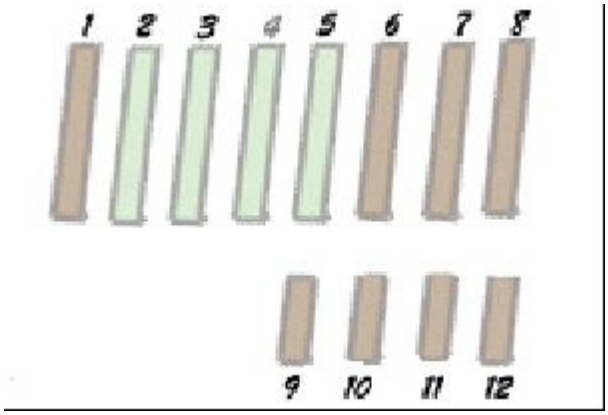

Figure 4- 4x20 ft and 4x10 ft garden bed rotation. Green colored beds are growing fall/winter crops, tan Our Journey are in cover crops.

Using a 3-year rotation for plants in the same family is ideal to reduce the risk of depleting the soil and accumulating pests and disease. This will help your crop production be much healthier and more sustainable than a system where you till and plant the same thing every year on the same site. It's important to avoid imbalances that can be caused by the same group of plants taking up the same nutrients year after year.

The table below shows an example of a fall/winter brassica rotation using the garden bed layout in fig. 3. The "other" plants in the table can include cool season herbs like cilantro, parsley, and also lettuce, chard, onions, garlic and other plants.

Bed #	Y1	Y2	Y3	Y4
1	P	P	P	P
2	X	F	O	F
3	X	F	F	O
4	O	Xhttp://wildhomestead.orgouur	F	F

5	O	X	F	F
6	F	O	X@211	F
7	F	O	X	F
8	F	F	O	X
9 s of beans per personliur*	F	F	F	X
10*	F	F	F	X
11s of beans per personliur*	F	F	F	O
12*	F	F	F	O

Figure 5- Example brassica rotation, giving each bed at least a 3 year break from brassica production. X- Brassicas, O- Other, F- fallow/cover crop, P- perennial. Asterisk * denotes a 40sq. ft. bed, rather than 80 sq. ft.

You also need to consider row covers, which can be as *

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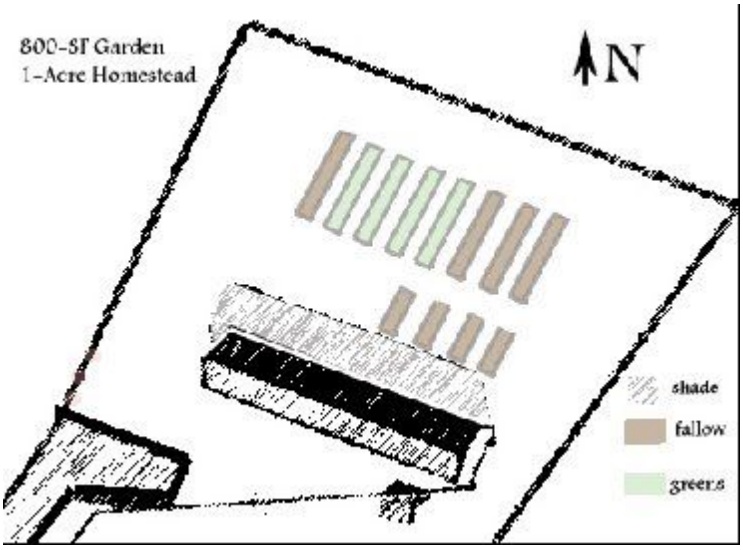

Figure 6- My 800 sq. ft. fall-winter garden

The image above shows a planting plan that starts in the late summer/early fall (or earlier, depending on your latitude) and remains through the winter until spring planting. I will leave about ¼ of these plants in place to collect seed, and the other beds will begin to grow warm season plants by spring. The fallow beds grow winter cover crops. For cover crops, I plant cool-season legumes like clover, and I also have winter rye and oilseed radishes in the ground. Radishes are natural "tillers" for your soil, sending down deep taproots that break up the soil and promote exchange of oxygen, moisture and nutrients as they decompose. Oilseed radishes are perfect for the first year if you do not have a lot of biomass to sheet mulch, and need the help of these plants as tillers for a heavy soil. They can be planted in combination with red clover to get a new bed started, but Anna Hess warns in her blog (http://waldeneffect.org) that red clover has to be mowed at the right time of year—when it begins to flower—in order to kill it.

I plant my greens at the end of August for nice, big plants by October/November. The greens planted in late September grow well and are harvestable, but this year (2012) they didn't have a chance to reach a nice size before the first hard frosts came by mid-November. As a result, they haven't sized up as well. I planted all of these by broadcasting seed in the seed beds, sowing thickly, and started harvesting within a week as young sprouts popped up.

the rock retaining waller--I've been harvesting sprouts (the first two leaves, cotyledons, showing), micro-greens (the two true leaves show, in addition to the cotyledons), baby greens and by December I've been harvesting larger leaves for a little over a month. Obviously, when you harvest sprouts and micro-greens, you're eating the entire plant, and thus you start the thinning process. It's important to harvest in a way that gives the remaining plants more room. These tiny plants are great in salads and stir-fries. Covering the entire 320 sq. ft. will take about 1/8 of an ounce of seed for kale or collards.

Figure 7-Thickly sown Red Russian Kale reaching the "micro-green" stage. Notice the deeply cut, serrated leaves emerging from the sprouts. These are the "true leaves"—meaning they look like the leaves of an adult plant.

By the spring, usually around April in Louisiana and a bit later further north, amaranth can be sown and harvested over the summer as a warm-season green. I have tried both the Golden Amaranth and the Mayo Indian Amaranth varieties, and I have found that the Mayo Indian variety is by far the better choice when it comes to greens. It seemed to be more pest resistant and it produced a healthier plant overall. I can't compare the two by taste, because I wasn't able to harvest much of the Golden Amaranth at all, but both seem to have a somewhat bitter taste compared to winter greens.

Swiss chard can also be planted in the spring or the fall and is reputed to survive through the summer, but my chard usually suffers in the heat, or from bug attacks, by mid-summer. Since greens are predominantly a fall/winter crop, I will only use about 40 sq. ft., or about half of one garden bed, to grow summer chard or amaranth.

Other vegetable crops

While I've been testing my green thumb in the business of growing leafy greens, I haven't diversified my warm season vegetable productions much. However, I will take a little time to explore a warm season garden rotation using cherry tomatoes, amaranth and several types of squash. I've had limited luck with ripening large tomatoes because of the unusual rain the rock retaining waller--fall patterns in Louisiana and the occasional prolonged droughts followed by heavy downpours that will oversaturate the plants with water and cause the fruit to split. Cherry tomatoes will split too, but they ripen so quickly and so abundantly that a few splitting tomatoes due to bad weather doesn't equal the loss of the year's crop. I've harvested cherry tomatoes into December.

What you grow in your garden will depend on your taste, but establishing a rotation plan should be done early on, as soon as you begin growing more than a small kitchen garden. This simplified rotation (fig. 8) should give you an idea of how to set yourself up for a few popular warm season crops.

Our Journey

Bed #	Y1	Y2	Y3	Y4
1	P	P	P	P
2	S/A	F	C	F
3	C	F	F	S/A

4	C	S/A~211	F	F
5	H	C	F	F
6	F	C	S/A@211	F
7	F	H	C	F
8	F	F	H	C
9 s of beans per personliur*	F	F	F	C
10*	F	F	F	C
11s of beans per personliur*	F	F	F	H
12*	F	F	F	H

Figure 8- S- Solanaceae family (tomatoes, peppers, potatoes), A- Amarantheae, C- Cucurbitae (melons, squash, cukes, etc.), H- annual herbs (basil, dill, annual flowers, etc), P- Perennial (comfrey)

You'll see that I devote about 4 times the space to growing squash as I devote to amaranth or tomatoes. This is more of a personal preference than anything. The storage life of winter squash appeals to me more than canned tomatoes, and I prefer eating tomatoes fresh off the vine, but I don't need too many since I'll have other fruit ripening around the same time. My rotation doesn't offer much in the way of stacking (for example, I haven't assumed a three sisters combination—squash, corn and beans), but this can, of course, increase the productivity of the garden space. Hopefully I'll

grow more adept at stacking arrangements in the future. For now I'm more focused on maintaining the productivity of the beds by keeping them in crops or cover crops and suppressing weeds.

Orchard fruit

Your orchard is going to depend on a variety of factors. On my property, there are some existing trees and shrubs that are going to be in the way of the orchard. I've indicated these plants on my map to help me see where size and space limitations might recommend removing some of these trees. When I first moved to the homestead, I planted a lot of free trees and plants that people gave me, observing spacing requirements with some leniency. My plan was to see how well certain plants would do, and then thin them according to their revealed productivity (or lack thereof).

This may work for some fruit trees that produce yields early in life, around 3-5 years. If you have a non-productive fruit tree that has already reached or exceeded the time that it should have started producing, you can try to encourage it to produce through various fertilizing, pruning or other regimes, but you may be better off just taking it out and giving the space to a better producer that doesn't need so much fussing over.

The trees I've picked for my zone 2 orchard include figs, blueberries and 2 types of citrus. These are going to be some of my leasthttp://wildhomestead.orgouur naturalized plants, and will probably need more care than others (native persimmon, for example), so that's why they are in zone 2, rather than further out in the field. Satsumas and Celeste figs can be grown about 15 feet apart. This is the spacing that I've used. Kumquats need roughly 10 feet, and blueberries should be about 3-4 feet or more. My blueberries are spaced more like 5 feet (indicated by the dark inner circle), but I've also anticipated possible spread of the bushes to up to 10 feet (light outer circle), which is where they start to crowd each other.

The citrus plants I've chosen will grow in my hardiness zone, but cannot tolerate a very deep freeze (below 22 degrees F). That's part of the reason that I've marked "Satsuma or fig" because the final

decision on that will come later, after I decide what kind of yields I might expect, how much care these trees will need, and ultimately whether it seems wise to plant so that I have to replace half of my orchard after a deep freeze.

Figure 9- Zone 1 and Zone 2 orchards

Figure 9 shows the basic layout of zones 1 and 2 with all of the orchard elements included. These garden beds and the added strawberry and blackberry beds are very linear for planning purposes. A permaculture design would typically have more natural, flowing shapes, but an aesthetic design isn't the goal for this plan. It looks a bit chaotic, but there is plenty of room to move in this landscape. Figure 10 shows the major paths of movement for these two zones. These movement patterns are already pretty well established in my garden. The paths will be kept in short grass most of the time, although my goal is to eventually replace the grass with a tough, low-growing plant like white clover in order to reduce the need for mowing. Vegetated paths can double as a pasture for the chicken tractor, and I've factored this into my calculations in the next section: "Livestock."

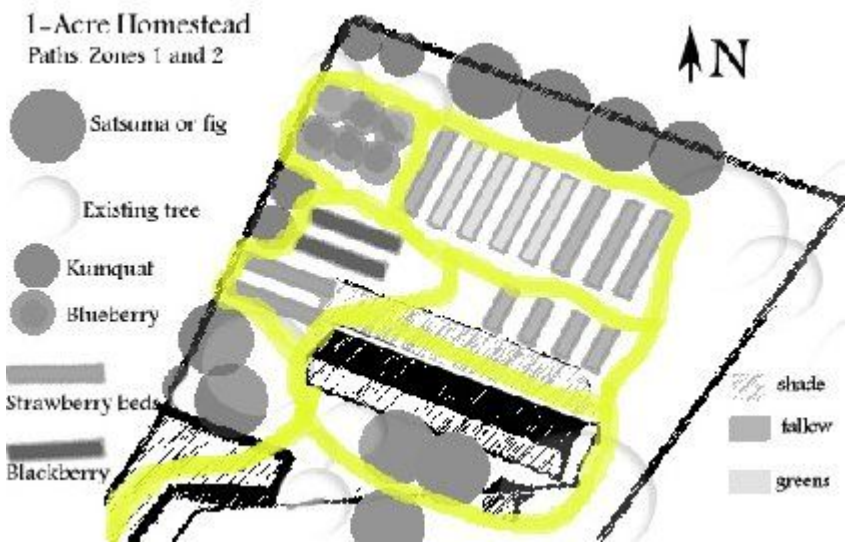

Figure 10- Major paths of movement">Our Journey

Instead of focusing on design aesthetics, my goal is to show the square footage demands on a 1-acre homestead. I've discussed a bit of what to expect from the annual garden beds in zone 1: with production around 320 sq. ft. per year, you can get a significant portion of your family's fresh vegetables, and you can maximize that space by stacking plants that work well together. In any year, that production can be increased to have the entire garden producing something, as long as care is taken to give each bed a rest between producing two years, back-to-back, of the same family of plants. In most years, you should plan to dedicate a few beds to cover crop production to increase the health of the soil. Don't forget to rotate plant families with cover crops, also.

The strawberry and blackberry beds are a bit different, since they are perennials. I have 4 beds for these perennials, with a total of 320 sq. ft. Potentially, I can plant about 5 blackberry plants per bed/row, and the beds are spaced so that there will be about 6 feet between the two beds/rows. The strawberries are spaced two feet apart, and each of my beds will have 2 rows of 10 plants, giving me 40 plants total.

It's important to find fruit plants that meet your needs and that will do well in your climate. Our wild blackberries have a terrible time with rust, so finding a blackberry plant that is resistant to rust is one of my biggest priorities. The next priority is to find a plant that's

thornless, although I'll go with a thorny plant if it makes better sense in terms of production and disease resistance. Blackberries and strawberries are in the same plant family and can share diseases if not carefully selected. Since these plants will be with you for years, it is important to pick plants that do not show any signs of disease.

Using recommended spacing, I have room in the zone 2 orchard (figure 9) for 6 satsumas (4 along the northern fenceline and 2 in the west), 3 figs (south of the house), and 4 kumquats. I could squeeze 1 extra Satsuma or fig tree in place of 2 kumquats, but I don't think I'll need to. You'll notice that the east boundary of the property is absent of any orchard trees. That's primarily because a few very large trees are growing on that boundary and they keep that side shaded and cold in the mornings up until about mid-day, which wouldn't bode well for any of the fruit plants I've considered. A possibility for that side would be to plant paw-paws or shade tolerant medicinal/edible trees that do not need full sun in order to produce a yield. Most fruit trees are too expensive to risk reduced yields by placing them in part-shade.*

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How do I move forward on this orchard? Realistically, I have to cut down about 6 trees that are already in the ground, already growing (and growing on me), and then I have to prepare the soil for the new trees that I want to plant. Even a small orchard like this takes a commitment- at the very least a commitment to keep mowing or mulching or moving animals through to maintain the root zone and reduce competition from other vegetation.

My goal is to reduce this cost, either by spreading it out over time, or by finding very cheap alternatives (which usually takes at least a little time). Figs would be easier and cheaper. Cuttings from an existing fig tree can easily produce a new plant. All of my fig trees have been given to me for free after being produced this way.

If I have to purchase soil amendments, that adds to the price too. In the past, I've been successful in mixing peat and cow manure

into the hole for a new fruit tree. I've also, foolishly perhaps, dropped a few trees into the ground without much preparation. It's better to prepare, but to use cheap and sustainable (i.e- something you can reliably repeat over the years) amendments, like compost and decomposed leaf matter, rather than something like peat moss that comes in a pressed cube from a box store (big department store), and requires ongoing dependence on peat mining in the beautiful northern wetlands of the world. It's just a good idea to avoid that if you have to. An excellent book for getting started with orchards is *The Holistic Orchard* by Michael Phillips. He gives some excellent recommendations for preparing a fruit orchard, reviewed in detail at The Walden Effect. After your fruit trees are in the ground, then you can research what to plant underneath to create your forest garden. Let the trees get established first.

Late fall and winter are typically the best times to plant your trees and shrubs, but use caution with less cold hardy plants that are more vulnerable to freezing when they are young. In the south, it may be best to plant figs and citrus in late January or even February, after the coldest weather has usually passed. Mor*

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Ultimately, orchard yields are difficult to predict because there are so many factors involved and care on a home gardener level can vary quite a bit from commercial production. That said, I've had decent yields on my fig trees each year, with long productive seasons. I've seen neighbors with mature fig trees that are full of fruit, and they require very little care overall. I've also seen very productive kumquat trees (at 15+ years) grow nearby. Ultimately, I'd expect enough fruit for my family for the season with an orchard like this.

Livestock

Bringing livestock into the garden operation is one of the best ways to make use of all of the energy that might otherwise be lost to the system. Chickens love kitchen and garden scraps, and

they can clean underneath fruit trees—eating up figs and similar plants that may drop a lot of rotten fruit during a productive season, and getting additional protein from fly larvae and other critters that are attracted to rotten fruit. In Zone 1 and 2, I only plan to have poultry—3-4 laying hens and possibly a pair of geese.

The area available in my Zones 1 and 2 adds up to about ¼ an acre, minus the house. Four laying hens in a small "chicken tractor" (20 sq ft) have 5 square feet per bird inside the tractor. At 2 sq ft of fresh space per bird, per day, the maximum time this tractor should be kept on one spot of ground is about 2.5 days. Birds scratching over mulched beds will need significant supplemental feed, plus fresh scraps from the kitchen. This is one of the biggest challenges with tractoring. We've kept free-range hens (2 Rhode Islands, 1 Black Sex Link, 1 Barred Rock) that required no feeding during the summer and continued to lay eggs the entire season. With a tractor, I'll have to provide at least some feed in order to keep the hens healthy. Even so, good foraging breeds can get a substantial amount of nutrition from pasture. If the birds only spend a percentage of their~211 time in fallow beds without a cover crop, then the rest of their time they can forage on pasture, under fruit trees, and under the forest edge (along the fenceline). In return, they eat up the weed seeds and leave nitrogen rich manure wherever they go—plus, they supply wholesome eggs!

Figure 12- Our two Aracauana hens, Muriel and Aura

It would take about 3.6 years for the layers to cover every square foot of ground in zones 1 and 2 in this rotation. Chances are, I'll want them in some areas more often than others, but as a rule of thumb, keeping confined birds from revisiting the same spot of land within 3-4 years is the best way to manage a pastured system for pathogens. A tractor of 4 laying hens about the maximum that I would want to keep on this space. There are plenty of other options for housing and field management that would allow for a somewhat higher number, but I have no interest in raising more than a small flock of hens.

If I wanted to raise broilers, on the other hand, their lifespans of only 8-12 weeks and low foraging intensity (needing only about 1.1 sq foot per bird per day, or slightly more, for a Salatin-style pen) means you could put about 18 broilers in the same tractor setup (with some modifications), move it once a day for 12 weeks (84 days), and cover only 1/10 of your zones 1 and 2. You can run another batch that same year, harvest 36 birds in a season, and do that for 5 years before exhausting all of your space. Of course, with that many birds, you'll probably subtract a bit of space since you don't want them sitting right on top of your orchard roots. Even if you keep the animals out of the root zone of your orchard trees, you still have room for 4 years of pastured broilers starting on new ground. The fifth season returns to the first space. That's 36 broilers a year (1 chicken for every 10 days), or 144 broilers total. It's not a commercial broiler system, but it will definitely keep your family fed. The biggest drawback? Those broilers are going to need a lot of feed. The low pasture requirements reflect their poor forage tendencies—meaning that pasture is the supplement, rather than the bulk of their diet.

Your 4 layers, even if they produce at a very low rate (50% of the year) on average, will provide you 2 eggs a day, or 730 for the year. Comparing layers to broilers: if you choose a laying system, you get 20 eggs in the same time and space as it takes to produce 1 broiler. The food input may be roughly similar, but a layer that has 50% productivity is typically going to be a lightweight hen that is a good forager—dramatically reducing your feed inputs. If you ask me,

eggs are a lot easier to collect than a whole bird, and the possibility of much lower feed inputs is much more desirable for a homesteader. For Zones 1 and 2, I say stick with layers. By the end of 3.5 years, you can slaughter your layers and get 4 birds out of the deal—a final productive bonus.

Broilers require a steeper learning curve for a new homesteader. They may be a good option down the road, when your commitment to keeping orchards and annual veggies productive begins to require less and less labor as the system matures—freeing your time for broiler experimentation.

As my husband and I await the day when we feel comfortable jumping into pastured broiler production, we've decided to stick to a vegetarian diet to avoid buying into industrial meat farming (and to keep our food costs down). If you can locate a nearby farmer who produces pastured broilers or other pastured meats, then you should be quite content to keep meat in your diet without patronizing a sick system. If you opt for the vegetarian route, be conscious of your dependence on grains, soy and other beans that are grown elsewhere, often very unsustainably. Seth and I limit our use of these things, and try to stick with proteins and starches we can raise in the garden, as well as eggs from our laying hens. Potatoes, sweet potatoes, peanuts and pecans are all good options for southerners. If you can't grow them yourself yet (pecans take decades to mature), then you may be able to find a farm nearby where you can get a good deal on these fresh staples. Sweet potatoes and pecans go well together and can be combined with rice and green onions for a great, balanced meal.

On one acre, I highly recommend going light on livestock. For most people, the addition of milk- and meat-producing ruminants seems to be the crowning glory of the homestead, but these animals will add considerable work to your day, and an acre is not exactly a sustainable space even for goats. Of course, some people are successful in incorporating these animals into their small homesteads, usually by adopting sophisticated grazing techniques or managing the animals with periods of rest and recovery for the land (for example, after an annual slaughter). Unless~211 you're

absolutely dedicated to bringing a large animal to your homestead and you possess the expertise and dedication to make it work, I'd recommend that beginners take the time to develop skills elsewhere and look for good local sources of meat and milk in the meantime. When it comes to land, bare soil is one thing that really makes me cringe and I have seen too many large animals confined in paddocks with nothing but bare soil. It's not good for your land, and it's not good for your livestock, even when you give them sufficient feed from elsewhere. Consider this before you invest in large animals. One acre needs very intensive management if it is to support more than a small flock of broilers, or more than 2 or 3 goats.

Foraging

In the early days, I planned to supplement my gardening by foraging for wild herbs and mushrooms on the land. I studied herbalism in my later years in high school and early in college. My aunt went to school in Seattle to become a naturopathic doctor and introduced me to most of my foundational experiences with plants. When she returned from a trip to Brazil and shared her stories with me, I was enthralled by her accounts of plant medicine. I embarked on my own studies and started gardening with herbs in my late teens. I'll spare you the details on my own spiritual and herbalism experiences, for the sake of protecting the little sacred things in my life.

My first year in college I met botanist Corinna Wood, whose philosophy of using native herbs as nutritional and medicinal supplements intrigued me. Corinna owns an herbal supplement business, Red Moon Herbs, which she operates from her home at Earthaven Ecovillage in Black Mountain, NC. She was also one of the founders of the Southeast Wise Women's Conference on wildcrafting and using herbs.

Corinna taught a wild foods workshop at my college the year that I was a freshman and I happily paid the $15 fee to attend. The group of eager students and I wandered through our school's garden and the trail along the river to collect nutritious wild plants like stinging nettles, burdock root and wood sorrel. Then we took the bounty back to the garden cabin and cooked up a delicious meal

with sautéed burdock root and miso soup with stinging nettles. This single workshop laid the foundation for some of my later introduced me to Sethen11 foraging experiments. I still cook wild greens with miso every winter as a soothing appetizer or mid-day snack.

When my husband was living in his great-grandfather's old farmhouse, after moving from the fifth wheel camper, I found a book in the library called *The Field Guide to North American Edible Wild Plants* by Thomas Elias and Peter Dykeman. (Seth's great-grandfather was a book collector in addition to being a gardener, and I also found Masanobu Fukuoka's *The Natural Way of Farming* among the many treasures in his library.) I was excited to see that at least half a dozen of the plants in the wild edibles book were growing right around the house, including cleavers, chickweed, yellow dock, elderberry, sorrel and violet. I foolishly grabbed a tangle of what appeared to be cleavers and turned on a pot to boil them. They boiled for at least half an hour, but the stems were still miserably tough. I boiled them for another 15 minutes, took them off the heat and served them up with salt and butter. It was terrible. Boiling removed the sticky, Velcro-like hairs from the leaves and stems, but the stem fibers were so thick and tough that the material was impossible to chew. This is where I would have benefitted from some basic botany lessons.

Eventually I did get the basic botany lessons and my foraging skills improved somewhat. I learned that most plants eaten as green vegetables are best when they are young. The early growing stage is when the very young, new growth of the plant is still tender and most nutritious. While young, they haven't yet transferred their energy into reproduction, so the concentration of nutrients and energy are still in the leaves and stems. The stems haven't yet toughened up to hold the weight of maturing fruit or seeds. In Louisiana, early winter is the perfect time to harvest greens like violet, cleavers, yellow dock and chickweed as they are putting on new green growth in advance of the coming season. By late spring, most of these plants will be coarse and their energy will go into reproduction, making the greens much less palatable and less nutritionally dense. Often, the best indicator that a plant is past its

prime for harvesting greens is the appearance of flowers. This is true for domesticated plants and wild plants alike. In horticulture, it's called "bolting" and there are many heirloom, bolt-resistant greens that you can by in order to extend the harvest as the weather warms up.

The best places to look for winter and early spring greens in the wild are in areas where the rock retaining waller--the soil is rich and there is shade for part of the day. Chickweed and violets grow in partially shaded areas on my property, places where winter light is sufficient but where they would be completely shaded from the summer sun when the leaves are on the trees. These plants also seem to prefer soft, rich soil similar to garden soils. It's no surprise, then, that chickweed is also a common garden weed. Violets are very common in moist areas in our sparse forests, where there is enough light for an understory but never full exposure to the sun. Both of these plants can be used in salads.

Figure 13- Egg salad made with fresh parsley, wild violets and chickweed

Sometimes I add a handful of chickweed greens to soup just after I cut off the heat. When they are tender enough, this is the perfect temperature to let them steep and bring out the bright green color, but not become entirely destroyed by the heat.

Yellow dock is a plant that I eat with caution. I've used it in soups and vinegars, but not very often. Like comfrey, it has some compounds that can be hepatotoxic if eaten frequently or in large quantities. I've found that yellow dock seems to have a detox effect when eaten in smaller quantities. I eat fewer than 3 meals of yellow dock in a season, but I enjoy it for the large, rich leaves that seem to have a better flavor than many wild plants.

Yellow dock also seems to like rich soil on my property. It grows best on a northeast facing slope where the herd of cows used to spend most of their day. As a result, the soil there was heavily amended with manure and trampled bare by the constant hoof traffic. As soon as the cows left, yellow dock and many other weedy plants took over the area. Some of these weeds are hard to eradicate. I don't know if the yellow dock is there because conditions are ideal, or if it's just because of the opportunity, but it certainly seems to thrive in that spot, regardless.

Yellow dock is a favorite of goats and rabbits, so even if I don't plant to eat it that frequently myself, it's worth keeping around. Wild yellow dock is probably like other plants in that there is a lot of variation among individuals in the production of toxic compounds. If you're willing to experiment on your own, you might be able to isolate a decent edible strain. Some seed companies offer "sorrel" seed, which is either the same thing or a very close relative. There is a difference between "curly dock," and "red sorrel," though they are very similar, but "yellow dock" seems to be a local name and I haven't yet taken the time to investigate exactly which species it is—although I think it is the "curly dock" or Rumex *crispus*, rather than "red sorrel" *Rumex acetosa*. I'm embarrassed to admit I haven't bothered to sort it all out.

Another plant that I've recently grown to love, even though it has a bad reputation among livestock owners, is my local purple thistle, *Cirsium horridulum*. They are not fun plants to step on and their defenses are ample to keep away grazing ruminants, but humans with simple tools can make good use of the fleshy, sweet stalks. I read an online article in a local newspaper, *Houma Today*,

about older generations recalling their childhood, when they'd set off into the fields to cut and eat wild thistles.

Thistles pop up naturally, about 100 plants or more per acre in our pastures and in lawn every year. I try to keep our immediate yard free of them, since we like to walk around barefoot, but further out in the field they are a welcome spring flower. They attract several species of butterflies and native bees. The flower stalks are the edible part. I usually just cut them near the bottom where they are thickest, and make another cut under the flower, or wherever the single stalk starts to branch out. Then I pull off the spiky leaves, slice the stalk lengthwise, and I peel the hard outer skin from the soft inner flesh. When I pull on the tough skin, usually the soft white flesh pops out and I can just strip the skin off and eat the juicy meat inside. I don't know that there are any documented benefits to eating thistles, but if it's fun and safe and free, then why not? At the very least, you get fiber, purified water (assuming your plants are growing in non-toxic soil) and probably a decent amount of vitamin C. If you bother to take your harvest back home, you can serve it up with some other greens as a crunchy addition to a spring salad—much like cucumbers or celery.

Before long, we made our way to mushroom foraging. We stuck with harvesting the fruiting bodies of oyster mushrooms and wood ear that grow wild on decaying trees in our woods. I was working in a Thai restaurant during the winter of 2010 when I discovered that the Wood Ear mushroom was the same species as the "black fungus" featured in the restaurant's cashew chicken dish. I took a few fresh mushrooms to the Chins of beans per personliurese cook, and he confirmed that it was the same mushroom. I asked him if he would cook a dish of the cashew chicken using my mushrooms, and he nodded hesitantly. A few moments later, I saw him nervously throw the mushrooms in the trash when he thought I wasn't looking. Ah well.

I'm not sure if it was a miscommunication or if he was really horrified at my excitement over this hairy, black gelatinous fungus, but I never got to taste my mushrooms prepared by a professional. I continued to eat them at home with caution until I finally decided that

they were, indeed, edible and non-toxic. They aren't very good fresh, since they tend to get disgustingly squishy, so maybe that's what the cook sought to spare me from. However, they're very easy to dry, and then they can be preserved and used added to dishes for up to 6 months as long as they are stored well.

Expanding Into Zones 3-4

Zones 3 in my plan includes the bulk food staples, proteins and starches, that need to be grown in a much larger quantity than most fruits and vegetables. Zone 3 has about 7000 sq. ft. of productive space and the utility right-of-way ("ROW" from now on) is 3600 sq. ft. The ROW is partially shaded, so that's something to take into consideration for that area. The space dedicated to growing this is Zone 4 is going to be producing biomass (pine straw) primarily, but I will include some discussion on nut-producing trees and medicinal plants.

Proteins and Starches

If you're a die-hard homesteader and you plan to grow everything you need on one acre, then I'll let you know that I am not going to go into a discussion on how to dig up your entire backyard to grow your own grain. Grain is an excellent commodity crop because of its storage ability, but it isn't so great for backyard gardeners in warm, humid climates. Processing and safely storing significant amounts of grain can be a huge chore.

I know some who have successfully grown grain and can probably get enough to make a few decent (and wholesome!) loaves of bread, but growing grain on one acre is not a good long-term survival strategy. That means if you insist on eating breads, pastas, oatmeal and the like, then you'll most likely be buying these stahttp://wildhomestead.orgouurples from off-site. Don't worry, though, these are among the cheapest foods available, even after processing (which would take you hours and hours to make your weekly meals). Alternatively, you can substitute a significant portion of your grains for a combination of starchy potatoes, sweet potatoes and high-protein vegetables.

I would say the same thing about dried beans as I've said about grains, but I'm willing to spend a little time on the subject of beans. Beans are great, and dried beans purchased in bulk from somewhere else are a nice supplement to your diet, but when it comes down to it, you don't want your protein plan to be dependent

on dried beans alone. Plus, growing enough dried beans to make more than a few months of meals each year is going to hog a lot of valuable garden space.

On the topic of growing dried cowpeas, the University of KY estimates a yield of about 1,000lbs of beans per acre. On the home gardener's scale, a 400- square foot garden planted in cowpeas (blackeye peas, southern peas) would yield roughly 8.8 lbs of peas. That's probably not even a month worth of dried beans for a family of 2.7 (2 adults and a small child).

Some have argued that planting fresh beans is better because you get more yields. Growing 400- square feet of snap beans, which can be harvested at least 5 times per plant, can yield 37-58 lbs of beans. The drawback to that argument is that most of the weight of green beans is going to be water weight, and they have only about 10-50% of the protein of dried beans, depending on the variety. On a positive note, a nice crop of freshly-grown dried beans tastes excellent compared to beans that have been stored for a long time, and they certainly taste much better than water-packed, canned beans.

One benefit of cowpeas is that they double as a weed suppressing cover crop. They can be planted in your regular garden bed on a rotation of every 4 years, and the bean plants can be followed by a fall-planted cool season cover crop ahead of a new crop of heavy feeding brassicas. The LDS church recommends storing 60lbs of beans per person per year in order to have 3 cups of beans per person, per week. At average yields of 1,000 lbs per acre, that comes to about 2,614 square feet of garden space per person if you plan to grow and store dried cowpeas to meet your estimated annual need.

Growing beans on a 4-year rotation would take up about 72% of an acre, meaning I'd have very little space left for orchard plants and perennials (luxuries, yes, but surely they are worth it!) If you plan to avoid tilling, which destroys your soil, then growing that many beans is going to be quite a workload, and it will require a lot of biomass from offsite to prepare the soil, at least in the beginning.

I'd rather just outsource most of my beans and keep chickens and other, lower-protein vegetables on hand for protein if store-purchased beans start to seem implausible. A 60lb sack of beans currently runs about $50-$70 and some stores you can buy bulk beans, even organic, and get a 10% discount (although the organic beans cost more, obviously.) When it comes to beans, the answer is probably to grow whatever suits you but don't aim for self-sufficiency from beans unless you want to devote a considerable amount of space to your bean garden each year. If you're dedicated, you can grow around 80% of one person's annual dried beans in a standard 2,160 sq. ft. garden using the standard rows. You might find much better yields by adopting a square foot gardening technique, but as of now it's difficult for me to find reliable information about what to expect.

Perhaps one of the best staples for home gardeners is the sweet potato. A bushel of sweet potatoes weighs about 50lbs, and provides 19,500 calories. Just 1/10 of an acre can produce 672,000[5] calories, enough energy for 1 person to stay above the starvation point for a year and a half, or to feed 2.7 people (2 adults and a young child) their basic carbohydrates for over half of the year. Theoretically, 1/10 of an acre in cowpeas, and 1/10 of an acre in sweet potatoes can almost meet the subsistence level food requirements for a family of 2.

Though you may not need all of those calories to come from sweet potatoes in the foreseeable future, growing a bed of sweet potatoes, just 80 square feet or so, each year can help to ensure that you will have ample sweet potato slips for the following year in case of a devastating disruption in the food supply.

Since they are root vegetables, sweet potatoes growing out of the flood zone are an excellent crop for areas prone to high winds, since the potatoes will be out of harm's way. You want to make sure your fields can't be flooded in severe weather. Growing in raised beds may be one option for all but the most serious flooding.

I am only going to put one half of zone 3 into garden production in any given year, so I have about 2053 sq. ft. to work with. If I split

this space 50/50 between beans and sweet potatoes, then I can expect around 406 lbs of sweet potatoes (13*

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% of total starch) and 35 lbs of beans (21% of total bean/protein). I could push for more than this in any given year by using the other half of gardening space in zone 3 and taking the fallow beds in zone 1 (for example, using cowpeas as a zone 1 cover crop as I discussed earlier). This would more than double my production, if it was necessary.

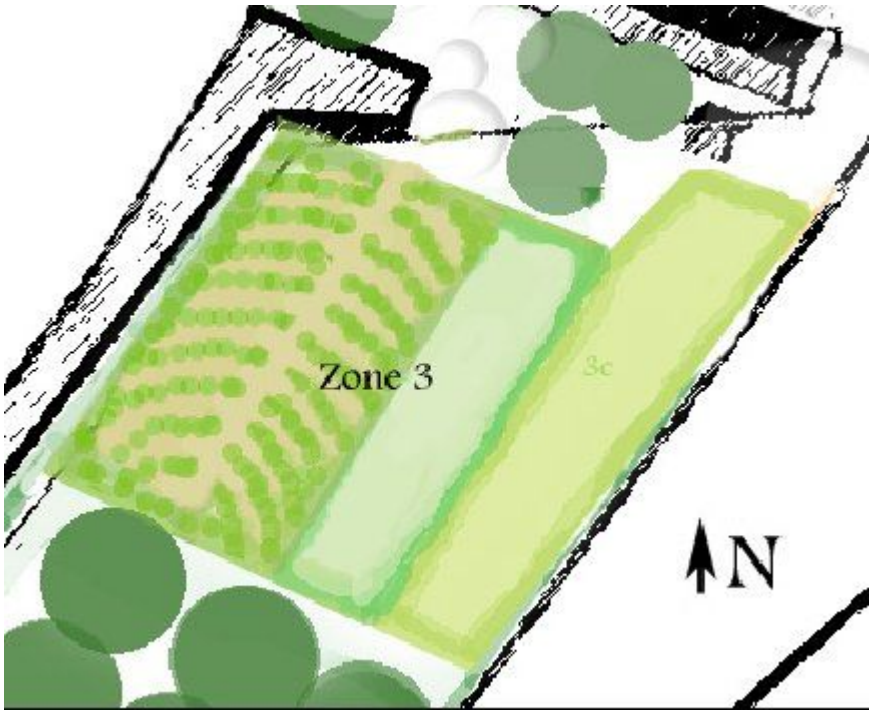

Figure 14- Zone 3 in ~1/2 production

As you'll see in figure 14, Zone 3 does use some design elements from permaculture practice. In the arrangement of these crops, which will all be harvested by hand, I planted curved rows, with paths between the rows that branch off of the main path. In theory, this allows me to put more space towards growing plants because I can use the outer boundary of the garden bed for growing, rather than for more paths. At this point, I could attempt to determine

how much of a boost in yields that might provide, but it would be an uneasy estimate.

Within the garden, I can alternate the rows between sweet potatoes and beans, and in the second year of production I can switch the rows. This practice allows me to separate the crops spatially (in the landscape), and temporally (in time), in order to minimize the spread of disease. In theory, this works fine, but it will take some time to determine whether it works in practice. The reason I am growing around the edges in this zone and not in zone 1 is because I visit zone 3 much less often and have less need for open paths and freedom of movement.

Fortunately, my diet isn't going to be entirely dependent on either one of these products, and I still have 1/2 of zone 3 to put to good use. A cover-crop would be fine, or I can keep the area open as pasture and raise broilers. Assuming a 4-year rotation for broilers as well (4 years is a standard rotation for just about everything), I need 369.6 sq. ft for each bird throughout its lifespan. This is based on the earlier assumption of 1.1 sq. ft. per bird for 84 days (92.4 sq. ft. total), multiplied by the ¾ space in rest from poultry. Since the crop area can be considered in the land under rest, I'll divide the zone 3 total of 6160 sq. ft. by 369.6. I can sustainably keep up to 16*

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broilers in zone 3 each year. That's not a huge number, but it makes a difference. It comes out to a nice chicken dinner every 22 days or so, averaged across the year. Not bad, except for the roughly $2-3 worth of feed that we'll have to supply per bird.

The biggest task in producing even this amount of food is finding a way to store it all securely. Root cellars and basements work in some areas, but not in southern Louisiana where the water table is high. People usually try to get around this problem by burying a water-tight container in an earthen mound. I haven't tried this myself, but it will be necessary before I start storing large quantities of produce.

As with the broiler/bean/sweet potato stacking in zone 3, more elements can be added to increase the diversity and productivity of a relatively small space. Anyone aiming to become a proficient homesteader should look for additional ways to combine small livestock, crop variation, and fertility-boosting rest periods for their annual production zones. In perennial gardening, rest is not necessary, although harvesting from these zones may need to be managed according to a reasonable rotation. I will discuss some examples in the next section.

Mulches, biomass and forest production

When space is limited, zones 3 and 4 can be excellent areas to produce biomass for your garden. Ongoing gardening on the same garden sites can lead to loss of fertility and degraded soil. If you continue to add mulches, compost and other organic matter to the soil, you can reduce this net loss in fertility. In turn, you can use your biomass producing areas as foraging zones for your livestock during the fall and spring, when grass or productive trees typically need a fertility boost.

Zones 3 and 4 are not likely to be any larger than ½ an acre combined. My zones, according to the zone map shown earlier, are just under ½ acre. Since this book is about home production, and not market gardening, I am going to skip any potential commercial considerations in zone 4. In the Deep South where sunli~211ght is likely to be plentiful, zones 3 and 4 can include sparse planting of trees can complement rows of crops—following the agroforestry style of alley cropping or silvopasture. Zone 4 can be planted in a similar way, but would be suitable for even more dense planting of biomass producing trees or forage trees.

Because of the shape of my lot and the location of the trailer, I've reversed my zones compared to what I'd ideally want to do. Theoretically, I would place my annual garden beds in the southernmost part of the property where the sun wouldn't be blocked by trees in zones 3 and 4. This is practice of planting low-growing plants to the south, with taller and taller plant in succession to the north is called a "sun trap" in the permaculture community. Since I'm working with a small acreage, though, I'm not going to be planting

any very large trees in zones 3 and 4 so it shouldn't be much of a problem. Not to mention—it seems like there's too much sun as it is. The most important consideration will be spacing the trees well enough apart to prevent shading out the crops in zone 3.

When it comes to planning to produce enough biomass for your garden, the type of trees you want to grow to produce mulch, wood chips or other products depends on what you plan to grow. Rapidly growing trees can turnover a lot of mulch and can be cut and harvested on a regular basis and will still grow back. You can then chip the wood that you cut, you can use it to grow mushrooms, or you can lay it out and let it rot in order to create or contribute to hugelkultur garden beds. Some trees that might be suitable for this are green ash, birch, poplar, willow and red maple. Most of these will grow quickly when established, and will regrow when cut over. For that reason, these trees can sometimes be regarded as weedy trees. For you, that might be a good thing.

A useful tree that grows in my area is the Chinese Tallow Tree. People spend thousands of dollars trying to eradicate these trees on their properties because they are invasive. I hated the tree at first, but it turns out that it's really a very nice homesteading tree. It produces waxy berries with a lot of energy (the chickens and wild birds love them); bees love the flowers and homesteaders love the honey, plus the tree grows so abundantly that you don't have to feel bad for knocking a few over and using the biomass. Best of all, they also grow delicious oyster mushrooms. The only downside (besides the ecological problem of their invasiveness) is that they introduced me to Sethen11 have been reported to be allelopathic, which means they can suppress the growth of other plants if used for mulch or compost. Plants produce allelopathic chemicals to suppress the growth of other plants in the soil, and to improve their own survival. However, this might be beneficial for plants already well-established that could benefit from weed suppression.

Pine straw is a beloved mulch in the south. It has traditionally been used to grow strawberries and tomatoes, as well as other acid loving fruits and veggies. Pine trees do not cause problems with allelopathy that other trees do. Black Walnuts are the most well-

known allelopathic species, and people with walnut trees have trouble growing anything beneath them. If you plan to grow trees in order to gather leaf litter for mulch or compost, it's worth it to do a bit of research on which types of trees are not allelopathic.

You also want to look for trees suitable to your area and known for producing a lot of leaf litter. Landscape architects and other landscapers usually try to avoid these trees. Thus, it should be easy for you to find species lists for trees that are *not* recommended for nice landscapes because they produce so much litter. On that note, landscapers also tend to loathe fruit-producing trees because they are messy. What's bad for urban landscape design is often good for homesteaders. You may already have some of these trees growing on your property, and you can just manage and encourage them. If you want to collect leaves for mulch, basic maintenance of zones 3 and 4 will require keeping the area mowed to prevent weeds and brush from coming up underneath to make leaf harvesting easier.

My goal for zone 4 is to produce pine straw for use in my gardens. According to the Louisiana Department of Forestry, 125-200 bales of pine straw can be produced per acre in a 10 year old stand of pines, and up to 300 bales per acre can be produced in a 15 year old pine stand. These peak yields can be maintained for up to 20 years. Harvesting only 1/3 of zone 4">Our Journey would give me between 8 and 19 40-lb bales of pine straw per year. Assuming 120 sq. ft. covered per bale, this should be more than adequate to cover my strawberry beds and the annual garden beds in zone 1, but doesn't give me enough for the zone 3 crops. By the 15 year, I should have nearly enough to meet my needs. It's possible to harvest more of the pine straw if I replace the lost nutrients with manures. After all, this is a closed system so the fertility is not actually leaving the site.

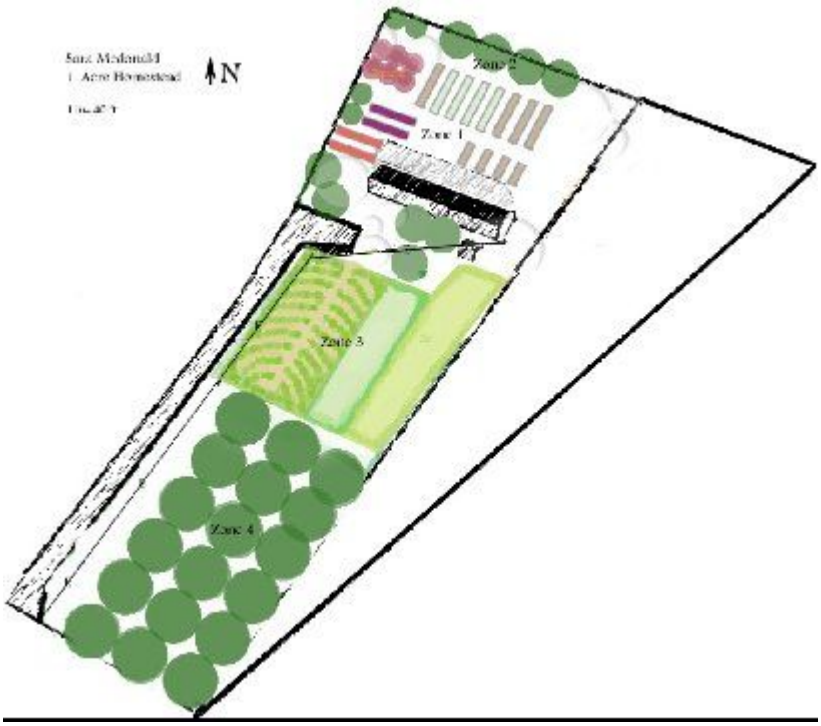

Figure 15- Final design map, including 18 pine trees in zone 4

Figure 15 shows the final design for my property, based on some of the very simplified elements I've discussed. There are so many different ways to put permaculture into practice on one acre, that I hope no one will feel limited to this design. As I've said before, John Seymour's one-acre plan looked fantastic for the type of gardeners who use his farming style, but many of us want to avoid annual tilling and large livestock, and I think a plan that includes perennials and biomass production makes much more sense from an ecological standpoint. There is a lot of white space in my design that I'm eager to fill with flowers, perennial herbs and other fun experiments. Don't forget to include beauty and artistic elements in your landscape, for the sheer joy of it.

Forest Gardening

Zones 3 and 4 on a one-acre farm are going to be fairly limited. If you want to dedicate your entire property to food production, you can combine food and medicinal yields with your biomass yields in zones 3 and 4. Forest gardening with perennials requires stacking of plants that occupy different niches in the garden. If you were planning to grow in zones 3 and 4 for the production of

organic matter for your annual gardens and zone 2 orchard, then you could keep the understory clear for easier collection. On the other hand, if you're managing a forest garden, then you will certainly want to dedicate some of that the rock retaining waller--understory space to herbs and dynamic accumulators, which are plants that are thought to draw nutrients from deeper in the soil and make it available to the plant community.

Some beautiful examples of forest garden plant guilds are very simple, like figs growing with peppermint and insectary plants underneath. A typical, complete plant guild would include deep-rooted plants like Echinacea, insectary plants like yarrow, nitrogen fixing plants—mostly legumes, dynamic accumulators (comfrey is most commonly recommended) and aromatic plants like mint to ward off pests. As you experiment with a plant guild that suits your property, be wary of adding too much too fast, especially under young trees or shrubs. Anna Hess, one of my favorite bloggers and authors, often cites her bad experience with comfrey under a young nectarine. Instead of adding to the soil, the comfrey seemed to take up most of the nutrients, to the detriment of the young tree. She recommends establishing your plant guild outside of the anticipated root zone of the tree.

I say, wait at least 2-3 years after planting young trees or shrubs before you begin to develop the understory. This will be more consistent with natural succession, and the shade of the tree as it matures can inhibit competition from the understory. The understory, if selected wisely, can still flourish in the partial shade of the young tree.

A common naturally occurring community on my property is the combination of the Chinese Tallow Tree and an understory of common violets. The violet leaves are edible, so I haven't bothered to introduce any cultivated herbs into the mix. Dewberries, a creeping, early-season type of wild blackberry, also grows under these trees. Its fruit ripen in the sun, but they seem to benefit from some protection during the day, especially from the intense western sun.

Along the borders of this woodland community, several species of asters grow—including Blue-Mistflower, a gorgeous, electric blue/purple fall flower. The combination of creeping dewberries, violet groundcover and asters as an insectary plant approaches the idea of a complete plant guild. Goldenrod, an aromatic plant, is often associated with th the rock retaining waller--is group.

Try to identify the natural communities on your property. Think about what role each plant plays and, if possible, enhance these by introducing new plants along the borders and just see what works. Unlike most fruits, many medicinal plants do well in shade. Aggressive colonizers like peppermint can be used to suppress other common weedy plants, but only introduce aggressive plants when you’re committed to letting them stay.

Phase Planning

Years 1-2

In years 1 and 2 following the creation of this plan, I plan to continued growing my yearly greens and expanding my production of herbs and other vegetables in the 4-bed per year rotation that I established in the section “greens.” This 320 sq. ft. space should be sufficient for me to begin practicing garden rotation and cover cropping, as well as growing all of the vegetables my family needs in a year. I am also planning to plant strawberries and blackberries to accompany my current blueberry patch. These early spring to early-summer fruits will be rounded off by the mid-summer to late-fall fig crops. In the first year I will also get started with my pine stand so that I can look forward to harvesting pine straw within the next decade.

My recommendation to you for the first two years is to practice good recordkeeping. Keeping good records in the early years will facilitate your planning for the later years. You will be much better prepared to avoid the same mistakes or to give up because you feel like you aren’t making any progress. Your records do not have to be incredibly detailed at first. At minimum, you should write down when you plant certain crops, the garden beds you used, the varieties you planted and where you purchased them. Follow up with an estimate on the success of each variety.

Don’t invest in large batches of seeds early on, you will just overwhelm yourself. Start with a few varieties recommended for your area, see how they work in your garden, and record the results. When you become more confident with certain varieties of plants and you know approximately how many you will use, then you can buy your seeds in bulk. Ultimately, yous of beans per personliur want to save your own seed, but it’s a good idea to start with a well-sized crop before you begin harvesting seed, in order to keep as much genetic material as possible. For more information on seed saving, you can download the free guidebook *A Guide to Seed Saving, Seed Stewardship & Seed Sovereignty* by the Seed Ambassador’s Project.

The first few years you will want to devote to gaining more financial independence (if you haven't already) so that you can spend more of your time in the later years reaping the rewards of a financially independent, self-sufficient lifestyle. Pay off your debts, or make the plan to do this as quickly as possible. Wrap up any lose ends and work toward building a steady, passive source of income. There are plenty of things that demand our time these days, so prioritize what is important to you and start working toward it. Slowly eliminate demands on your time that do not help you achieve your goals.

In the first two years you definitely want to start working on a small kitchen garden. Your kitchen garden doesn't have to be any more than 20-30 square feet or so. It should be enough room for you to grow a few things per season. In a small bed like this, preferably a raised bed to reduce the need for weeding, you can plant closely together if you commit to maintaining it. Start in the early spring with lettuce and greens, or start in the fall with greens. You can learn to manage pests and become familiar with a small rotation before you start working toward your larger gardens. Do not worry about establishing a rotation in these first two years. That will come later as your garden becomes larger and more attractive to pests and disease.

Years 1 and 2 should also be devoted to building soil fertility. If you've recently purchased a home in a subdivision, it's likely that the land was cleared and the topsoil washed away before your house and lawn were ever put into place. If that's the case, your soil is probably very poor. Even if that's not the case, chances are your land has probably been well-used at some point in its recent history. If you plan to add trees, shrubs and an intensively used garden, you need to build your soil. The best way to do this is to start using cover crops early, well before you plan to use the beds. In *Growing Great Garlic*, Ron L. *

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Engeland recommends 3 years of bed preparation with cover crops before you begin to grow market garlic. This advice doesn't have to be followed exactly, but it is great advice for beginning homesteaders who likely have at least a few years before they can take advantage of all of their available garden space anyway.

If you have a lawn, you can often clip it short and rake in clover and winter rye in the mid- to late-fall. The rye will grow tall enough by mid-spring that it will need to be cut out, and the competition will suppress lawn grass. You can follow your cool-season cover with a warm season cover crop that's suited to your area. You will have to do a bit of research to decide what's best. Following the warm season crop, a broadcast of oilseed radishes in the fall can help work the soil and prepare your no-till bed for the next spring. This is a simple, 6-season preparation plan that can get your ready for planting in the spring of your second year. In the spring, you can add compost and start seeding your crops, but remember to keep the plants mulched as well as possible. Sowing seeds in blocks or rows can give you room to mulch in between the rows, and then fill in under the plants as they become stronger. Don't cover newly sown seeds or young seedlings with mulch, but you can cover most bulbs or vegetative plantings (sweet potatoes, etc) with a light mulch and they will push through as they mature. If you broadcast seed, meaning you have a very dense planting, you will probably not have to worry about mulching under the plants as they mature. The plants themselves provide decent cover for the soil.

Finally, if you intend to raise poultry, the first couple of years can be a great time to start your small laying flock. A family of 4 probably would not need more than 3 or 4 hens, which will give you at least a dozen eggs a week if they are modestly productive. Become familiar with the routine of managing poultry, and invest a bit upfront in products that will simplify the care involved. Our first flock of laying hens was entirely free range after we became complacent about predators. We had very few problems for the first 3 years, but when our dog started roaming to neighbor's houses overnight, our predators gain c

ourage and wiped out the flock within a week. This can be traumatic, so even with a good guard dog, make sure you have a system that works for you and your flock. Our biggest problem was that our coop was not predator-proof, and we got into the habit of not shutting up the coop door at night because it had never been an issue.

Years 3-5

Between years 3 and 5 I will be maintaining my laying flock, getting started with my zone 3 crops, which can produce about 20% of our family's staple food items, and maintaining ths of beans per personliure pine stand that I planted in year 1. By this point, I should be adept at managing the 4-year rotation in my zone 1 garden and keeping up with my berry patches. Years 3-5 will focus on maximizing orchard production and including new trees to fill in the spaces reserved in Zone 2. As my homestead matures, I want to continue to make sure my financial situation is sound. Who knows what the economy will look like 5 years out.

Though you can begin your orchard in the first few years, your basic gardening skills will be much improved by years 3-5 and your soil should be in better condition. Giving yourself a few years before starting your orchard will also give you time to research and make sure you are ready to add orchard care to your routine. I started a blueberry patch, a perennial butterfly/medicinal garden and added pine trees and other miscellaneous shrubs in the first and second years on my homestead. None of these plants have been particularly productive, and they've seen a good bit of neglect since I have spent a lot of time focusing on other tasks.

Establishing an orchard can be a costly, or at the very least a time-consuming investment. This is true even on the scale of a home orchard. A poorly planned orchard can be unproductive and it might take half a decade to find out that your fruit trees won't produce. When it comes to a healthy fruit-producing orchard, a decent amount of preparatory work and a commitment to maintenance is necessary.

This mid-term planning period can be a good time to determine how much bioma

Table of Contents